1125 Arguello Street Mixed-Use Development Project

Draft Environmental Impact Report

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Acronyms and Abbreviations

AAC	Architectural Advisory Committee
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACM	asbestos containing materials
ADA	Americans with Disabilities Act
ADFW	average dry weather flow
afy	acre-feet per year
AIA	Airport Influence Area
AICUZ	Air Installation Compatible Land Use Zone
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
APN	Assessor's Parcel Number
Applicant	HMB Redwood City, LLC
AQP	Air Quality Plan
BAAQMD	Bay Area Air Quality Management District
Basin Plan	San Francisco Bay Water Quality Control Plan
bgs	below ground surface
BMP	best management practice
BP	before present
CAA	Clean Air Act
Cal EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CalGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAAQS	California Ambient Air Quality Standards
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CHRIS	California Historic Resources Information System
CH_4	methane
City	City of Redwood City
CLG	Certified Local Government
CNEL	Community Noise Equivalent Level

CO	carbon monoxide
CO_2	carbon dioxide
COA	Conditions of Approval
CRHR	California Register of Historic Resources
C/CAG	City/County Association of Government of San Mateo County
dB	decibel
dB(A)	A-weighted decibel
DBL	State Density Bonus Law
DPM	diesel particulate matter
DPP	Downtown Precise Plan
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
EOP	Emergency Operations Plan
FAR	floor area ratio
FTA	Federal Transit Administration
GHG	greenhouse gas
GPHE	General Plan Housing Element
GWP	global warming potential
HAP	hazardous air pollutant
HCD	Department of Housing and Community Development
HFC	hydrofluorocarbons
HOA	Homeowner's Association
hp	horsepower
HRA	Health Risk Assessment
HRAC	Historic Resources Advisory Committee
HSC	Health and Safety Code
HSP	Health and Safety Plan
HTWTP	Harry Tracy Water Treatment Plant
HVAC	heating, ventilating, and air conditioning
Hz	Hertz
ISG	Individual Supply Guarantees
LBP	lead-based paint
lbs/day	pounds per day
lbs/year	pounds per year
LCFS	Low Carbon Fuel Standard
L_{dn}	day-night sound level
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent noise level
LOS	level of service

L_{max}	maximum sound level
L_{min}	minimum sound level
L_{xx}	percentile-exceeding sound level
LZ	lighting zone
MACT	Maximum Achievable Control Technologies
MEI	maximally exposed individual
MERV	minimum efficiency reporting value
mgd	million gallons per day
mg/m^3	milligrams per cubic meter
MMT	million metric tons
MPO	Metropolitan Planning Organization
MRZ	Mineral Resources Zone
MTC	Metropolitan Transportation Commission
$MTCO_2e$	metric tons of CO_2 equivalent
$MMTCO_2e$	million metric tons of CO_2 equivalent
$MTCO_2e/SP/yr$	metric tons of CO_{2e} per service population per year
MUT	Mixed-Use – Transitional Zoning District
MWh	megawatt-hour
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NO	nitric oxide
NOA	naturally occurring asbestos
NOC	Notice of Completion
NOP	Notice of Preparation
NO_x	nitrogen oxide
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
N_2O	nitrous oxide
OEHHA	California Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OITC	Outside-Inside Transmission Class
OPR	Governor's Office of Planning and Research
O_3	ozone
Pb	lead
PFC	perfluorocarbons
PG&E	Pacific Gas and Electric
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter

PM_{10}	particulate matter ten microns or less in diameter
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
proposed project	1125 Arguello Street Mixed-Use Development Project
RCFD	Redwood City Fire Department
RCNM	Roadway Construction Noise Model
RCPD	Redwood City Police Department
RHNA	Regional Housing Needs Allocation
ROC	reactive organic compounds
ROG	Reactive Organic Gas
RTP	Regional Transportation Plan
RWCMoves	Redwood City Moves
RWQCB	Regional Water Quality Control Board
RWS	Regional Water System
SB	Senate Bill
SCS	Sustainable Community Strategy
SDR	Standard Development Requirements
SFBAAB	San Francisco Bay Area Air Basin
SFPUC	San Francisco Public Utilities Commission
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SLCP	Short-Lived Climate Pollutant
SMP	Site Management Plan
SO_2	sulfur dioxide
SO_4	sulfates
SP	service population
SPL	sound pressure level
Stantec	Stantec Consulting Services, Inc.
STC	sound transmission class
SVCW	Silicon Valley Clean Water
SVWTP	Sunol Valley Water Treatment Plant
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TPY	tons per year
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
UV	ultra violet

UWMP	Urban Water Management Plan
VCP	vitrified clay pipe
VMT	vehicle miles traveled
VOC	volatile organic compounds
WCSP	Water Shortage Contingency Plan
WSA	Water Supply Assessment
WWTP	wastewater treatment plant
$\mu g/m^3$	micrograms per liter

EXECUTIVE SUMMARY

This document is a Draft Environmental Impact Report (EIR) for the proposed 1125 Arguello Street Mixed-Use Development Project (proposed project). This section of the Draft EIR provides a summary of the proposed project, the anticipated environmental impacts of the proposed project, the alternatives, and areas of known controversy to be resolved.

ES.1 SUMMARY OF PROPOSED PROJECT

The proposed project is located at 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street in Redwood City, California (City) on an approximately 3.5 acre site. The project site consists of six contiguous parcels that are within the El Camino Real Priority Development Area[1] and bounded by Whipple Avenue to the north, Arguello Street to the east, and the Caltrain tracks to the west. The project site is within 0.5-mile of Downtown, and the Redwood City Caltrain Station and Redwood City Transit Center located on El Camino Real and James Avenue. The project site is developed with seven structures totaling approximately 28,201 square feet. HMB Redwood City, LLC (Applicant) is proposing to reuse and demolish the existing on-site structures to construct a mixed-use development consisting of a 57,252 square foot multi-family residential building, approximately 300,000 square feet of office space, and a 4,132 square foot public-serving childcare facility for approximately 30 children. The proposed residential building would be 100 percent affordable housing and include 33 multi-family units. The Applicant is proposing to reuse the two buildings located at 1219 and 1227 Arguello Street that are designated City Historic Landmark buildings to construct the childcare facility; all other buildings on the project site would be demolished. Additionally, the proposed project would include a three-level underground parking garage for the proposed office buildings, public and private open space, and off-site public improvements including the construction of approximately 3,862 linear feet of recycled waterline to extend the recycled water service to the vicinity of the project site.

A detailed description of the proposed project is provided in Section 2.0, Project Description.

ES.1.1 Project Objectives

The primary objective of the proposed project is to comply with the development standards in the Mixed-Use-Transitional (MUT) Zoning District and adhere to the land use goals, policies and standards in the City's General Plan. The project objectives are as follows:

- Redevelop the project site consistent with the land use policies and strategies provided in the Plan Bay Area 2050, El Camino Real Priority Development Area.
- Redevelop the project site consistent with the MUT General Plan and Zoning designations, including policies that guide the growth and development of the City; establish the basis for zoning regulations and guidance; economic development; transportation improvements; sustainability; City services; parks; and cultural and historic preservation.

[1] Priority Development Areas are areas in existing communities that local city or county governments have identified and approved for future housing and job growth. These areas are within half a mile of frequent transit services; and they are often near established job centers, shopping districts, and other community amenities.

- Redevelop an existing industrial area with attractive and desirable amenities close to Downtown, including housing, Class A office space, and childcare available to all Redwood City residents.
- Meet and exceed the City's Affordable Housing Ordinance and Inclusionary Zoning requirements through construction of 100 percent affordable ownership housing.
- Provide childcare to address the City's existing shortage of childcare spaces for infants/toddlers and preschool-age children.
- Support the City's Historic Preservation Ordinance through adaptive reuse of structures identified as Historic Landmark buildings by the City.
- Develop a project that would meet strict sustainability, conservation, and reach code goals intended to reduce greenhouse gas emissions and address climate change and energy conservation goals.
- Deliver an economically feasible development, balancing market conditions, city objectives, and community benefits.
- Create a mixed-use environment that increases vibrancy of the existing area, encourages use of multimodal transportation, activates frontages along public streets, and provides employment and housing opportunities near transit.

ES.1.2 Project Approvals

The following permits and approvals are required:

City of Redwood City

- Planned Development Permit (PD 2020-005)
- Architectural Permit (AP 2020-057)
- Historic Resources Approval
- Vesting Tentative Parcel Map (TM 2020-006)
- Condominium Permit (CP 2020-004)
- Tree Removal Permit
- Grading/Demolition Permit
- Encroachment Permit
- Use Permit for Offices (UP 2021-011)
- Affordable Housing Plan
- Community Benefits Bonus
- State Density Bonus Concessions and Waivers

Regional Water Quality Control Board

- Stormwater Pollution Prevention Plan (SWPPP)/Construction General Permit

City/County Association of Governments of San Mateo County (C/CAG)

- San Carlos Airport Land Use Plan Consistency Review

ES.1.3 Responsible and Trustee Agencies

Under the California Environmental Quality Act (CEQA), a responsible agency is a public agency, other than the lead agency, which has responsibility to carry out or approve a project (Public Resource Code [PRC] Section 21069). A trustee agency is a state agency that has jurisdiction by law over natural resources that are held in trust for the people of the State of California (PRC Section 21070).

The following agencies may serve as responsible and/or trustee agencies:

- San Francisco Bay Regional Water Quality Control Board (RWQCB)

ES.2 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

Section 15123 of the State CEQA Guidelines requires that a summary of an EIR identify areas of controversy known to the lead agency, including issues raised by agencies and the public. The City distributed a Notice of Preparation (NOP) of the Draft EIR for the proposed project beginning on October 19, 2021. The NOP was circulated for a 30-day public review and comment period, ending on November 18, 2021. Five commenters submitted written responses to the NOP and Initial Study. Two written comments received were from interested individuals and three were from agencies including the California Department of Transportation (Caltrans), Native American Heritage Commission (NAHC), and Pacific Gas and Electric (PG&E). Comments received from Caltrans, NAHC, and PG&E were general in nature and included suggested approaches for analysis. Additionally, three comments were received orally during the Public Scoping Meeting held on November 9, 2021. Written comments received are included in Appendix A. Comments in response to the NOP and Initial Study generally identified the following areas of potential concern:

- Building height
- Potential for additional housing on-site
- Job/housing balance
- Compliance with Assembly Bill (AB) 52
- Water Supply
- Vehicle Miles Traveled (VMT), including preparation of a VMT demand analysis, implementation of mitigating strategies, equitable access, and payment of transportation impact fees

This Draft EIR contains substantial evidence to support the conclusions presented herein. It is possible that there will be disagreement among various parties regarding these conclusions, although the City of Redwood City is not aware of any disputed conclusions at the time of this writing. Both the CEQA Guidelines and case law clearly provide the standards for treating disagreement among experts. Where evidence and opinions conflict on an issue concerning the environment, and the lead agency knows of these controversies in advance, the EIR must acknowledge the controversies, summarize the conflicting opinions of the experts, and include sufficient information to allow the public and decision-makers to make an informed judgment about the environmental consequences of the proposed project.

ES.3 ALTERNATIVES TO THE PROPOSED PROJECT

The project alternatives and their potential impacts are discussed in Section 5.0, Alternatives to the Proposed Project, of this Draft EIR. As authorized under CEQA, the alternatives are discussed in less detail than the proposed project.

No Project Alternative

CEQA Guidelines Section 15126.6(e)(1) requires that the no project alternative be described and analyzed, "to allow decision-makers to compare the impacts of approving the project with the impacts of not approving the project." The no project analysis is required to discuss, "the existing conditions at the time the Notice of Preparation is published . . . as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (Section 15126.6(e)(2)).

The No Project Alternative assumes that no additional development would occur on the project site and would continue to use the existing structures on the project site for commercial services. The No Project Alternative would result in greater impacts to GHGs, land use and planning, and noise. The No Project Alternative would not achieve any of the project objectives, promote economic vitality, or assist the City in meeting is affordable housing and childcare facility needs.

Base-level Zoning Alternative

The Base-level Zoning Alternative would construct the proposed office building, residential building, and childcare facility consistent with the development standards for the MUT Zoning District. Article 55 of the Redwood City Municipal Code outlines the permitted uses and development standards for the MUT Zoning District. According to Section 55.2 of the Redwood City Municipal Code, office uses that are less than 10,000 square feet are permitted uses within the MUT Zoning District. The MUT Zoning District also allows the development of multi-family dwelling units with a density of 20 dwelling units per acre without meeting the City's Community Benefits Program, such as providing affordable housing. Childcare facilities with up to 60 children are permitted in the MUT Zoning District and are not limited to a certain size in non-residential zoning districts. This alternative assumes a 10,000 square foot office building, 70 multi-family residential units (without providing community benefits at 20 dwelling units per acre), and a childcare facility of 4,132 gross square feet (same as the proposed project). The proposed buildings would be consistent with the base-level height and setback requirements for the MUT Zoning District. The height of the office building would be 40 feet, the height of the residential building would be 40 feet, and the height of the childcare facility would be 30 feet. The Base-level Zoning Alternative would meet most of the project's objectives; however, would result in greater impacts related to noise compared to the proposed project.

Increased Housing Alternative

The Increased Housing Alternative would construct the proposed office building, residential building, and childcare facility. The office building would be approximately 10,000 square feet and consistent with the development standards for the MUT Zoning District. As discussed, childcare facilities with up to 60 children are permitted in the MUT Zoning District and are not limited to a certain size in non-residential zoning districts. This alternative assumes a childcare facility of 4,132 gross square feet, which would be

the same as the proposed project. This alternative also assumes that the residential building would provide affordable housing and meet the City's Community Benefits Program. Multi-family uses in the MUT Zoning District that meet the City's Community Benefits Program are allowed at a maximum density of 40 dwelling units per acre. Therefore, this alternative would provide a maximum of 140 affordable multi-family units at the project site. The height of the proposed office building would be 40 feet and the height of the childcare facility would be 30 feet, consistent with the height requirements for the MUT Zoning District. This alternative would provide 140 multi-family affordable housing units, and therefore the building height could be a maximum of 60 feet. The Increased Housing Alternative would meet most of the project's objectives; however, would result in greater impacts related to noise compared to the proposed project.

ES.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

This Draft EIR analyzes the potential environmental effects of the proposed project. The Initial Study (Appendix A) determined that the following topics would have either no significant impact or impacts that would be reduced to less than significant with mitigation:

- Agriculture and Forestry Resources
- Biological Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Public Services
- Recreation
- Wildfire

The proposed project would be required to comply with all mitigation measures identified in the Initial Study. For a complete discussion of potential impacts identified in the Initial Study, please refer to the specific discussion within each resource section of the Initial Study, included in Appendix A of this Draft EIR. Section 7.0, Effects Found Not to be Significant, also includes a summary of each finding for each resource not discussed in this Draft EIR.

The Initial Study identified impacts related to aesthetics, air quality, cultural resources, greenhouse gases, land use and planning, noise, population and housing, transportation, tribal cultural resources, and utilities and services systems requiring a more detailed evaluation, which is discussed in Section 3.0, Environmental Impact Analysis, of this Draft EIR.

Table ES-1, Summary of Impacts and Mitigation Measures from the Initial Study, summarizes the environmental effects of the proposed project and the mitigation measures from the Initial Study, Table ES-2, Summary of Impacts and Mitigation Measures from the EIR, has been organized to correspond with environmental issues discussed in Section 3.0, Environmental Impact Analysis, of this EIR. Table ES-1 and ES-2 are arranged in four columns: (1) impacts; (2) level of significance without mitigation; (3) mitigation measures; and (4) level of significance with mitigation.

As indicated in Table ES-2 and discussed in detail in Section 3.0, Environmental Impact Analysis, the analysis conducted for this Draft EIR determined that the proposed project would result in less than significant impacts or less than significant impacts with mitigation.

Additionally, CEQA requires public agencies to establish a mitigation monitoring and reporting program for the purpose of ensuring compliance with those mitigation measures identified in an EIR and/or adopted as conditions of approval in order to mitigate or avoid significant environmental impacts identified in an EIR. A mitigation monitoring and reporting program, incorporating the mitigation measures set forth in this document, will be adopted at the time of certification of the Final EIR.

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Initial Study Section 3.7 - Geology and Soils			
Impact GEO-6: The proposed project would directly or indirectly destroy a unique paleontological resource or site or unique geologic features.	Potentially Significant Impact	**MM GEO-1: Procedures for Inadvertent Discovery of Paleontological Resources.** In the event that unknown paleontological resources are discovered during earth-moving activities, the construction crew shall immediately cease work in the vicinity of the find and notify the City. Work shall be halted until a qualified paleontologist can evaluate the find and make recommendations. If the deposits of paleontological materials cannot be avoided by project activities, the City shall confirm that the Project Applicant has retained a qualified paleontologist to evaluate the potential historic significance of the resource. If the deposits are determined to be non-significant by a qualified paleontologist, avoidance is not necessary. If the deposits are determined to be potentially significant, the resource shall be avoided if feasible. If avoidance is not feasible, the qualified paleontologist shall make recommendations and prepare a recovery plan. The recovery plan may include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum curation for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the City to be necessary and feasible would be implemented before construction activities can resume at the site where the paleontological resources were discovered.	Less Than Significant Impact with Mitigation

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Initial Study Section 3.9 – Hazards and Hazardous Materials			
Impact HAZ-1: The proposed project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially Significant Impact	**MM HAZ-1: Hazardous Building Materials Survey and Abatement.** Prior to issuance of any grading permit, the Applicant shall retain a certified hazardous waste contractor to determine the presence or absence of building materials or equipment that contains hazardous materials, including asbestos and lead-based paint. If such substances are found to be present, the contractor shall properly remove and dispose of these hazardous materials in accordance with federal and state law. All removal activities shall be completed prior to permit issuance for demolition activities. Following completion of removal activities, the Applicant shall submit documentation to the Bay Area Air Quality Management District (BAAQMD) and the City verifying that all hazardous materials were properly removed and disposed. **MM HAZ-2: Soil and Groundwater Management Plan.** Prior to building permit issuance, the Applicant shall retain a qualified California-Registered Geologist or a California Registered Civil Engineer to prepare a Site Management Plan (SMP). As part of the SMP, the qualified professional shall notify the San Francisco RWQCB or other regulatory agency of proposed activities at the Project site. The SMP shall include, but not be limited to: • Land use history, including description and locations of known contamination; • The nature and extent of previous investigations and remediation at the site; • Identified areas of concern at the site, in relation to proposed activities; • A listing and description of institutional controls, such as the City's excavation ordinance and other local, state, and federal regulations and laws that would apply to the project; · • Names and positions of individuals involved with soils management and their specific role; · An earthwork schedule; • Requirements for site-specific Health and Safety Plans (HSPs) to be prepared by all contractors at the Project site. The HSP	Less Than Significant Impact with Mitigation

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		should be prepared by a Certified Industrial Hygienist and would protect on-site workers by including engineering controls, personal protective equipment, monitoring, and security to prevent unauthorized entry and to reduce construction related hazards. The HSP should address the possibility of encountering subsurface hazards including hazardous waste contamination and include procedures to protect workers and the public; • Hazardous waste determination and disposal procedures for known and previously unidentified contamination, including those associated with any soil export activities, if applicable; • Requirements for site specific techniques at the site to minimize dust, manage stockpiles, run on and run-off controls, waste disposal procedures, etc.; • Procedures for dewatering of construction excavations and/or dewatering of excavated sediments prior to off-hauling (if required), consistent with federal, state, and local regulations, specifying methods of water collection, handling, transport, treatment, discharge, and disposal for all water produced by dewatering activities; • Measures to protect future site users from contact with contaminants from the regional groundwater plume, including intrusion of soil-gas vapors emitted from the plume. Such measures may include vapor extraction systems, vapor intrusion barriers, operation and maintenance protocols for any disturbance of groundwater; and recording of deed restrictions, such as activity and use limitations, with the San Mateo County Recorder's Office to assure that the implemented remedy(ies) is maintained; and • Copies of relevant permits or closures from regulatory agencies.	
Impact HAZ-2: The proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Potentially Significant Impact	Mitigation Measures HAZ-1 and HAZ-2 are required.	Less Than Significant Impact with Mitigation

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact HAZ-3: The proposed project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Potentially Significant Impact	Mitigation Measures HAZ-1 and HAZ-2 are required.	Less Than Significant Impact with Mitigation
Impact HAZ-4: The proposed project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.	Potentially Significant Impact	Mitigation Measures HAZ-1 and HAZ-2 are required.	Less Than Significant Impact with Mitigation
Initial Study Section 3.10 – Hydrology and Water Quality			
Impact HYD-1: The proposed project could potentially violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	Potentially Significant Impact	Mitigation Measures HAZ-1 and HAZ-2 are required.	Less Than Significant Impact with Mitigation

Table ES-2. Summary of Impacts and Mitigation Measures from the Draft EIR

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Draft EIR Section 3.2 – Air Quality			
Impact AIR-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan?	Potentially Significant Impact	**MM AIR-1: Implement Construction Best Management Practices.** The Applicant shall require all construction contractors to implement the basic construction mitigation measures recommended by BAAQMD to reduce fugitive dust emissions. Emission reduction measures will include, at a minimum, the following measures. Additional measures may be identified by the BAAQMD or contractor as appropriate: a) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day; b) All haul trucks transporting soil, sand, or other loose material off-site should be covered; c) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. d) All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. e) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. f) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided by construction workers at all access points. g) All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a	Less Than Significant Impact with Mitigation

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		certified mechanic and determined to be running in proper condition prior to operation. h) Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM AIR-2: Minimize Exhaust Emissions. Exhaust emissions shall be minimized during construction activities with the use of off-road equipment engines that meet or exceed California Air Resource Board's (CARB) Tier 4 engine emissions standards for off-road equipment exceeding 50 horsepower (hp). At a minimum, all construction equipment shall be certified as compliant with the Tier 4 engine emissions standards as provided in CCR, Title 13, section 2423(b)(1)(B). Engines can achieve these standards through the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, or other options as they become available. If use of Tier 4 equipment is not available, the proposed project shall alternatively use equipment that meets U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 60% reduction in particulate matter exhaust in comparison to uncontrolled equipment.	
Impact AIR-2: The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.	Potentially Significant Impact	Mitigation Measure AIR-2 is required.	Less Than Significant Impact with Mitigation
Impact AIR-3: The proposed project would not expose sensitive receptors to substantial pollutant concentrations.	Potentially Significant Impact	Mitigation Measures AIR-1 and AIR-2 are required.	Less Than Significant Impact with Mitigation

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Draft EIR Section 3.3 – Cultural Resources			
Impact CUL-2: The proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	Potentially Significant Impact	**MM CUL-1: Workers Awareness Training.** Prior to the start of any ground disturbing activities, a cultural resources awareness training shall be provided for all construction personnel involved in project implementation. The training shall be provided by a qualified cultural resources specialist. The training program shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The worker cultural resources awareness program shall also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and shall outline what to do and whom to contact if any potential archaeological resources or artifacts are encountered. The program shall also underscore the requirement for confidentiality and culturally appropriate treatment for any find of significance to Native Americans and behaviors, consistent with Native American tribal values. A sign-in sheet shall be distributed to all participants of the training program and submitted to the City within two weeks of program completion. **MM CUL-2: Cultural Materials Discovered During Construction.** If any cultural resource is encountered during ground disturbance or subsurface construction activities (e.g., trenching, grading), all construction activities within a 50-foot radius of the identified potential resource shall cease until a Secretary of the Interior-qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation 523 series forms. All forms and associated reports shall be submitted to the Northwest Information Center (NWIC) of the California Historic Resources Information System (CHRIS). The archaeologist shall determine whether the resource requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the resource is determined to be eligible for listing on	Less Than Significant Impact with Mitigation

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		the California Register of Historic Resources (CRHR) as a unique archaeological resource as defined in PRC Section 15064.5, the archaeologist shall develop a plan for the treatment of the resource. The plan shall contain appropriate mitigation measures, including avoidance, preservation in place, data recovery excavation, or other appropriate measures outlined in PRC Section 21083.2.	
Draft EIR Section 3.6 – Noise			
Impact NOI-1: The proposed project would not generate a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Potentially Significant Impact	**MM NOI-1: Interior Traffic Noise – Office Buildings.** All facades of the office buildings which have exposure to the rail lines shall be constructed to meet the requirements of the California Green Building Standards Code (CalGreen), Section 5.507, Environmental Comfort. In particular, exterior wall assemblies exposed to the rail line shall meet a composite sound transmission class (STC) rating of at least 45 (or Outside-Inside Transmission Class [OITC] 35), with exterior windows of a minimum STC of 40 (or OITC 30). Or the services of a qualified acoustical consultant may be obtained to conduct a detailed noise study to help design the exterior façade such that the interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hours of operations. **MM NOI-2: Construction Noise Reduction.** Implementation of the following multi-part mitigation plan is required to reduce the potential construction period noise impacts. • Limit construction to the hours of 8:00 AM to 5:00 PM on weekdays, and 9:00 AM to 5:00 PM on Saturdays, with no noise-generating construction on Sundays or holidays. • Control noise from construction workers' radios to the point where they are not audible at existing residences that border the project site.	Less Than Significant Impact with Mitigation

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Equip all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment. • Utilize quiet models of air compressors and other stationary noise sources where technology exists. • Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area. • Prohibit unnecessary idling of internal combustion engines. • Notify residents adjacent to the project site of the construction schedule in writing.	
Impact NOI-2: The proposed project would not generate excessive groundborne vibration or groundborne noise levels?	Potentially Significant Impact	**MM NOI-3: Construction Vibration to Historic Resources.** Follow the applicable vibration mitigation plan recommendations listed in Step 5 within Section 7, Noise and Vibration During Construction, in the Transit Noise and Vibration Impact Assessment Manual document as follows: <u>Design Considerations and Project Layout</u> • Operate earth-moving equipment on the construction lot as far away from vibration-sensitive sites as possible. <u>Sequence of Operations</u> • Phase demolition, earth-moving, and ground-impacting operations so as not to occur in the same time period. Unlike noise, the total vibration level produced could be substantially less when each vibration source operates separately. <u>Alternate Construction Methods</u> • Avoid vibratory rollers and packers near sensitive areas. <u>Vibration Mitigation Plan</u> • Employ the services of a qualified vibration consultant to help describe and commit to a mitigation plan that shall be developed and implemented during the engineering and	Less Than Significant Impact with Mitigation

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		construction phase. The objective of the plan shall be to minimize construction vibration damage using all reasonable and feasible means available. The plan shall include the following components: o A procedure for establishing threshold and limiting vibration values for potentially affected structures, based on an assessment of each structure's ability to withstand the loads and displacements due to construction vibrations. o A commitment to develop a vibration monitoring plan during the engineering phase and to implement a compliance monitoring program during construction.	
		MM NOI-4: Rail Line Vibration Impacts. Employ the services of a qualified vibration consultant to help conduct a site-specific vibration study for the project following the requirements listed in Program PS-67, Railroad Vibration, in the Redwood City General Plan. • **Program PS-67: Railroad Vibration.** Require vibration-sensitive buildings (including but not limited to residential buildings) to be sited at least 100 feet from the centerline of railroad tracks, whenever feasible. Require the preparation of a site-specific vibration study for any residential or vibration-sensitive development proposed within 100 feet of the centerline of railroad tracks in Redwood City. The study shall include recommended measures to reduced vibration to meet citywide vibration standards. Potential measures to reduce vibration include, but are not limited to modifications in site planning or building construction. The City shall include the recommendation(s) of site-specific vibration studies as conditions of any subsequent project approvals involving potentially significant vibration impacts.	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Draft EIR Section 3.9 – Tribal Cultural Resources			
Impact TRIB-1: The proposed project would not **c**ause a substantial adverse change in the significance of a tribal cultural resource, defined by PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k), or b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1? In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Potentially Significant Impact	Mitigation Measures CUL-1 and CUL-2 are required.	Less Than Significant Impact with Mitigation

ES.5 REVIEW OF THE DRAFT EIR

The Draft EIR will be available for public review for the statutory 45-day review period and will circulate from **February 3, 2023** to **March 20, 2023.** The Draft EIR is available electronically on the City of Redwood City's project webpage: www.redwoodcity.org/developmentprojects

Agencies, organizations, and interested parties will have the opportunity to comment on this Draft EIR during the 45-day public review period. The City of Redwood City encourages the electronic submission of comments. Please indicate a contact person for your agency or organization and send your comments to: dboyd@redwoodcity.org. Please include 1125 Arguello Street Mixed-Use Development Project in the subject line.

Written comments on this Draft EIR should be addressed to:

City of Redwood City
Attention: Darryl Boyd, Contact Principal Planner
1017 Middlefield Road,
Redwood City, CA 94063
Phone: (650) 780-7264

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1.0 INTRODUCTION

This Draft Environmental Impact Report (EIR) is prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the 1125 Arguello Street Mixed-Use Development Project (proposed project). This document is prepared in conformance with CEQA (California Public Resources Code [PRC] Section 21000, et seq.) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, Section 15000, et seq.). This Draft EIR is intended to serve as an informational document for the public agency decision makers and the public regarding the proposed project.

1.1 THE ENVIRONMENTAL REVIEW PROCESS

CEQA requires public agencies to identify, disclose, and consider the potential environmental impacts of proposed discretionary actions that lead agencies are considering for approval. A project that may have a significant impact on the environment cannot be approved unless the lead agency makes the approval contingent upon the implementation of mitigation measures that would reduce or avoid that impact to the extent feasible. When a project may have significant environmental impacts, the lead agency must prepare an EIR before it considers whether to approve the project.

The City of Redwood City (City), as the lead agency for the proposed project, has prepared this Draft EIR for public review and comment. As discussed below, the Draft EIR will be available for review and comment by public agencies and the general public for a period of 45 days. Prior to considering the proposed project, the City will prepare a Final EIR that includes the Draft EIR, the comments received on the Draft EIR, written responses to those comments, a list of commenters, and any revisions being made to the Draft EIR in response to the comments. The Final EIR will be considered by the City's discretionary bodies when taking action on the proposed project.

1.1.1 Purpose and Authority

This Draft EIR has been prepared pursuant to the State CEQA Guidelines (CCR Title 14, Section 15000, et seq.). CEQA requires that State and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects (PRC 21000 et seq.).

According to CEQA Guidelines Section 15064(f)(1), preparation of an EIR is required whenever a project may result in a significant adverse environmental impact. The purpose of this Draft EIR is to analyze the potential environmental impacts of the proposed project, to indicate ways to reduce or avoid potential environmental impacts associated with the proposed project, and to identify alternatives to the project that reduce or avoid significant environmental impacts. CEQA requires that each public agency mitigate or avoid the significant environmental effects of projects it approves or implements whenever feasible.

An EIR is an informational document used in state, regional, and local planning and decision-making processes to meet the requirements of CEQA. The purpose of the EIR is not to recommend approval or denial of a project. However, the City's decision whether to approve or to deny the project must take into consideration the information provided by the EIR. A public agency may approve a project even if it would

result in significant and unavoidable environmental impacts, provided the agency adopts a statement of overriding considerations.

The Draft EIR must disclose the following: the proposed project's environmental effects, including those that cannot be avoided; the proposed project's growth inducing effects; the project-related effects found not to be significant; and cumulative impacts.

1.1.2 Type of Environmental Impact Report

In accordance with CEQA Guidelines Section 15161, this document is a project EIR that examines the environmental impacts of a specific project. This type of EIR focuses on the changes in the environment that would result from a specific project. In accordance with CEQA Guidelines Section 15161, a project EIR must examine the environmental effects of all phases of the project, including construction and operation. Additional resource-specific studies and modeling, such as air quality, cultural resources, noise, and traffic have been prepared for this Draft EIR to provide detailed information about the proposed project's potential impacts on the environment. The mitigation measures identified in this Draft EIR are sufficiently detailed to ensure that they would be effectively carried out to reduce the proposed project's impacts.

1.1.3 Lead Agency Determination

The City is designated as the lead agency for the proposed project. CEQA Guidelines Section 15367 defines the lead agency as, "...the public agency, which has the principal responsibility for carrying out or approving a project." Other public agencies may use this document in their decision making or permit processes (e.g., Department of Water Resources, Bay Area Air Quality Management District [BAAQMD], California Department of Transportation [Caltrans], etc.).

This Draft EIR was prepared by the City with technical assistance provided by Stantec Consulting Services Inc. (Stantec), an environmental consultant. Prior to public review, this Draft EIR was extensively reviewed and evaluated by the City staff and, as such, the Draft EIR reflects the independent judgment and analysis of the City, as required by CEQA. Lists of organizations and persons consulted and the report preparation personnel are provided in Section 8.0, List of Preparers, of this Draft EIR.

1.2 SCOPE OF DRAFT EIR

Pursuant to CEQA and the CEQA Guidelines, a lead agency shall focus an EIR discussion on potentially significant environmental effects and may limit discussion on other effects to brief explanations about why they are not significant (PRC Section 21002.1, CEQA Guidelines Section 15128). A determination of which impacts would be potentially significant was made for this project based on review of the information presented in the Initial Study prepared for the project and comments received as part of the public scoping process (Appendix A), as well as additional research and analysis of relevant project data obtained during preparation of this Draft EIR. This Draft EIR addresses the potential environmental effects of the proposed project. The City distributed a Notice of Preparation (NOP) of a Draft EIR for the proposed project beginning on October 19, 2021. The NOP was distributed for a 30-day comment period that ended on November 18, 2021. The Public Scoping Meeting on the Draft EIR for the proposed project was held on November 9, 2021. The comments received on the NOP and during the Public Scoping Meeting were considered in the preparation of this Draft EIR. The scope of this Draft EIR includes the

potential impacts identified in the NOP and issues raised by agencies and the public in response to the NOP.

The City has determined that the proposed project has the potential to result in significant environmental impacts on the following resources, which are addressed in detail in this Draft EIR.

- Aesthetics
- Air Quality
- Cultural Resources
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Population and Housing
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

Please refer to Section 1.2.2, Environmental Issues Determined Not to Be Significant, for a list of environmental issues and resource topics determined to be not significant. Environmental issues and resource topics determined not to be significant were analyzed in the Initial Study prepared for the proposed project (Appendix A), which determined that implementation of the proposed project would result in no impact or less than significant environmental impacts with or without mitigation related to the environmental issues and resource topics. Environmental issues and resource topics evaluated in this EIR required additional analysis that was outside of the scope of analysis for the Initial Study and therefore, required further evaluation in this EIR.

Table 1.2-1 lists the comment letters received during the project scoping period.

Table 1.2-1. Comments Received on the NOP

Affiliation	Signatory	Date	Comment Description	CEQA Document Where Comment is Addressed
Private Parties - Written				
Interested Individual	Kris Johnson	November 4, 2021	Requests 100% housing option be considered as an alternative development pattern.	• EIR Section 5.0, Alternatives
Interested Individual	Edwin Gotay	November 18, 2021	Concerns with building height impacting aesthetics; concerns with number of parking provided for the housing units impacting street parking; concerns with off-site open space being provided.	• EIR Section 3.1, Aesthetics • EIR Section 3.5, Land Use and Planning

Affiliation	Signatory	Date	Comment Description	CEQA Document Where Comment is Addressed
Caltrans	Mark Leong	November 16, 2021	Outlined requirements for conducting travel demand analysis, mitigation strategies, impact fees and construction related impacts. *Caltrans comments are general in nature and the suggested approach was followed in the VMT Analysis (see Section 3.8: Transportation)*	• EIR Section 3.8, Transportation
NAHC	Katy Sanchez	October 20, 2021	Discussed compliance with AB 52 and recommendations for Cultural Resources Assessments. *NAHC comments are general in nature and suggested approach was followed in the analysis (see Section 3.3, Cultural Resources, and Section 3.9, Tribal Cultural Resources)*	• EIR Section 3.3, Cultural Resources • EIR Section 3.9, Tribal Cultural Resources
PG&E	Plan Review Team	October 23, 2021	Outlined requirements for gas and electric facilities. *PG&E comments are general in nature and suggested approach was followed in the analysis (see EIR Section 3.10, Utilities and Service Systems and Initial Study Section 3.18, Utilities and Service Systems)*	• EIR Section 3.10, Utilities and Service Systems • Initial Study Section 3.18, Utilities and Service Systems
Private Parties – Oral[1]				
Interested Individual	Kris Johnson	November 9, 2021	Commenter recapped the history of the site, notes the potential for additional housing on the site. Commenter has a concern about the potential for population and housing be affected to the EIR. Commenter requests 100% housing alternative be studied, and population and housing added to the EIR.	• EIR Section 3.7, Population and Housing • EIR Section 5.0, Alternatives
Interested Individual	DZ	November 9, 2021	Commenter expressed concern on the CEQA process and the duration of time it takes to review applications. *Comment was general to the CEQA process and not specific to the proposed project (see Draft EIR Section 1.0, Introduction, regarding the review period for the environmental document)*	• EIR Section 1.0, Introduction
Planning Commissioner	Vice Chair Hunter	November 9, 2021	Commenter expressed desire to include population and housing in the EIR. Commenter shared his views of population as having a potential significant impact due to the addition of 1,350 office jobs at the site. Commenter states the project could displace population through gentrification as new workers move in. Commenter requests the EIR to consider quantitative impact of jobs/housing balance. Commenter requests the EIR evaluates impacts on water supply.	• EIR Section 3.7, Population and Housing • EIR Section 3.10, Utilities and Service Systems

[1] Oral comments taken at the Public Scoping Meeting held on November 9, 2021.

1.2.1 Location and Overview

The project site is located within the City of Redwood City at 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street on an approximately 3.5 acre site. The project site consists of six contiguous parcels bounded by Whipple Avenue to the north, Arguello Street to the east, and Caltrain tracks to the west. The six contiguous parcels that make up the 3.5 acre project site are identified as Assessor's Parcel Numbers (APNs) 052-252-080, 052-252-090, 052-252-040, 052-252-030, 052-252-020, and 052-252-060.

HMB Redwood City LLC (Applicant) is proposing to reuse and demolish the existing on-site structures to construct a mixed-use development consisting of a 57,254 square foot multi-family residential building with 33 affordable units, approximately 300,000 square feet of office space, and a 4,132 square foot childcare facility. The proposed project would also include a three level underground parking garage for the office buildings, landscaping, and off-site improvements including extension of the City's recycled waterline to the vicinity of the project site. Section 2.0, Project Description, includes more detailed information about the proposed project.

1.2.2 Environmental Issues Determined Not to Be Significant

Pursuant to CEQA, the discussion of the potential effects on the physical environment is focused on those impacts that may be significant or potentially significant. CEQA allows a lead agency to limit the details of discussion of the environmental effects that are not considered potentially significant (PRC Section 21100, CEQA Guidelines Sections 15126.2[a] and 15128). CEQA requires that the discussion of any significant effects on the environment be limited to substantial or potentially substantial adverse changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (Statutory definition of "environment"). Effects dismissed in an analysis as clearly insignificant and unlikely to occur need not be discussed further in the Draft EIR unless the lead agency subsequently receives information inconsistent with the finding (CEQA Guidelines Section 15143).

Based on a review of the project information provided in the NOP (Appendix A) and comments received as part of the public scoping process (Appendix A), as well as additional research and analysis of relevant project data obtained during preparation of this Draft EIR, the following were identified as resources that would not experience any significant environmental impacts from the proposed project. Accordingly, these resources are not addressed further in this Draft EIR but are identified below. A brief explanation as to why impacts to each resource are not anticipated, as required by CEQA is provided in Section 7.0, Effects Found Not to Be Significant.

- Agriculture and Forestry Resources
- Biological Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Public Services
- Recreation
- Wildfire

In addition, certain subjects within various environmental resource topics were determined not to be significant. Other potentially significant issues are analyzed within these environmental resource topics;

however, the following issues are not analyzed, but a brief explanation as to why impacts are less than significant as required by CEQA is provided in Section 7.0, Effects Found Not to Be Significant. Would the project:

- Have a substantial adverse effect on a scenic vista? (Section 3.1, Aesthetics)
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway? (Section 3.1, Aesthetics)
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Section 3.2, Air Quality)
- Disturb any human remains, including those interred outside of formal cemeteries? (Section 3.3, Cultural Resources)
- Physically divide an established community? (Section 3.5, Land Use and Planning)
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (Section 3.6, Noise)
- Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (Section 3.8, Transportation)
- Result in inadequate emergency access? (Section 3.8, Transportation)
- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (Section 3.10, Utilities and Service Systems)
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (Section 3.10, Utilities and Service Systems)
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (Section 3.10, Utilities and Service Systems)
- Comply with federal, state, and local management and reduction statues and regulations related to solid waste? (Section 3.10, Utilities and Service Systems)

1.3 ORGANIZATION OF THE DRAFT EIR

This Draft EIR is arranged into the following sections, which contain the contents of an EIR as required by CEQA Guidelines Section 15120 through 15132.

Section ES: Executive Summary. The Executive Summary provides a summary of the proposed project and the project alternatives, including a summary of project impacts, recommended mitigation measures, and the level of significance after mitigation for each environmental issue.

Section 1.0: Introduction. The Introduction provides an overview of the proposed project and the CEQA process and describes the purpose, scope, and components of this Draft EIR.

Section 2.0: Project Description. The Project Description provides a detailed description of the proposed project, including the location and project characteristics. The intended uses of this Draft EIR, project background, project objectives, and required project approvals are also addressed.

Section 3.0: Environmental Impact Analysis. The Environmental Impact Analysis analyzes the environmental effects of the proposed project. Impacts are organized into major environmental topic areas. Each topic area includes a description of the regulatory setting, environmental setting, significance criteria, project impacts, mitigation measures, and level of significance after mitigation. The specific environmental topic areas that are addressed in Section 3.0 include the following:

- Section 3.1: Aesthetics
- Section 3.2: Air Quality
- Section 3.3: Cultural Resources
- Section 3.4: Greenhouse Gas Emissions
- Section 3.5: Land Use and Planning
- Section 3.6: Noise
- Section 3.7: Population and Housing
- Section 3.8: Transportation
- Section 3.9: Tribal Cultural Resources
- Section 3.10: Utilities and Service Systems

Section 4.0: Cumulative Effects. Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. A cumulative impact consists of an impact created because of the combination of the project evaluated in the EIR together with other reasonably foreseeable projects causing related impact.

Section 5.0: Alternatives to the Proposed Project. Describes and compares the proposed project alternatives to the proposed project.

Section 6.0: Other CEQA Considerations. The Other CEQA Considerations section provides a summary of significant environmental effects, including unavoidable, irreversible, and growth-inducing impacts.

Section 7.0: Effects Found Not to Be Significant. This section provides a summary of project impacts that have been determined, through preparation of the NOP, to result in a less than significant or no impact.

Section 8.0: List of Preparers and Organizations Consulted. The List of Preparers and Organizations Consulted section provides a list of the organizations and persons consulted, and the various individuals who contributed to the preparation of this Draft EIR. This section also includes a list of the lead agency personnel and technical consultants used to prepare this Draft EIR.

Section 9.0: References. This section provides a list of the technical studies and other documents used to prepare this Draft EIR.

Appendices. The appendices contain the NOP (including comments) and technical studies prepared to support the analyses and conclusions in this Draft EIR.

1.4 REVIEW OF THE DRAFT EIR

CEQA does not require formal hearings at any stage of the environmental review process (CEQA Guidelines Section 15202[a]). However, it does encourage, “wide public involvement, formal and informal, in order to receive and evaluate public reactions to environmental issues” (CEQA Guidelines Section 15201). The City distributed an NOP of a Draft EIR for the project beginning on October 19, 2021. The NOP was distributed for a 30-day comment period that ended on November 18, 2021. The comments received on the NOP and during the Public Scoping Meeting on November 9, 2021 were considered in the preparation of this Draft EIR. Appendix A contains the written comments received on the NOP.

The City of Redwood City has filed a Notice of Completion (NOC) with Governor’s Office of Planning and Research (OPR) to begin the public review period (PRC, Section 21161). Concurrent with the NOC, this Draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as to all parties requesting a copy of the Draft EIR in accordance with PRC Section 21092(b)(3). During the public review period, the Draft EIR, including the technical appendices, are available for review online at: http://www.redwoodcity.org/developmentprojects.

Agencies, organizations, and interested parties have the opportunity to comment on this Draft EIR during the 45-day public review period, which will begin on **February 3, 2023** and end on **March 20, 2023**. The City of Redwood City encourages the electronic submission of comments.

Send your comments by email to Darryl Boyd, Contract Principal Planner at: dboyd@redwoodcity.org. Please include 1125 Arguello Street Mixed-Use Development Project Draft EIR in the subject line.

Written comments on this Draft EIR should be addressed to:

City of Redwood City, Community Development and Transportation
Attention: Darryl Boyd, Contract Principal Planner
1017 Middlefield Road
Redwood City, CA 94063
Phone: (650) 780-7264

Upon completion of the public review period, written responses to all environmental issues raised will be prepared and made available for review by the commenting agencies at least 10 days prior to any public hearing on the proposed project at which the certification of the Final EIR will be considered. Comments received and the responses to comments will be included as part of the record for consideration by decision-makers for the proposed project.

1.4.1 Effectively Commenting on an EIR

Readers are invited to review and comment on the adequacy and completeness of this Draft EIR in describing the potential impacts of the proposed project, the level of severity of each impact, the mitigation measures being proposed to reduce or avoid those impacts, and the project alternatives being considered. The most effective comments are those that focus on the adequacy and completeness of the environmental analysis and that are supported by factual evidence. Comments that focus on whether the proposed project should be approved or denied are not comments on the adequacy of this Draft EIR.

1.4.2 Final EIR

After the end of the review period, the City will review the comments received, prepare written responses to those comments, make any related revisions to the Draft EIR, and publish the Final EIR, which will include the Draft EIR, comments on the Draft EIR, responses to comments and any revisions to the Draft EIR.

The Final EIR will be considered by the City's Planning Commission and City Council when taking action on the proposed project. If the proposed project is approved, CEQA requires the City to adopt findings describing how each of the significant impacts identified in the EIR is being mitigated. The findings are required to describe the reasons why significant unavoidable impacts, if any, cannot be mitigated; in this case, all significant effects of the project would be mitigated to less than significant levels by the adoption of feasible mitigation measures. The findings will also describe the project alternatives analyzed in the EIR and explain whether or not any alternative or portion of an alternative has been adopted. The City will adopt a mitigation monitoring and reporting plan that describes how it will ensure the mitigation measures being required of the proposed project will be carried out.

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2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The Applicant is proposing development of the 1125 Arguello Street Mixed-Use Development Project in the City of Redwood City, California on an approximately 3.5 acre project site. The Applicant is proposing to demolish the existing on-site structures, except for the two City Historic Landmark structures at 1227 and 1219 Arguello Street and remediate the site to construct a mixed-use development consisting of a 57,254 square foot multifamily housing building comprising 33 affordable units, approximately 300,000 square feet of office space, and a 4,132 square foot childcare facility. The proposed project would also include a three level underground parking garage for the office buildings, landscaping, and off-site improvements. Additionally, the proposed project would construct 3,862 linear feet of off-site recycled waterline. For purposes of this analysis, the term "project site" refers to the residential, office, and childcare facility components of the proposed project, all located at 1125 Arguello Street, while the term "off-site" refers to the recycled waterline component of the proposed project.

2.1.1 Project Site

The proposed project is located at 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street in Redwood City on an approximately 3.5 acre site. Parcels located at 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street are six contiguous parcels totaling 3.5 acres, and bounded by Whipple Avenue to the north, Arguello Street to the east, and the Caltrain tracks to the west (Figure 2-1). These contiguous parcels are referred to as the project site. Buildings on three of the parcels, 1203, 1219, and 1227 Arguello Street, are located within the boundaries of the Mezesville Historic District. 1219 and 1227 Arguello Street are individual Historic Landmarks and are listed on the Redwood City Historic Resources Inventory. The parcel at 1203 Arguello Street is not listed on the Redwood City Historic Resources Inventory, but it is considered a contributor to the locally listed Mezesville Historic District. The project site is located in the El Camino Real Priority Development Area[2]. The project site comprises the following six parcels and APNs (Figure 2-2):

- 1111 Arguello Street (APN 052-252-080)
- 1125 Arguello Street (APN 052-252-090)
- 1203 Arguello Street (APN 052-252-040)
- 1209 Arguello Street (APN 052-252-030)
- 1219 Arguello Street (APN 052-252-020)
- 1227 Arguello Street (APN 052-252-060)

[2] Priority Development Areas are areas in existing communities that local city or county governments have identified and approved for future housing and job growth. These areas are within half a mile of frequent transit services; and they are often near established job centers, shopping districts, and other community amenities.

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Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Data Sources:
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed-Use Development Project
Draft EIR

Figure No.
2-1

Title
Project Location

V:\1857\Active\185705505\mxd\fig_2-1_project_location.mxd Revised: 2021-10-12 By: KAEJOHNSON

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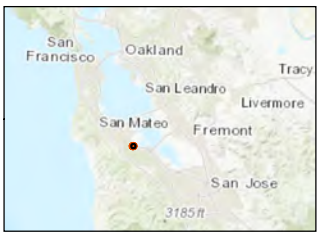

Caltrain

Off-Site Recycled Waterline

Parcel Boundary

Project Site

0 100 200 Feet
(At original document size of 8.5x11)
1:3,000

N

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
2-2

Title
Project Site, Portion of Off-site Recycled Waterline, and Surrounding Land Uses

Notes
1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Data Sources:
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

V:\1857\Active\185705505\mxd\fig 2-1 project site.mxd Revised: 2022-12-07 By: KAEJOHNSON

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The proposed project includes a Tentative Parcel Map which proposes APNs 052-252-060, -020, -030, and -040 to be merged into a single parcel with APN 052-252-090 with the common address at 1125 Arguello Street, and modification of the property line between 1125 Arguello Street and 1111 Arguello Street. The existing Historic Landmark buildings, proposed childcare, and proposed office building would be located at 1125 Arguello Street. Pursuant to the lot merger and lot line adjustment, there would be two parcels for the project site. The off-site recycled waterline is depicted on Figure 2-8 and further detailed in Section 2.1.9, Off-site Improvements (Including Recycled Waterline).

2.1.2 General Plan and Zoning

The City's General Plan Land Use Map designates the project site as Mixed-Use Transitional. The City's 2030 General Plan defines these land uses as:

- **Mixed-Use – Transitional.** This category facilitates a creative mix of residential, industrial, and commercial uses. Represented by its transition from lower density residential or light industrial to higher density mixed-use or more commercial, industrial, or urban areas, the transitional category represents a mixture of uses that are moderate in scale. Live/work uses are encouraged and typically include artist lofts, studio spaces, small offices, and similar low intensity uses. Creative industrial workspace areas are also permitted, provided that activities limit or confine noise, dust, and vibration impacts. Adaptive reuse of existing structures is also encouraged." (City of Redwood City 2010a)

The Redwood City Zoning Map categorizes the parcels within the project site as MUT Zoning District. The purpose of the MUT District is to:

- Reflect the transitional nature of the area from lower density residential or light industrial to higher density mixed-use or more commercial, industrial, or urban areas.
- Promote a mix of low-to-moderate scaled buildings.
- Allow light industrial and residential areas to transition into a diverse mix of workplaces and residences while retaining viable light industrial uses.
- Permit stand-alone commercial or industrial workspace areas, provided that activities limit or confine noise, dust, and vibration impacts, are low impact in nature, and are compatible with any nearby existing or allowed residential uses.
- Allow existing single family and duplex dwelling units to remain and expand residential density in keeping with the transitional nature of the area.

Office spaces exceeding 10,000 square feet in the MUT are allowed conditionally, and the proposed project would be required to obtain a Use Permit, in addition to other land use entitlements. Figure 2-3 shows the General Plan land use designation and zoning district for the project site and surrounding area.

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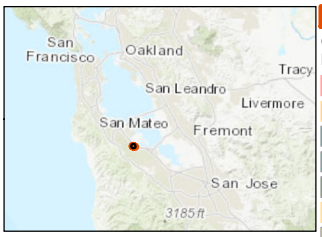

Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Data Sources:
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment

Project Site

General Plan Land Use Designation

- Commercial Neighborhood
- Mixed Use - Corridor
- Mixed Use -Transitional
- Mixed Use - Neighborhood
- Parks
- Residential - High Density
- Residential - Low Density
- Residential - Medium High Density

Zoning District

- General Commercial
- Neighborhood Commercial
- Mixed Use Corridor - El Camino Real
- Mixed Use Transitional
- Mixed Use Neighborhood
- Residential Single-Family (R-1)
- R-3
- Multi-Family- Medium Density (R-4)
- Multi-Family- High Density (R-5)
- Multi-Family-High Density-Office (R-5-O)

0 100 200 Feet
(At original document size of 8.5x11)
1:3,000

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Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed-Use Development Project
Draft EIR

Figure No.
2-3

Title
General Plan Land Use Designations and Zoning Districts

V:\1857\Active\185705505\mxd\fig_2-3_general_plan_zoning.mxd Revised: 2021-10-12 By: KAEJOHNSON

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2.1.3 Existing Site Conditions

The project site is within a highly urbanized area. The project site is developed with existing structures and overhead powerlines. The majority of the project site is already paved, with trees, and other vegetation along the street frontages and along the existing driveways into the site on Arguello Street. Trees are also present along the western border, adjacent to the Caltrain tracks. The existing buildings on-site are one to two stories high. The 1111 and 1125 Arguello Street parcels are developed with commercial/industrial uses; the 1203 Arguello Street parcel contains a vacant residential development; the 1219 and 1227 Arguello Street parcels were originally developed as residences but were converted for office use, and 1209 Arguello is currently a vacant lot used for parking. The project site is relatively flat with a slight slope towards the northeast and is located approximately 18 feet above mean sea level. Historic groundwater level at the project site has been between approximately 0 to 10 feet below ground surface (bgs). Groundwater measured during geotechnical investigations at the project site measured at depths of approximately 8 to 11 feet bgs.

The Caltrain tracks run west of the project site with a Caltrain track crossing located east of the intersection of Whipple Avenue and El Camino Real. Caltrain schedules indicate 72 commuter trains pass by the site daily; and freight trains run on the same tracks but are inconsistent, with the majority of the freight trains running during nighttime.

2.1.4 Existing Operations

The project site is currently occupied by a small automobile towing operation and property management business. The project site was previously comprised of various tenants and uses including an equipment rental center and associated equipment yard, party rental center and associated laundry cleaning area, building contractor, boxing gym, coffee tech repair, and towing company. There are currently eight employees on the project site. The hours of operations are from 9 AM to 5 PM.

2.1.5 Surrounding Land Uses

The project site is surrounded by the following land uses:

- **North** – Whipple Avenue, single-story commercial uses
- **East** – Arguello Street, one to two-story single-family, and two- to three-story multi-family residential uses
- **South** – one- to two-story commercial uses
- **West** – Caltrain tracks, car dealerships west of the Caltrain tracks

2.1.6 Office Buildings

The project site plan is shown in Figure 2-4. The project proposes two connected, four-story commercial office buildings approximately 60 feet in height (Figure 2-5). A mechanical penthouse would be located on the rooftop of each office building and add an additional 14 feet to the building height. The north office building would be approximately 144,602 gross square feet and the south office building would be approximately 149,774 gross square feet. The two office buildings would be connected at the ground floor

by a shared common space and through enclosed bridges at floor levels two and four. The proposed buildings would be constructed of mass timber and glass. Each office building would feature a lobby and main entrance with direct access from Arguello Street.

The proposed office building development would be set back from Arguello Street to create approximately 27,950 square feet of open space and landscaping consisting of balconies, plaza, and vegetated space. The project also proposes two open plazas that lead to the two office lobbies, and space in the plaza would be allocated for public art. The open space would place plantings and trees along the street edge at Arguello Street.

The buildings would feature terraces and a recessed niche for the connecting bridges. The first floors of both office buildings would include lobby areas at the entrances, a shared common space, bicycle storage room with 120 bicycle parking spaces, mechanical rooms, and office space. In addition, 60 short-term bicycle storage spaces would be provided on the exterior of the building. Levels 2 through 4 of both office buildings would consist of office space. The office buildings would also include three levels of shared, below-ground parking, consisting of 748 parking spaces. The office would have approximately 1,350 employees and operational hours would be from 7 AM to 6 PM.

The proposed office building requires conditional use, architectural, and planned development permits.

2.1.7 Affordable Housing

The proposed project would construct on-site a 100 percent for-sale affordable housing building (Figure 2-6). The project proposes a 57,254 square foot, four-story building to include 33 multi-family residential units and ground level parking. The proposed building would be 46 feet tall. The units would be comprised of two-, three- and four-bedroom units, with an average size of approximately 965 square feet, 1,250 square feet and 1,220 square feet, respectively. The total number of residents for the residential development are estimated to be 89 people. Table 1.4-1 shows the mix of affordable housing units by income level. The proposed building entry and garage entry would be off Arguello Street. The ground floor of the building would comprise lobby space, 37 bicycle parking spaces, and 33 vehicle parking spaces. The housing building would provide approximately 2,979 square feet of private open space consisting of balconies and terraces; the minimum per unit is 70 square feet, and the average per unit is 90 square feet. Common space for the lobby at ground floor entrances would be approximately 1,470 square feet.

Source: DLR Group, June 2022

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
2-4

Title
Project Site Plan

Stantec

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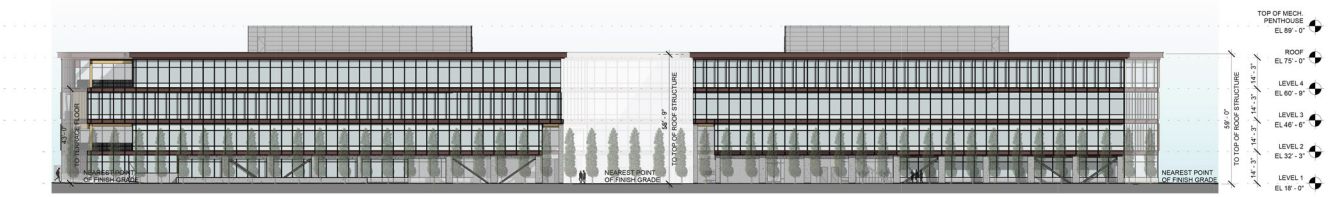
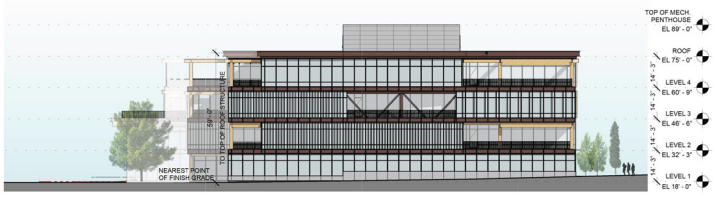
1 OFFICE ELEVATION - EAST - ARGUELLO STREET
3/64" = 1'-0"



2 OFFICE ELEVATION - WEST
3/64" = 1'-0"

3 OFFICE ELEVATION - SOUTH
3/64" = 1'-0"



4 OFFICE ELEVATION -NORTH
3/64" = 1'-0"

Source: DLR Group, June 2022

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
2-5

Title
Office Buildings Elevations

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Source: DLR Group, June 2022

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
2-6

Title
Affordable Housing Elevations

Stantec

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Table 1.4-1. Proposed Affordable Housing Mix

Income	Required Affordable Units[1]	Provided Affordable Units	Two-Bedroom Units	Three-Bedroom Units	Four-Bedroom Units	Percent of Mix
Very low Income	6	6	6	0	0	18
Low Income	15	15	5	9	1	45
Moderate Income	9	12	4	6	2	36
Totals	30	33	15	15	3	100

Note:
[1] Per Redwood City Affordable Housing Ordinance and in Section 50052.5 of the California Health and Safety Code and California Code of Regulations Title 25, Sections 6910-6924.

The proposed project would partner with a nonprofit affordable housing developer for construction of the housing development component of the proposed project. The nonprofit affordable housing developer would establish a Homeowner's Association (HOA) for the new condominium development that would be responsible for the long-term maintenance and upkeep of the property. Individual units would be sold to qualified homeowners, while the common interest areas would be owned and maintained long-term by the HOA. The HOA would hire a property management company to complete daily and monthly upkeep on the property, which will include landscaping upkeep, general cleaning and maintenance, and regular operational functions. The property management company would staff the project as necessary, and there would be no permanent residential maintenance staff on-site. All aspects of the HOA setup and budget would be established in accordance with California Department of Real Estate guidelines and would be subject to City's review and approval.

The residential component of the project requires architectural, condominium, and planned development permits. The proposed project is required to prepare an Affordable Housing Plan which will be reviewed in draft form in conjunction with the project entitlements.

2.1.8 Childcare

The project includes a public-serving childcare facility intended to provide 30 childcare slots. The project proposes to adaptively reuse the two Historic Landmark buildings currently being used as commercial spaces and would construct an additional new extension building on 1219 Arguello that would enable the buildings to function together and properly for childcare (Figure 2-7). The proposed project would require approval under Redwood City Municipal Code Section 40.8 for the alteration to the two Historic Landmark buildings. The childcare facility would be in the existing buildings at 1219 and 1227 Arguello Street, along with a new 2,008 square foot addition building that would expand the existing 1219 building. The childcare facility would be a total of 4,132 gross square feet. Approximately 2,850 square feet of play area would be located in the open space between the office building and the new childcare facility. A 6-foot fence would be installed around the outdoor play areas to help ensure safety and security from adjacent roadways. The interior of the Historic Landmark buildings would be updated to modernize the building systems and provide the services required by childcare.

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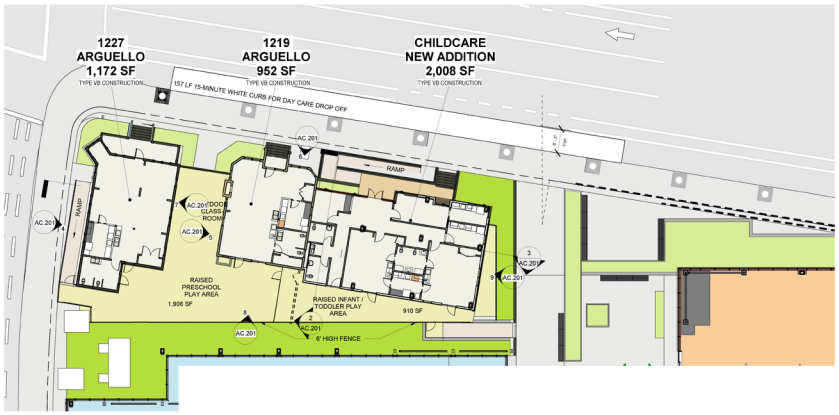
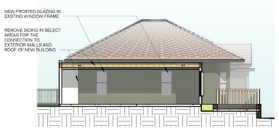


1 LEVEL 1 - CHILD CARE
1/16" = 1'-0"

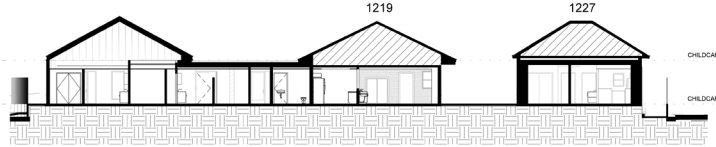
CHILD CARE SUMMARY - PROPOSED PRELIMINARY PROGRAM

PROGRAM ELEMENT	GSF	NSF	# OF CHILDREN
CHILDCARE NEW ADDITION			
INFANT CLASSROOM	470	245	6 CHILDREN 41 SF/CHILD
TODDLER CLASSROOM	480	345	6 CHILDREN 57.5 SF/CHILD
SUPPORT SPACES	620		
INTERIOR CIRCULATION	331		
1219 ARGUELLO			
YOUNG PRESCHOOL CLASSROOM	1071	670	12 CHILDREN 55 SF/CHILD
1227 ARGUELLO			
PRESCHOOL CLASSROOM	1286	825	14 CHILDREN 59 SF/CHILD
TOTAL INDOOR AREA	4123		
PLAY AREA	2850		75 SF/CHILD

16 EMPLOYEES ARE ESTIMATED FOR THE DAYCARE CENTER - EMPLOYEE PARKING WILL BE PROVIDED FOR THEM IN THE UNDERGROUND PARKING GARAGE BELOW THE OFFICE

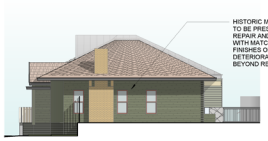


2 1219 ELEVATION - SOUTH
3/32" = 1'-0"



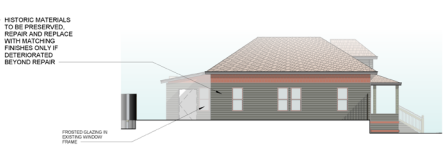
3 CHILD CARE SECTION
3/32" = 1'-0"

4 1227 ELEVATION - NORTH
3/32" = 1'-0"



5 1219 ELEVATION - NORTH
3/32" = 1'-0"

6 CHILDCARE ELEVATION - EAST
3/32" = 1'-0"



7 CHILD CARE ELEVATION - SOUTH
3/32" = 1'-0"

8 CHILDCARE ELEVATION - WEST
3/32" = 1'-0"

9 CHILD CARE ELEVATION - SOUTH
3/32" = 1'-0"

Source: DLR Group, June 2022

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
2-7

Title
Childcare Facility Elevations

Stantec

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The project proposes up to 10 on-street parking spaces along Arguello Street to be designated as loading spaces (15 minutes or less) for drop-off and pick-up, and the curb would be painted/marked as such. Operational hours for the childcare center would be 6 AM to 6 PM, with typical peak hours expected to be 7 AM to 9 AM and 4 PM to 6 PM. The childcare facility would have approximately 16 employees. Nine parking spaces would be reserved for childcare facility employees in the adjacent office parking structure. The childcare facility would be intended to serve the citywide population. The childcare center requires an architectural permit and historic preservation approval for alterations, construction and demolition. The childcare center will require a permit from State Community Care Licensing prior to operation.

2.1.9 Off-site Improvements (Including Recycled Waterline)

The project frontage on Whipple Avenue and Arguello Street would be improved with curb, gutter, sidewalk, tree wells, utility laterals, new/widened sidewalk, Americans with Disabilities Act (ADA)-compliant ramps at corners, two new access driveways, crosswalks, and off-site utilities. The sidewalk would be 950 linear feet and 12 feet wide. In order to comply with the City's required use of recycled water the project includes the extension of the City's recycled water system service to the project site. The proposed project would construct 2,553 linear feet of 16-inch-diameter recycled waterline, requiring a maximum 5-foot wide and 15-foot deep trench, along Arguello Street from Whipple Avenue to Marshall Street and 1,309 linear feet of 30-inch-diameter recycled waterline, requiring a 5-foot wide and 15-foot deep trench, from Marshall Street to Jefferson Avenue (Figure 2-8). The maximum depth of pipe could be up to 15 feet in order to avoid other existing utilities in the existing public right-of-way. The final trench design and construction specifications (including size and depth) would meet City standards and will be determined during the public improvement plans review phase of the project.

2.1.10 Tree Removal and Landscaping

The proposed project would provide landscaping along the frontages of Arguello Street and Whipple Avenue and throughout the project site. Approximately 110 existing trees within the project site would be removed and would require a Tree Removal Permit from the City. Tentative approval of the tentative map by the City Planning Commission constitutes a permit to remove any trees so designated thereon. Trees that are removed are not planned for replanting. Two of the existing street trees would remain. The proposed project would plant deciduous screening trees along the western edge of the project site to screen the Caltrain tracks. The proposed project would also include approximately 3,000 square feet of bioswale areas consisting of flow through planters on the project site. A final landscape plan would be submitted for the City's review and approval in conjunction with the entitlement process.

2.1.11 Vehicular and Pedestrian Access

Vehicular access to the office building (1125 Arguello) would be through a new 34-foot driveway on Arguello Drive. The driveway is proposed to be 34 feet between the office and residential buildings and 24 feet along the southwestern side of the office building. The driveway would provide an access aisle for emergency vehicles serving the office building and the residential building. Both an aerial fire apparatus access route and secondary access route on Whipple Avenue and Arguello Street would be provided for the Fire Department to access the office building.

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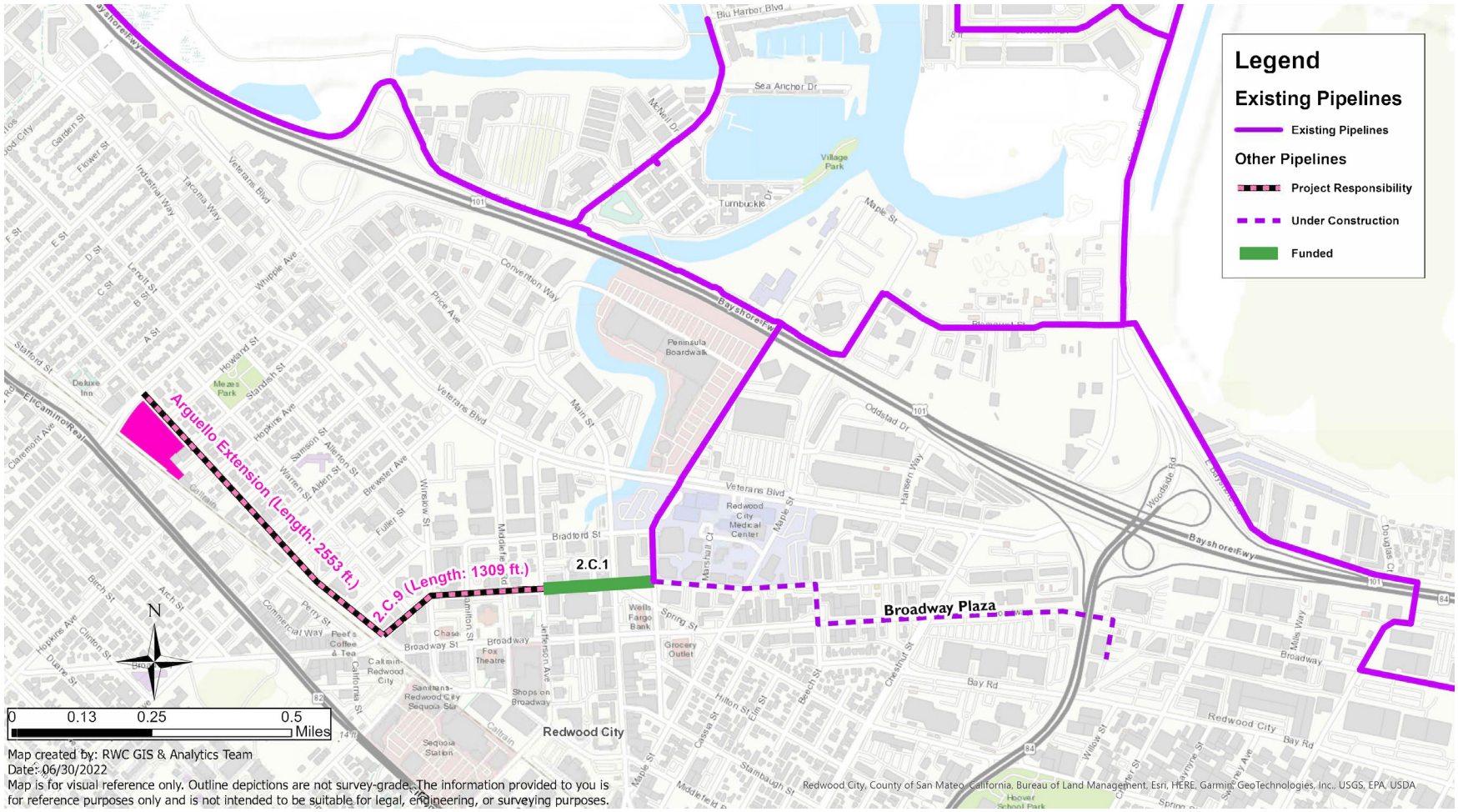

Source: City of Redwood City, June 2022

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
2-8

Title
Recycled Waterline

Stantec

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The residential development would include a parking garage located at the ground floor of the building which would be accessed through the garage entrance located on Arguello Street. Pedestrians would access the residential development from Arguello Street. The childcare center would be accessible from Arguello Street.

The proposed project would construct a crosswalk at Arguello Street and Standish Street; and there would be streetscape improvements along Arguello Street such as a 12-foot sidewalk, a 5-foot bicycle lane, and new street lighting to help improve pedestrian access throughout the site and surrounding neighborhood.

If the City chooses to accept the offer, the proposed project would install a bicycle facility designed as a buffered bike lane along the Arguello Street frontage that would connect to longer installations of the City's bicycle network. The facility would extend between Whipple Road and Standish Street, adjacent to the project, and would consist of lane striping, buffer striping, and potential vertical delineators where no driveway or parking conflict is present. For purpose of CEQA, the bicycle facility will be considered in analysis of the project.

2.1.12 Parking

The construction of the office buildings would include surface parking and three levels of below-ground parking consisting of 748 parking spaces, which is less than the City's Zoning Code requirement. A Planned Development Permit has been requested to allow the proposed parking reduction. The office would provide five parking stalls on Level 1 (surface parking), 237 stalls on Level B1, 253 stalls on Level B2, and 253 stalls on Level B3 for a total of 748 parking stalls. Out of the 748 parking stalls, 16 would be ADA-compliant, 80 would be clean air vehicle/carpool spaces, 60 would be electric charging station spaces, and 50 would be motorcycle parking spaces. The office buildings would provide 120 long-term bicycle parking spaces in the interior bicycle room located in the ground floor lobby, and 60 short-term bicycle parking spaces at the ground floor of the exterior of the buildings for a total of 180 bicycle parking spaces.

Nine vehicle parking spaces in the office building parking garage would be reserved for childcare employees. The children drop-off and pickup would occur on Arguello Street.

The residential building would include a ground floor parking garage. The garage would provide 33 parking stalls, two of which are electric charging station spaces, and four motorcycle parking spaces. Per the City's Zoning Code, the proposed project is required to provide 75 total parking spaces. The proposed project is requesting a Parking Reduction to reduce the required parking to 33 parking spaces, which is allowed by the California Density Bonus Law due to the project being located near transit. The proposed residential building would also provide 33 long-term bicycle parking spaces and four short-term bicycle parking spaces.

2.1.13 Utilities

The City currently provides water, sewer, and utility service to the project site and would continue to do so. Work within the public right-of-way will require encroachment permits.

Water Supply

The project site is currently served by water services connected to an existing 6-inch cast iron main in Arguello Street and an existing 6-inch cast iron main in Whipple Avenue. The proposed project would require upsizing of the existing 6-inch main in Arguello Street to an 8-inch main from Whipple Avenue to Hopkins Avenue. The upsizing would be required to satisfy the Fire Marshall's fire water flow and pressure requirements for the building construction type/size. The proposed project would install and connect its domestic, fire water, and recycled laterals out to Arguello Street. A dual plumbing system would be installed to include a separate plumbing system for recycled water for internal use. Recycled water would also be used for irrigation. The project is required to extend recycled water service to the project site. The proposed project would construct approximately 2,553 linear feet of 16-inch diameter recycled waterline along Arguello Street from Whipple Avenue to Marshall Street and approximately 1,309 linear feet of 30-inch diameter recycled waterline from Marshall Street to Jefferson Avenue.

Wastewater

The project site is currently served by an existing 6-inch vitrified clay pipe (VCP) sanitary sewer main in Arguello Street and a 10-inch VCP sanitary sewer main in Whipple Avenue. There are currently four laterals servicing the existing site out to Arguello Street. The proposed project would install laterals for the two office buildings, childcare building, and the residential building. The proposed project would upsize the 6-inch main in Arguello Street to 8 inches. The improvement would start at the new childcare building and run south through Arguello Street to Howland Street, where it ties into a 15-inch main in Howland.

Stormwater

Stormwater runoff at the project site is currently collected in catch basins throughout the site and routed to the 12-inch reinforced concrete main in Arguello Street. Storm drain laterals would be installed, and stormwater runoff from the proposed project would be drained by on-site storm drain lines, connecting to the existing 12-inch main in Arguello Street. Before discharging to the City's storm drain, runoff from the site would flow through detention and treatment measures, such as bioswales and media filters. The proposed project would also provide stormwater treatment to the Arguello Street frontage runoff as green infrastructure.

Electricity, Gas, and Telecommunications

The proposed project would underground the existing overhead utility lines along the frontage of Arguello Street and Whipple Avenue, up to the next pole located off the property frontage. A new utility pole would be constructed on the northwest corner of the Whipple Avenue and Arguello Street intersection. Five existing gas lines located along Arguello Street would be cut, capped, and abandoned by Pacific Gas and Electric (PG&E) prior to demolition. PG&E would provide electricity and gas to the project site. AT&T, Comcast, or Wave G would provide telecommunication services to the project site.

2.1.14 Aesthetics and Design

The project design would incorporate various architectural elements and require an Architectural Permit for the proposed office building, affordable housing, and childcare center. The office building would be set back between 7 feet and 75 feet from Arguello Street to create open spaces for the proposed development and to provide a pedestrian scale. The project proposes two open plazas that would lead to

two office lobbies. Space in the plazas would be allocated for public art, and the plazas would be publicly accessible. The proposed project would also place plantings and new street trees along the frontage of Arguello Street. The design and architectural elements for each development are discussed below.

Office Buildings

The office buildings are planned to be constructed of mass timber and glass and would be set back from Arguello Street. The setback would allow for the project to create a more integrated edge between the office and the neighborhood by way of street trees, landscaped garden beds, and the adaptive reuse of existing Historic Landmark buildings. The portions of the office building closest to the street frontage would be three stories with a fourth-floor terrace. The buildings would also feature a recessed niche for the connecting bridges, and a smaller scale common structure, all of which limit the length of the unarticulated façade that fronts the residential neighborhood. The terraces and common structure would also bring the scale of the building down towards Arguello Street. The two entry courtyards and the common building would be designed to be away from the street edge. The street trees would frame the common building which would complement the scale of neighboring buildings. With clear glazing on three sides, the structures would be visible to passersby, reinforcing a connection between the interior and exterior. Figure 2-9 shows the conceptual rendering of the office buildings.

The office building would be separated from the residential building by the new driveway and sidewalk. The office building side facing the residential development would feature large glass windows with glazing. Vertical slats have been added to the office building side facing the residential development to act as a screen and provide privacy. The office building would be taller than the residential building.

Housing

The housing building would be elevated by raising the wood-framed building on a concrete podium and orienting the units toward the streets. The façade alternates board form concrete elements with glass between entries, allowing no more than 22 feet of length at a time, modulating, and providing visual interest and scale on the ground floor. The second floor would be articulated to provide private open space for residents. The upper levels of the housing would orient to align with the planes of the adjacent office building. The windows in the housing building that face directly toward the office building have 3-foot high sills. The larger living room windows are oriented to direct views down the drive aisle and toward Arguello Street. Figure 2-9 shows the conceptual rendering of the proposed residential building.

Childcare Center

The proposed project would adaptively reuse the two Historic Landmark buildings that are currently used for commercial purposes. The proposed project would also construct an additional new extension building on 1219 Arguello that would enable the two existing structures to function appropriately for childcare. Historic materials would be preserved, and repair and replacement of materials would use matching finishes if the existing materials were deteriorated beyond repair. Siding in select areas would be removed to enable connection of the new addition to the exterior walls and roofs of the existing structures. High pressure laminated panel and solid wood siding would be used. New frosted glazing would be installed in existing window frames, and there would be no change to the height of the buildings. Figure 2-9 shows the conceptual rendering of the childcare facility.

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VIEW FROM THE CORNER OF ARGUELLO STREET AND WHIPPLE AVENUE

Source: DLR Group, June 2022

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
2-9

Title
Conceptual Site Rendering

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2.1.15 Alternative Transportation

The project site is located in proximity to Downtown Redwood City and is within 0.5-mile from the Redwood City Caltrain Station and the Redwood City Transit Center on James Avenue. The project site is two blocks away from the nearest SamTrans bus stop. An existing bicycle lane runs adjacent to the site along Arguello Street. Both office buildings and the residential building would provide long-term and short-term bicycle parking spaces.

2.1.16 Sustainability

The office buildings are targeting Leadership in Energy and Environmental Design (LEED) Gold and WELL Certification. To meet these certifications, the buildings would be designed to employ passive strategies, such as a high-performance curtain wall and drought tolerant plantings, throughout the landscape. An efficient building envelope would be designed and detailed to complement the mechanical systems in the project's efforts to achieve points in energy efficiency for the LEED rating system. To align with the Peninsula Clean Energy's Reach Code recommendations, the office buildings would also be 100 percent electric. The project would pursue low lighting power density light fixtures.

The office buildings would be designed without a cooling tower which would eliminate the need for any makeup water. Energy-efficient mechanical equipment would be used, and gas-fired broilers would be eliminated by using an air-cooled heat recovery chiller. Fan power would be reduced by using multi-zone air handling units.

The affordable housing building would comply with the City's green building measures and sustainability goals of the General Plan. It would be 100 percent electric and target a Green-Point Rating.

The proposed project would include installation of low flow plumbing fixtures The buildings would be constructed with mass timber that allows the structures to take advantage of the sustainable features of wood. The embodied energy required to create a timber beam is significantly less and, as a natural material, wood has the unique ability to sequester and store carbon over its lifetime. Due to it being lighter in weight, it allows for a compressed construction schedule, which minimizes impacts and inconvenience for the surrounding neighborhood.

2.1.17 Community Benefits

The MUT District allows increased height and density in exchange for the provision of community benefits as part of the project. The community benefits program is a tiered points-based system. In exchange for increased height, the project is proposing several community benefits, which include the following:

- A 4,132 square foot childcare facility serving at least 30 children with specialized programming.
- The childcare facility would adaptively reuse two existing Redwood City Historic Landmark buildings that are also contributing structures to the Mezesville Historic District.
- Includes ten percent more affordable housing units (three units) than the minimum number of affordable housing units (30) required by the City's inclusionary housing ordinance.
- All of the affordable housing units would be for sale and would have two, three or four bedrooms.

The proposed project is seeking the following concession under the Community Benefits Program:

- **Height.** The Mixed-Used Transitional zoning development standards allow mixed-use buildings to have a maximum height of 40 feet. Through the Community Benefits program, mixed-use buildings may be increased to 60 feet maximum. As noted in the section above, the project is proposing a number of Community Benefits that would allow the office buildings to be four stories and 60 feet in height. The MUT zoning development standards allow residential buildings to have a maximum height of 40 feet. The proposed project is requesting the multi-family building to be three stories of residential development with one at grade parking level for a total of four stories and 46 feet in height.

2.2 PROJECT CONSTRUCTION

2.2.1 Schedule

Construction activities would occur during the work week, Monday through Friday, between 7 AM and 8 PM, consistent with the City's Municipal Code applicable to construction activities. Any work outside of the City's construction hours would require special permits. Table 2.2-1 shows the anticipated schedule with the assumption that the construction would begin in February 2024 and end in October 2025. This project schedule is dependent on market conditions, regulatory approvals, and other factors; therefore, it is subject to change.

Table 2.2-1. Project Construction Schedule

Task	Start Date	End Date	Workdays
Site Demolition	2/21/2024	4/16/2024	40
Site Preparation	2/21/24	5/28/24	80
Grading	5/29/24	12/10/24	140
Building Construction	12/11/24	4/14/26	350
Off-site Recycled Waterline Installation	12/11/24	6/11/25	130
Paving	9/15/2025	10/30/2025	75
Architectural Coating	Assumed to be paint and/or exterior wall system components; included with Building Construction		

2.2.2 Access and Staging

Travel routes for construction workers, soils export, and material import would be determined in consultation with the City's Engineering and Transportation Division and included in the construction traffic management plan to be developed in accordance with the City's standard conditions of approval. While the construction materials associated with the office and residential components of the project would be stored on-site, the majority of the recycled waterline construction materials would be stored off-site at the utility contractor's yard. Materials designated for the next couple of workdays would be stored within the work area identified for disturbance. Construction of the project and any utility work would require the closure of selected sidewalks which would be furnished with temporary signage and alternate routing and would be identified in the construction traffic management plan.

2.2.3 Construction Equipment and Workers

Construction equipment anticipated on-site is listed in Table 2.2-2. The project's construction is expected to require approximately 230 workers during peak construction stage (exterior envelope and interior buildout operations) in the first quarter of 2025. Peak construction traffic is anticipated to occur during the second quarter 2024 which would be during mass excavation operations. During this time, approximately 180 off-haul truck trips per day are expected to occur.

Table 2.2-2. Proposed Construction Equipment

Phase Name	Equipment Type	Number of Equipment	Usage (hours/day)
Site Preparation (includes demolition and undergrounding utilities)	Excavators	2	8
	Generators	1	8
	Compressors	1	8
	Backhoe	2	8
	Bobcat Loader	1	8
Grading (includes shoring and 3 levels of excavation)	Bulldozer	1	8
	Bobcat Loader	1	8
	Drill Rig	2	8
	Tieback Drill Rig	2	8
	Tiedown Drill Rig	2	8
	Mobile Crane	1	8
	Excavators	2	8
	Backhoe	2	8
	Generator	1	24
	Generator	1	8
	Roller / Compactor	1	4
	Compressor	1	8
Building Construction (includes all construction from bottom of excavation to finished building)	Mobile Crane	1	8
	Sky Jack Lift	2	8
	Compressor	1	4
	Mini Tower Crane (electric)	1	8
	Tower Crane (electric)	2	8
	Welding Machine (electric)	6	8
	Backhoe	1	4
	Personnel Hoist (electric)	1	8
Off-site recycled waterline installation	Excavators	3	8
	Bobcat Loader	1	8
Paving (includes site improvements, hardscape, landscape)	Backhoe	1	8
	Bobcat Loader	1	8
	Asphalt Paver	1	8

Phase Name	Equipment Type	Number of Equipment	Usage (hours/day)
	Roller	1	8
	Sky Jack Lift	1	8
	Compressor	1	4
Architectural Coating	Air Compressors	(Included in equipment for Building Construction above)	

2.2.4 Grading, Excavation, and Demolition

The project site currently consists almost entirety of impervious areas. For the 1111 Arguello property, which would be developed with the residential building, the amount of impervious area would decrease from the existing 20,779 square feet to the proposed 18,609 square feet of impervious roof/pavement. For the 1125 Arguello Street property which would be developed with the office and childcare center, the impervious roof/pavement area would be reduced to 117,545 square feet from the existing 127,703 square feet of impervious area. The recycled waterline would be constructed within the street right-of-way. As such, installation would replace the existing surfaces in kind. Overall, the proposed project would create 17,000 square feet of new pervious areas and 23,000 square feet of new impervious areas at the project site. New pervious areas created would include landscaping areas, decomposed granite paving, and bioswales. New impervious areas created would include driveways, sidewalks, and unit paving.

The project's construction would result in the export of approximately 130,509 cubic yards of materials from the site that would be disposed at landfills located in Alameda County. Fill material imported to the site is anticipated to be 4,100 cubic yards. Maximum depth of excavation for the proposed project would be up to 33.5 feet and up to 15 feet for the off-site recycled waterline, and the total amount of demolition expected to occur on-site would be 26,000 square feet, which includes existing industrial/commercial structures and a residential house with garage to clear the site. On-site area of disturbance for the proposed project is expected to be 3.5 acres, off-site disturbance would be approximately 0.25 acre, and off-site disturbance associated with the off-site recycled waterline would be approximately 0.44 acre for a total project disturbance area of approximately 4.19 acres.

2.3 STANDARD DEVELOPMENT REQUIREMENTS

The City has established standard conditions of approval and standard development requirements to address resource protection. The conditions of approval are specific conditions applicable to the project. The standard development requirements are items which are codified or adopted by resolution and have been included for ease of reference; they may not be appealed or changed. The project would comply with these standard conditions and standard development requirements, which are described in greater detail, where applicable. The proposed project would also include special conditions of approval as needed.

2.4 STATE DENSITY BONUS

The proposed project would provide 33 dwelling units of 100 percent affordable housing, thereby qualifying for certain requests pursuant to the State Density Bonus Law (DBL) (Government Code Sections 65915 et. seq.). The DBL was adopted in 1976 to address California's affordable housing needs.

As originally enacted, the DBL sought to increase the production of affordable housing by requiring local agencies to grant an increase to the maximum allowable residential density for eligible projects, and to support the development of eligible projects at greater residential densities by granting incentives, concessions, waivers, and/or reductions to applicable development regulations. An example of a concession or incentive is a reduction in the number of parking spaces that may be required for a project, or an increase in the allowable building height that applies to the project. The DBL applies to projects providing five or more residential units with a certain percentage of affordability levels, including mixed-use developments. Density bonuses and associated incentives, concessions, waivers, or reductions are intended to offset the financial burden of constructing affordable or specialized units.

The applicant proposes 100 percent affordable housing. Separate from requests for concessions/incentives, DBL also allows a qualifying applicant to request a waiver or reduction of development standards (Government Code §65915(e)), as summarized below. The applicant's current SDBL requests may be modified or augmented prior to the City's final decision making on the project and the Affordable Housing Plan agreement.

- **Reduced Parking.** The City's Zoning Code requires two parking spaces per unit for two-bedroom units or larger, and one space for every four units for guest parking. For a 33-unit building of 15 two-bedrooms, 15 three-bedrooms and 3 four-bedrooms, 75 parking spaces are required. The proposed project would provide parking reduction for the Housing in the amount of one parking space per unit for a total of 33 parking spaces. This is allowed by the DBL due to the project location near transit and is not considered to be a concession.

- **Open Space.** The City's Zoning Code requires 125 square feet of open space per unit. The housing building would provide an average of 90 square feet per unit, (70 square foot minimum) of private open space consisting of balconies and terraces that are less than 125 square feet per unit. This is a concession being requested under a DBL concession. The proposed project is requesting an open space reduction for the residential building pursuant to the DBL.

- **Upper Story Setbacks.** The City's Zoning Code requires that buildings shall not intercept a 45-degree daylight plane inclined inward from 15 feet above existing grade at the property line of the parcel adjacent to property line of an adjacent property containing public open space or a historic resource. The proposed project requests a waiver from this requirement for units facing Arguello Street. The proposed project is also requesting a reduction in the upper story setback for the residential building pursuant to the DBL.

- **Personal Storage.** The City's Zoning Code requires 80 cubic feet of personal storage for each residential unit. The proposed project requests a waiver from this requirement and would not provide any personal storage space. The proposed project is also requesting a reduction in personal storage space for the residential building pursuant to the DBL.

2.5 PROJECT OBJECTIVES AND REQUIRED PROJECT APPROVALS

2.5.1 Objectives

The primary objective of the proposed project is to comply with development standards in the MUT District and adhere to the land use goals, policies and standards in the City's current General Plan. The project objectives are as follows:

- Redevelop the project site consistent with the land use policies and strategies provided in the Plan Bay Area 2040, El Camino Real Priority Development Area.
- Redevelop the project site consistent with the Mixed-Use Transitional General Plan and Zoning designations, including policies that guide the growth and development of Redwood City; establish the basis for zoning regulations and guidance; economic development; transportation improvements; sustainability; City services; parks; and cultural and historic preservation.
- Redevelop an existing industrial area with attractive and desirable amenities close to Downtown, including housing, Class A office space, and childcare available to all Redwood City residents.
- Meet and exceed the City's Affordable Housing Ordinance and Inclusionary Zoning requirements through construction of 100 percent affordable ownership housing.
- Provide childcare to address Redwood City's existing shortage of childcare spaces for infants/toddlers and preschool-age children.
- Support the City's Historic Preservation Ordinance through adaptive reuse of structures identified as Historic Landmark buildings by the City.
- Develop a project that would meet strict sustainability, conservation, and reach code goals intended to reduce greenhouse gas emissions and address climate change and energy conservation goals.
- Deliver an economically feasible development, balancing market conditions, city objectives, and community benefits.
- Create a mixed-use environment that increases vibrancy of the existing area, encourages use of multimodal transportation, activates frontages along public streets, and provides employment and housing opportunities near transit.

2.5.2 Approvals

The proposed project requires the following approvals:

City of Redwood City

- Planned Development Permit (PD 2020-005)
- Architectural Permit (AP 2020-057)
- Historic Resources Approval
- Vesting Tentative Parcel Map (TM 2020-006)
- Condominium Permit (CP 2020-004)

- Tree Removal Permit
- Grading/Demolition Permit
- Encroachment Permit
- Use Permit for Offices (UP 2021-011)
- Affordable Housing Plan
- Community Benefits Bonus
- State Density Bonus Concessions and Waivers

Regional Water Quality Control Board

- Stormwater Pollution Prevention Plan (SWPPP)/Construction General Permit

City/County Association of Governments of San Mateo County (C/CAG)

- San Carlos Airport Land Use Plan Consistency Review

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3.0 ENVIRONMENTAL IMPACT ANALYSIS

Approach to Environmental Analysis

In accordance with CEQA Guidelines Section 15126.2, this Draft EIR identified and focuses on the significant direct and indirect environmental effects of the proposed project, giving due consideration to both its short- and long-term effects. Short-term effects are generally those associated with construction of the proposed project, while long-term effects are generally those associated with operation of project components. As described in Section 1.0, Introduction, this analysis focuses on a limited number of environmental resource topics as other topics were addressed in the Initial Study analysis that accompanied the NOP (Appendix A). However, based on community feedback received at the Public Scoping Meeting held on November 9, 2021, the additional resource area of population and housing was evaluated further in the Draft EIR. Sections 3.1 through 3.10 of this Draft EIR contain discussions of the potential environmental impacts related to the construction and operation of the proposed project.

Environmental Resource Topics

The potential environmental effects associated with the implementation of the proposed project are evaluated in the following environmental resource areas:

- Aesthetics
- Air Quality
- Cultural Resources
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Population and Housing
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

Organization of Environmental Resource Section

Each environmental resource section contains the following:

Regulatory Setting presents the laws, regulations, plans, and policies that are relevant to each resource topic. Regulations originating from the federal, state, and/or local levels are each discussed as appropriate.

Environmental Setting presents the existing environmental conditions on the project site and within the surrounding area as appropriate, in accordance with CEQA Guidelines Section 15125. The extent of the environmental setting area evaluated (the project study area) differs among resources, depending on the locations where impacts would be expected. For example, air quality impacts are assessed for the air basin (macro-scale), as well as the site vicinity (micro-scale), whereas aesthetic impacts are assessed for the project vicinity only.

In determining the level of significance of environmental impacts associated with the proposed project, the analysis in this Draft EIR assumes that the proposed project would comply with relevant federal and state laws and regulations, and City of Redwood City General Plan policies, ordinances, and other adopted City documents, unless otherwise noted. Therefore, such mandatory policies, ordinances, and standards are not identified as mitigation measures, but rather are discussed as part of the "regulatory setting" governing the proposed project.

Thresholds of Significance identifies the thresholds of significance used to determine the level of significance of the environmental impacts for each resource topic, in accordance with CEQA Guidelines Sections 15126, 15126.2, and 15143. The thresholds of significance used in this Draft EIR are based on the checklist presented in Appendix G of the CEQA Guidelines; best available data; and regulatory standards of federal, state, and local agencies.

Project Impacts identify the level of each environmental impact by comparing the effects of the proposed project to the environmental setting. Key methods and assumptions used to frame and conduct the impact analysis, as well as issues or potential impacts not discussed further (i.e., such issues for which the project would have no impact), are also described.

Project impacts are organized numerically in each subsection (e.g., Impact AES-1, Impact AES-2, Impact AES-3). A bold-font environmental impact statement precedes the discussion of each impact while its level of significance succeeds the discussion of each impact. The discussion that follows the impact summary includes the substantial evidence supporting the impact significance conclusion.

Mitigation Measures describe any feasible measures that could avoid, minimize, rectify, reduce, or compensate for significant adverse impacts, with measures having to be fully enforceable through incorporation into the project (PRC Section 21081.6[b]). Mitigation measures are not required for environmental impacts that are found to be less than significant. Where feasible mitigation for a significant environmental impact is available, it is described following the impact. Where sufficient feasible mitigation is not available to reduce environmental impacts to a less than significant level, or where the lead agency lacks the authority to ensure that the mitigation is implemented when needed, the impacts are identified as significant and unavoidable.

Level of Significance After Mitigation describes the level of impact significance remaining after mitigation measures are implemented.

Level of Significance

Determining the severity of project impacts is fundamental to achieving the objectives of CEQA. CEQA Guidelines Section 15091 requires that decision makers mitigate the significant impacts identified in the Final EIR to less than significant, if feasible. If the EIR identifies any significant unmitigated impacts, CEQA Guidelines Section 15093 requires decision-makers to adopt a statement of overriding considerations that explains why the benefits of the project outweigh the adverse environmental consequences identified in the EIR.

The level of significance for each impact examined in this Draft EIR is determined by considering the predicted magnitude of the impact against the applicable threshold. Thresholds were developed using criteria from the CEQA Guidelines and Appendix G Checklist; federal, state, and local regulatory

schemes; regional and local plans and ordinances; accepted practice; consultation with recognized experts; and other professional opinions.

Format Used for Impact Analysis and Mitigation Measures

The format adopted in this Draft EIR to present the evaluation of environmental impacts is described and illustrated below.

Summary Heading of Impact

Impact AIR-1: **An impact summary heading appears immediately preceding the impact description (Summary Heading of Impact in this example). The impact abbreviation identifies the section of the report (AIR for Air Quality in this example) and the sequential order of the impact (1 in this example) within that section. To the right of the impact number is the impact statement, which identifies the potential impact.**

Impact Analysis
A narrative analysis follows the impact statement.

Level of Significance Before Mitigation
This section identifies the level of significance of the impact before any mitigation is proposed.

Mitigation Measures
In some cases, following the impact discussion, reference is made to federal and state regulations and agency policies that would fully or partially mitigate the impact. In addition, policies and programs from applicable local land use plans that partially or fully mitigate the impact may be cited.

Project-specific mitigation measures, beyond those contained in other documents, are set off with a summary heading and described using the format presented below:

MM AIR-1: Project-specific mitigation is identified that would reduce the impact to the lowest degree feasible. The mitigation number links the particular mitigation to the impact with which it is associated (AIR-1 in this example).

Abbreviations used in the mitigation measure numbering are shown in Table 3.0-1.

Table 3.0-2.5-1. Environmental Resource Abbreviations

Code	Environmental Resource Topic
AES	Aesthetics
AIR	Air Quality
CUL	Cultural Resources
GHG	Greenhouse Gas Emissions
LU	Land Use and Planning
NOI	Noise
POP	Population and Housing

Code	Environmental Resource Topic
TRANS	Transportation
TRIB	Tribal Cultural Resources
UTIL	Utilities and Service Systems

Level of Significance After Mitigation

This section identifies the resulting level of significance of the impact following mitigation.

3.1 AESTHETICS

The aesthetics analysis in this section is for informational purposes only. Pursuant PRC Section 21099(d), effective January 1, 2014, "aesthetics (…) impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment." Accordingly, aesthetic resources are no longer to be considered in determining if a project has the potential to result in significant environmental effects for projects that meet all of the following three criteria:

1. The project is in a transit priority area.

2. The project is on an infill site.

3. The project is residential, mixed-use residential, or an employment center.

The proposed project meets each of the above three criteria because it (1) is within 0.5-mile of the Redwood City Caltrain Station; (2) is on an infill site that is developed with commercial and industrial uses and is surrounded by urban development; and (3) would be a mixed-use project with a residential building, two office buildings, and a childcare facility. Therefore, this Draft EIR does not consider aesthetic impacts in determining the significance of project impacts under CEQA.

However, the City recognizes that the public and decision-makers may be interested in information pertaining to the aesthetic effects of a proposed project and may desire that such information be provided as part of the environmental review process. In addition, CEQA Section 21099(d)(2) states that a lead agency maintains the authority to consider aesthetic impacts pursuant to local design review ordinances or other discretionary powers, and that aesthetics impacts do not include impacts on historical or cultural resources (e.g., historic architectural resources).

The aesthetics analysis in this section is for informational purposes only, and not for determining whether the proposed project would result in significant impacts to the environment. The analysis in this Draft EIR is included to discuss the aesthetics impacts that would occur from the proposed project if PRC Section 21099(d) was not in effect. Because this section of the PRC is applicable, the aesthetics impact discussion in this Draft EIR will not trigger the need for any CEQA findings, CEQA analysis, or CEQA mitigation measures.

3.1.1 Environmental Setting

Regional Visual Character

The proposed project is located in northern San Mateo County in the City of Redwood City. The City of Redwood City is situated on the San Francisco Peninsula and is bounded by the San Francisco Bay to the north and the foothills of the Santa Cruz Mountains to the southwest. Redwood City is characterized by its bayside and hillside location, with large expanses of natural features interspersed with a wide range of development including industrial, residential, commercial, office, civic, research and development, and recreation uses. The Downtown area serves as the City's core and is surrounded by several neighborhoods that include a mix of visual elements, such as building form and height, architectural detailing, and streetscapes. The proposed project is located within the Centennial neighborhood, which is

located northwest of Downtown, between Veterans Boulevard east of the Caltrain tracks, Edgewood Road and Jefferson Avenue. Whipple Avenue, a main northern "gateway" to the City, extends laterally across the neighborhood. The Centennial neighborhood is a mid-20th century neighborhood that has been developed with a mix of residential, light industrial, commercial, and office uses. The southeastern portion of the neighborhood is designated the Mezesville Historic District, which primarily consists of single-family and multi-family homes that surround Mezes Park. The single-family and multi-family homes are one to three stories tall. Commercial, office, and industrial buildings within the neighborhood are generally one to two stories tall. The commercial and industrial uses are primarily located in the western portion of the neighborhood, between the Caltrain tracks, Arguello Street, and Whipple Avenue. As with the other neighborhoods adjacent to the City's Downtown, the Centennial neighborhood is a highly urbanized area that is characterized in visual terms by a variety of uses. The surrounding street network is generally lined with mature trees, sidewalks, overhead power lines, streetlights, and landscaped yards. These elements are dominant visual features within the Centennial neighborhood and contribute toward its urban visual character.

Project Site Visual Character

The 3.5 acre project site is north of the City's Downtown, at the southwestern intersection of Arguello Street and Whipple Avenue. The project site consists of six contiguous parcels that are developed with seven existing structures. Trees and vegetation are also located along the street frontages and the project site's western boundary, which is adjacent to the Caltrain tracks. The seven on-site structures total approximately 28,201 square feet and are one to two stories tall. Specifically, the 1111 and 1125 Arguello Street properties are developed with single-story industrial warehouses and office buildings; the 1203 Arguello Street property is developed with a single-story residence with garage; the 1219 and 1227 Arguello Street properties were originally developed with single-story residences, but these buildings have been converted for office use; and 1209 Arguello Street is currently a vacant lot used for parking. The on-site structures are vacant, except the yard space at 1125 Arguello Street is currently rented by an automobile towing business and the building located at 1227 Arguello Street is currently rented by a property management business. The properties located at 1203, 1219, and 1227 Arguello Street are located within the boundaries of the Mezesville Historic District. The properties located at 1219 and 1227 Arguello Street are individual Historic Landmark buildings and are listed on the City's Historic Resources Inventory.

The project site is within a highly urbanized area. Land uses surrounding the project site include commercial uses to the north, single-family and multi-family uses to the east, commercial and light industrial uses to the south, and car dealerships and light industrial uses to the west. The development surrounding the project site varies in height with the commercial and light industrial uses ranging from one to two stories tall. The single-family uses located east of the project site are also generally one to two stories tall, whereas the multi-family residences range from two to three stories tall.

Light and Glare Conditions

The project site is developed and located within a highly urbanized area where there are existing sources of nighttime lighting and glare. Sources of nighttime lighting at the project site and in the surrounding area is primarily associated with exterior security lighting, interior building lighting, parking lot lighting, street lighting along Arguello Street and Whipple Avenue, sporadic lighting associated with the adjacent Caltrain

operations, and lighting from vehicles travelling on the adjacent streets. Additionally, structures containing glass, metal, or polished exteriors or roofing materials that reflect the natural sunlight and urban light sources create localized daytime glare. Glare is generated in the project area from parked vehicles, vehicles travelling along Arguello Street and Whipple Avenue, and windows on the surrounding commercial and residential buildings.

3.1.2 Regulatory Setting

State

Title 24 Outdoor Lighting Zones

In 2001, the California Legislature passed a bill requiring the California Energy Commission to adopt energy efficient standards for outdoor lighting for both public and private sectors. In November 2003, the California Energy Commission (CEC) adopted changes to the Building Energy Efficient Standards within Title 24. These standards became effective on October 1, 2005 and specify outdoor lighting requirements for residential and nonresidential development. The intent of the new standards is to improve the quality of outdoor lighting and help reduce the impacts of light pollution, light trespass, and glare, The standards regulate lighting characteristics, such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone (LZ). The classification is based on population figures in the 2003 Census and the areas can be designated as LZ1 (dark), LZ2 (low), LZ3 (medium), or LZ4 (high). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass. According to the U.S. Census Bureau, the entire city is defined as an urban area and is therefore designated as LZ3 per the CEC classification standards (City of Redwood City 2010b).

Local

City of Redwood City General Plan

The following lists goals and policies from the City General Plan pertaining to aesthetics that are applicable to the proposed project.

Goal BE-1: Achieve complete and integrated neighborhoods, corridors, and centers.

- **Policy BE-1.1:** Maintain and enhance the beneficial and unique character of the different neighborhoods, corridors, centers, and open space that define Redwood City.
- **Policy BE-1.4:** Require that buildings and properties be designed to ensure compatibility within and provide interfaces between neighborhoods, corridors, and centers.
- **Policy BE-1.5:** Require that new and renovated buildings be designed to avoid styles, colors, and materials that negatively impact the environment or the design character of the neighborhood, corridor, and center in which they are located.
- **Policy BE-1.6:** Require that new large-scale projects are developed with an interconnected pattern of small blocks to induce walking and create walkable neighborhoods and to maximize connections between neighborhoods. If a new large-scale development project is able to achieve circulation

interconnectedness for all modes and maximize walkability, then the small block pattern may not be required.

- **Policy BE-1.7:** Require that new large-scale projects consist of buildings primarily oriented to public streets, rather than private drives, walkways, and parking lots.
- **Policy BE-1.9:** Carefully consider new shade, shadow, light, and glare effects from proposed development projects and comprehensive plans.

Goal BE-3: Encourage high-quality design in all new and modified housing.

- **Policy BE-3.2:** Encourage new development to create direct and clear visual relationships between residences and public streets, while minimizing driveways, parking areas, and garage doors in front yard spaces.
- **Policy BE-3.3:** Require new development to provide engaging, well-landscaped outdoor spaces that invite and support outdoor activities for residents, especially areas viewed or accessible by the public
- **Policy BE-3.5:** Require building and site frontages that define public streets with high-quality architectural and landscape design, including small-scale architectural elements and plane changes

Goal NR-4: Maximize energy conservation and renewable energy production in Redwood City to reduce consumption of natural resources and fossil fuels.

- **Policy NR-4.5:** Conserve energy by promoting efficient and cost-effective lighting that reduces glare and light pollution.

El Camino Real Corridor Plan

The El Camino Real Corridor Plan is a policy document that was adopted by the City on December 4, 2017, to provide a comprehensive approach to land use, transportation, and streetscape. The plan area includes the length of El Camino Real between the City's northern and southern borders and encompasses the project site (Figure 3-1). The El Camino Real Corridor Plan includes visions, goals, and strategies for street improvements to make the El Camino Real Corridor safer and more desirable to pedestrians; and policies to support community benefits, small businesses, and a range of housing choices. The four main areas of focus are mobility, economic vitality, housing, and placemaking.

Source: DLR Group June 2022

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
3-1

Title
El Camino Corridor Plan Area

Stantec

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The El Camino Real Corridor Plan includes the following objectives related to the visual environment:

- Improve the El Camino Real streetscape with a design to promote walking, transit, bicycling, and economic development.
- Improve the Corridor's relationship with and connections to the Transit Center (Caltrain station), downtown core (Downtown Precise Plan area), and surrounding neighborhoods.
- Create a friendlier place for the people who live and work here: parents, kids, commuters, residents, and local businesses.
- Consider adjusting the zoning regulations to address inconsistencies, create high-quality public spaces, and produce more affordable housing.
- Incorporate community benefits for new development that positively impacts the Corridor, adjacent neighborhoods, and Redwood City overall.

Redwood City Zoning Code

The City's Zoning Code identifies development standards for the various zoning districts throughout the City, and describes the purpose, intent, and uses allowed in each zoning district. The relevant development standards related to visual resources in the City include building coverage, height, setbacks, and lighting.

Article 45, Architectural Permits

Article 45, Architectural Permits, of the Redwood City Municipal Code describes the purpose, applicability, and specific development standards for multi-family residential and non-residential uses. Article 45 designates review authority to the Zoning Administrator for the design quality of developments, or the Planning Commission for buildings three stories in height or taller. Decision regarding an Architectural Permit are based on predetermined findings. The findings are enumerated in Section 45.4 of the Redwood City Municipal Code as follows:

A. The existence of sufficient variety in the design of the structure and grounds to avoid monotony in the external appearance;

B. The size and design of the structure shall be considered for the purpose of determining that the structure is in proportion to its building site and that it has a balance and unity among its external features so as to present a harmonious appearance;

C. The extent to which the structure conforms to the general character of other structures in the vicinity insofar as the character can be ascertained and is found to be architecturally desirable;

D. The extent to which excessive ornamentation is to be used and the extent to which temporary and second-hand materials, or materials which are imitative of other materials, are to be used;

E. The extent to which natural features, including trees, shrubs, creeks, and rocks, and the natural grade of the site are to be retained;

F. The accessibility of off-street parking areas and the relation of parking areas with respect to traffic on adjacent streets;

G. The reservation of landscaping areas for the purposes of separating or screening service and storage areas from the street and adjoining building sites, breaking up large expanses of paved areas, separating or screening parking lots from the street and adjoining building sites, and separating building areas from paved areas to provide access from buildings to open areas;

H. In the case of any commercial or industrial structure, the review authority shall consider its proximity to any R District and shall consider the effect of the proposed structure upon the character and value of the adjacent R District area;

I. The provision of permeable areas and drainage design appropriate to capture and treat stormwater runoff prior to its discharge from the site including, but not limited to, the use of vegetated swales, landscape features, permeable pavement materials, infiltration basins or engineered designs.

Article 55, Mixed-Use Transitional

Article 55, Mixed-Use Transitional, of the Redwood City Municipal Code describes the development standards for this zoning district. The Redwood City Municipal Code includes the following development standards for the MUT Zoning District that are specific to lighting:

- **Zoning Code 55.7.C.1: Enhances Streetscapes.** Streetscapes shall be enhanced with enriched streetscape elements, including but not limited to a variety of landscaping and pedestrian amenities, such as benches, pedestrian-scale lighting, trash enclosures, and bicycle storage.
- **Zoning Code 55.7.C.4: Lighting.** Lighting shall be incorporated along sidewalks or other pedestrian walkways to enhance the pedestrian environment and provide for public safety. Lighting shall be low mounted, downward casting so as to reduce light trespass onto adjacent properties.

Redwood City Architectural Advisory Committee

The City's Architectural Advisory Committee (AAC), as established by City Resolution No. 15143, is responsible for reviewing and addressing the enhancement of the natural beauty of the environment, and to provide for the orderly and harmonious appearance of structures and grounds. The AAC advises the City Council, Planning Commission, and Zoning Administrator on matters concerning building architecture, landscape architecture, site design, and signs. The AAC is responsible for addressing only the portion of structures facing a public street or place, and the portions of the sides of a structure that are within 50 feet of any portion that faces a public street or place.

Redwood City Historic Resources Advisory Committee

The Historic Resources Advisory Committee (HRAC) was established in March 1980 by City Ordinance No. 1815 and amended by Ordinance No. 1923 in January 1986. The HRAC advises the City Council, Planning Commission, and Zoning Administrator on matters concerning historic resources and their preservation. The purpose of the HRAC is to advocate the preservation and appropriate rehabilitation of historically significant properties and structures; including safeguarding the City's heritage by providing for the protection of landmarks; encouraging public knowledge and understanding of the City's role in local

and regional history; fostering civic and neighborhood pride and sense of identity; promoting the enjoyment and use of historic and cultural resources; and strengthening the economy of the City by protecting and enhancing historical features.

3.1.3 Environmental Impacts

This section analyzes the project's potential to result in significant aesthetics impacts. When an impact is determined to be significant, mitigation measures are identified that would reduce or avoid impacts.

Methodology for Analysis

Analysis for the proposed project's visual impacts is based on an evaluation of the changes to the existing visual resources that would result from implementation of the proposed project. In determining the extent and implications of visual changes, consideration was given to: the existing visual quality of the affected environment; specific changes in the visual character and quality of the affected environment; the extent to which the affected environment contains places, features that provide unique visual experiences or that have been designated on plans or policies for protection or special consideration; and the sensitivity of viewers and their activities and the extent of which these activities are related to the aesthetic qualities affected by the proposed project.

Thresholds of Significance

The significance criteria used to identify aesthetic impacts is from Appendix G of the CEQA Guidelines (2022). The proposed project would cause a significant impact on aesthetic resources if it would do the following:

- In non-urbanized areas, substantially degrade the existing visual character or quality of the public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
- Create a new source of substantial light or glare that would adversely affect day- or nighttime views in the area?

The following issues were determined to have no impact or a less than significant impact during the NOP Scoping. These issues are summarized in Section 7.0, Effects Found Not to Be Significant, and are not discussed further in this section.

- Have a substantial adverse effect on a scenic vista?
- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

Project Impact Analysis and Mitigation Measures

Visual Character and Scenic Quality

Impact AES-1	**The proposed project is in an urbanized area, and would not conflict with applicable zoning and other regulations governing scenic quality.**

Impact Analysis

The proposed project involves a mixed-use development consisting of a four-story, 57,254 square feet multi-family residential building with 33 affordable units; two connected, four-story office buildings totaling approximately 300,000 square feet; and a 4,132 square foot childcare facility. The proposed project would demolish all existing on-site structures, except for the two designated Historic Landmark buildings located at 1219 and 1227 Arguello Street which would be reused for development of the childcare facility. Additionally, to facilitate the extension of the City's recycled water service to the vicinity of the project site, the proposed project would construct approximately 2,553 linear feet of recycled waterline from Whipple Avenue to Marshall Street and approximately 1,309 linear feet of recycled waterline from Marshall Street to Jefferson Avenue. The following describes changes to the project site's visual character during construction and operation of the proposed project.

Construction

Project construction would involve the demolition of existing structures, site preparation and grading, and building of proposed structures. Construction of the proposed project is expected to last approximately 26 months and would occur Monday through Friday, between 7 AM and 8 PM in accordance with the Redwood City Municipal Code. During construction, equipment, vehicles, and staging areas would be present and introduce new visual features on the project site. These features would be mostly visible from the adjacent roadways and the surrounding commercial and residential uses. However, visibility of these features would be temporary as all equipment, vehicles, and staging areas would be removed from the project site once construction is complete. Project construction would include the installation of approximately 3,862 linear feet of recycled waterline to extend the City's existing recycled water service to the project vicinity. Construction of the recycled waterline would require a 5-foot wide and 15-foot deep trench; however, off-site construction of the recycled waterline would restore disturbed areas to existing conditions. Construction of the off-site recycled waterline would not result in changes to the existing visual conditions. Therefore, project construction activities would not substantially degrade the existing visual environment and impacts would be less than significant.

Operation

The proposed project would be subject to applicable goals and policies in the Built Environment Element of the General Plan, the requirements of the MUT General Plan land use designation, and the development standards for the MUT Zoning District. The proposed project includes a mixed-use development consisting of two office buildings, a multi-family residential building with 33 affordable units, and a childcare facility. As discussed in Section 3.5, Land Use, the proposed project is consistent with the applicable policies in the Built Environment Element of the General Plan as it would provide a mix of uses that are located within proximity to transit and within an area where neighborhood services are available. The proposed project would also be consistent with the intent of the MUT General Plan land use designation and the MUT Zoning District, which is to transition sites that are developed with light industrial

or commercial uses into higher density mixed-uses. The MUT land use designation also encourages the adaptive reuse of existing buildings. As such, development of the childcare facility would reuse the two buildings located at 1219 and 1227 Arguello Street that are designated City Historic Landmarks.

As shown in Figure 2-4, the proposed office space would include a north office building of approximately 144,602 square feet and a south office building of approximately 149,774 square feet. Each office building would be four stories and approximately 60 feet in height. The two office buildings would be connected at the ground floor by a shared common space and the enclosed bridges located on Levels 2 and 4. The proposed 57,254 square foot residential building would be located on the southern portion of the project site, adjacent to the south office building. The proposed residential building would be four stories and approximately 46 feet.

The proposed 4,132 square foot childcare facility would be located on the northern portion of the project site, near Whipple Avenue. The proposed project would reuse the existing Historic Landmark buildings at 1219 and 1227 Arguello Street and construct a 2,008 square foot extension building to expand the building at 1219 Arguello Street. There would be no change to the height of the existing buildings. The existing buildings and new extension building would be one-story with a height of approximately 30 feet. The proposed childcare facility would also include a 2,850 square foot play area. A 6-foot wooden fence would be installed around the proposed play area for security purposes and to separate the childcare facility from the north office building.

Office spaces exceeding 10,000 square feet in the MUT Zoning District are allowed conditionally, and the proposed project would be required to obtain a Use Permit. The MUT Zoning District allows residential, mixed-use, and commercial buildings to have a maximum height of 40 feet, or up to 60 feet in height with community benefits (Section 55.3 of the Redwood City Municipal Code). The proposed office buildings would be approximately 60 feet in height and the proposed residential building would be approximately 46 feet. The height of the proposed office and residential buildings would be taller than the existing industrial and commercial buildings on-site, and with the surrounding commercial and residential development that ranges from one to three stories and up to 40 feet in height. However, the proposed project includes proposed community benefits under the City's Community Benefits Program in accordance with Section 55.4 of the Redwood City Municipal Code by providing a childcare facility and affordable housing. The Applicant is requesting a height concession for the proposed office and residential buildings under the City's Community Benefits Program. If the proposed project's community benefits proposal is approved by the City, the proposed project would be consistent with the maximum height requirements for the MUT Zoning District by providing community benefits. If the project's community benefits proposal is not approved, then the proposed project would be required to meet the height limitation of 40 feet.

The proposed project is providing 100 percent for-sale affordable housing, and therefore requesting other concessions and waivers under the State Density Bonus Law. As discussed in Section 2.4, State Density Bonus, the proposed project is requesting a reduction in the number of parking spaces required, amount of open space for the residential building, the upper story setback for the residential building, and personal storage space for the residential building through the State Density Bonus Law. With the approval of the Use Permit and concessions and waivers of the City's Community Benefits Program and the State Density Bonus Law, the proposed project would not conflict with the development standards for the MUT Zoning District.

Additionally, the project design would incorporate various architectural elements and varying setbacks to integrate the office buildings, proposed residential building, and reused Historic Landmark buildings at 1219 and 1227 Arguello Street for the childcare facility with the adjacent neighborhood. As discussed in Section 2.1.14, Aesthetics and Design, the proposed office buildings would be setback about 7 to 75 feet from Arguello Street. The setback would provide approximately 27,950 square feet of open space and landscaping consisting of balconies, plaza, and vegetated space. The open plazas would allocate space for public art in accordance with Section 45.090 of the Redwood City Municipal Code. The proposed office buildings would feature a recessed niche for the two enclosed connecting bridges located on Levels 2 and 4, and a smaller scale common structure, which would limit the length of the unarticulated façade that fronts the adjacent residential neighborhood on Arguello Street. The portions of the office buildings visible from Arguello Street would be the three stories of office space and the proposed terrace on Level 4. The terraces and common structure would bring the scale of the building down toward Arguello Street, where development is a maximum of three stories. Street trees would also be planted along Arguello Street to frame the common building, which would be designed to complement the scale of neighboring buildings.

The proposed south office building would be separated from the proposed residential building by the new driveway and sidewalk on Arguello Street. The proposed residential units would be oriented toward Arguello Street. The second floor would be articulated to provide private open space for residents, and the upper floors would be oriented to align with the planes of the adjacent office buildings. The proposed project would preserve historic materials associated with the Historic Landmark buildings at 1219 and 1227 Arguello Street. If existing materials are deteriorated beyond repair, materials that are repaired or replaced would use matching finishes. The project design would be subject to review by the City's AAC to ensure the size and design of the proposed buildings are compatible with the surrounding development. The proposed project would also be required to obtain an Architectural Permit. Therefore, the proposed project would not conflict with any applicable zoning or other regulations governing scenic quality and impacts would be less than significant.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

Light and Glare

Impact AES-2	**The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.**

Impact Analysis

The project site is currently developed with seven existing structures and located within a highly urbanized area that generates light and glare. Existing sources of nighttime lighting at the project site and in the surrounding area include streetlights along Arguello Street and Whipple Avenue; interior and

exterior security lighting associated with the residential, industrial, and commercial uses; parking lot lighting; and sporadic light from Caltrain operations and other vehicles traveling on the adjacent roadways.

The proposed project would redevelop the project site with a 57,254 square foot multi-family residential building with 33 affordable units, two office buildings totaling approximately 300,000 square feet, and a 4,132 square foot childcare facility. The proposed project would generate nighttime lighting during construction and operation. As discussed, project construction activities would occur Monday through Friday, between 7 AM and 8 PM in accordance with the Redwood City Municipal Code. Construction activities could extend beyond daylight hours into the early evening; however, nighttime work would not extend beyond 8 PM as required by the Redwood City Municipal Code. All lighting used during nighttime work would also be temporary and focused on the project site, away from the adjacent commercial and residential uses. Therefore, nighttime construction lighting would not create a new source of substantial light.

Operation of the proposed project would increase the number of and intensity of lighting at the project site. Proposed lighting would include exterior façade and hardscape lighting to illuminate building entrances, pathways, and landscaping; lighting within the underground and surface parking areas; and two streetscape lights along Arguello Street. As required by Section 30.121 of the Redwood City Municipal Code, the streetscape lights proposed along Arguello Street would be appropriate to the proposed intensity of use of the facility and the character of the area to be served. The amount of street lighting would also be consistent with the principles of energy conservation and optimum public safety, and subject to the approval of the Director of Public Works (City of Redwood City 2021). Exterior façade lighting would be mounted on the proposed office buildings and residential buildings. The proposed office and residential buildings would be taller than the existing and surrounding buildings, at approximately 60 feet and approximately 46 feet in height, respectively. The exterior façade lighting could spillover onto adjacent properties; however, all exterior lighting would be subject to the lighting standards for the MUT Zoning District, which requires lighting to be low mounted, and downward casting to reduce light trespass onto adjacent properties. Additionally, the proposed project would incorporate low lighting power density light fixtures that are compliant with Title 24 and the California Green Building Standards Code (CalGreen) requirements.

Operation of the proposed project would occur within an urbanized area where there are already existing sources of glare from exterior building walls, windows, and vehicular traffic. As discussed in Section 2.1.14, Aesthetics and Design, the portion of the south office building facing the residential building would feature large glass windows. The proposed residential building and childcare facility would also feature glass windows that would face Arguello Street. The glass windows could generate glare that effects on- and off-site uses; however, most of windows on the adjacent residential buildings are mostly oriented away from Arguello Street or obscured by mature landscaping. The proposed project would also plant trees along the eastern and northern boundaries of the project site, which would further minimize spillover from nighttime lighting and generation of daytime glare. The proposed project would also incorporate clear and frosted glazing, and other architectural elements such as vertical slats, wood, and board form concrete to minimize glare. Therefore, operation of the proposed project would not result in substantial glare. The proposed project's construction and operation would not result in the creation of new sources of light and glare which would adversely affect day or nighttime views of the area and impacts would be less than significant.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

3.2 AIR QUALITY

This section describes the environmental and regulatory setting for air quality. It also describes existing conditions and potential impacts related to air quality that would result from implementation of the proposed project, and mitigation for potentially significant impacts, where feasible.

3.2.1 Environmental Setting

San Francisco Bay Area Air Basin

The proposed project is in San Mateo County within the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the BAAQMD. The SFBAAB compromises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, southern Sonoma County, and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions.

Climate and Meteorology

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range splits resulting in a western coast gap (Golden Gate) and an eastern coast gap (Carquinez Strait), which allows air to flow in and out of the SFBAAB and the Central Valley.

The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high pressure cell is centered over the northeastern Pacific Ocean resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below to the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band resulting in condensation and the presence of fog and stratus clouds along the Northern California coast.

In the winter, the Pacific high-pressure cell weakens and shifts southward resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential. During the summer, the large-scale meteorological condition that dominates the West Coast is a semi-permanent high pressure cell centered over the northeastern Pacific Ocean. This high pressure cell keeps storms from affecting the California coast. Hence, the SFBAAB experiences little precipitation in the summer months. Winds tend to blow on shore out of the north/northwest.

Wind Patterns

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds.

Temperature

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold ocean bottom water along the coast. On summer afternoons the temperatures at the coast can be 35 degrees Fahrenheit cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases to less than 10 degrees Fahrenheit. In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

Precipitation

The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

Air Pollutants of Concern

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards for outdoor concentrations. The federal and state standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons such as children, pregnant women, and the elderly, from illness or discomfort. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter ten microns or less in diameter (PM_{10}), and lead (Pb). Note that Reactive Organic Gases (ROGs), which are also known as reactive organic compounds (ROCs) or volatile organic compounds (VOCs), and nitrogen oxide (NOx) are not classified as criteria pollutants. However, ROGs and NOx are widely emitted from land development projects and participate in photochemical reactions in the atmosphere to form O3; therefore, NOx and ROGs are relevant to the proposed project and are of concern in the air basin and are listed below along with the criteria pollutants (CAPCOA 2021).

- **Ozone.** O_3 is a gas that is formed when NOx and ROGs, both byproducts of internal combustion engine exhaust and other sources, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when the combination of direct sunlight, light wind, and warm temperature conditions create conditions favorable to the formation of this pollutant.
- **Reactive Organic Gases.** ROGs are compounds composed primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of these hydrocarbons. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary air pollutants, including ozone.

- **Nitrogen Dioxide and Nitrogen Oxides.** Fuel combustion produces nitrogen which combines with oxygen to produce nitric oxide (NO). Further oxidation of NO results in the formation of NO_2, which is a criteria pollutant. NO_2 is a reddish-brown, highly reactive gas which acts as an acute irritant and, in equal concentrations, is more injurious than NO. NO and NO_2 are referred to together as oxides of nitrogen. As noted above, NO_x is involved in photochemical reactions that produce ozone.

- **Carbon Monoxide.** CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines and motor vehicles operating at slow speeds, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- **Sulfur dioxide.** SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When sulfur dioxide oxidizes in the atmosphere, it forms sulfates (SO_4).

- **Respirable Particulate Matter.** PM_{10} consists of extremely small, suspended particles or droplets 10 microns or smaller in diameter. Some sources of PM_{10}, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM_{10} is caused by road dust, diesel soot, and combustion products, abrasion of tires and brakes, and construction activities.

- **Fine Particulate Matter.** $PM_{2.5}$ refers to particulate matter that is 2.5 microns or smaller in size. The sources of $PM_{2.5}$ include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, NO_X, and VOCs are transformed in the air by chemical reactions.

- **Lead.** Pb occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead in the Basin. The use of leaded gasoline is no longer permitted for on-road motor vehicles, so most such combustion emissions are associated with off-road vehicles such as racecars that use leaded gasoline. Other sources of Pb include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.

Ambient Air Quality

Each year, BAAQMD summarizes data collected from the Bay Area air quality monitoring stations. The nearest air quality monitoring stations to the project is the Redwood City Monitoring Station located at 897 Barron Avenue. Table 3.2-1 includes a summary of the air quality monitoring data at the Redwood City Monitoring Station for the years 2019 through 2021. The table shows the number of times the station recorded pollutant concentrations above federal and state air quality standards and the highest annual reading for each pollutant. The monitoring station only monitors ozone, NOx, and $PM_{2.5}$.

Table 3.2-1. Redwood City Monitoring Station Data

Pollutant	Air Pollutant, Averaging Time (Units)	2018	2019	2020
Ozone (ppm)	Maximum 1-hour	0.083	0.098	0.085
	California 1-hour number of days over standard	0	1	0
	Maximum 8-hour	0.077	0.077	0.063
	National 8-hour number of days over standard	2	1	0
	California 8-hour number of days over standard	2	1	0
Nitrogen Dioxide (ppb)	Maximum 1-hour	54.9	45.9	40.5
	Annual average	9	8	7
	National 1-hour number of days over standard	0	0	0
	California 1-hour number of days over standard	0	0	0
$PM_{2.5}$ ($\mu g/m^3$)	Maximum 24-hour	29.5	124.1	30.1
	National 24-hour number of days over standard	0	9	0
	Annual average	7.0	9.8	6.0

Source: California Air Resources Board. 2022. Air Quality Data Statistics. https://www.arb.ca.gov/adam/index.html.
Notes:
The monitoring station does not monitor carbon monoxide, sulfur dioxide, or PM10 emissions.
$\mu g/m^3$ = micrograms per liter
$PM_{2.5}$ = particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} = particulate matter between 2.5 and 10 microns in aerodynamic diameter
ppb = parts per billion
ppm = parts per million

Based on the monitoring results for the Redwood City area, the area surrounding the project site has exceeded the 8-hour ozone standard for California and federal standards and Federal particulate matter $PM_{2.5}$ standard.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold and health impacts are assumed to occur at any level. Cancer risks are expressed as excess cancer cases per one million. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

The California Air Resources Board (CARB) has designated 244 compounds as TACs. CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds. Diesel particulate matter (DPM) differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances, including 40 cancer-causing substances. Diesel exhaust is a complex mixture of particulates and gases produces when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics.

The residential developments to the east and northeast of the project site are also sensitive receptors in the vicinity of the proposed project. The future residents of the proposed project would also be considered sensitive receptors.

Existing Sources of Toxic Emissions

The proposed project is located 450 feet northeast of State Route 82, which does not meet CARB's recommendations in its Air Quality Land Use Handbook for siting sensitive land uses. CARB recommends avoiding siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 or more vehicles per day, or rural roads with 50,000 or more vehicles per day. The project is also located within a Best Practices area as identified by BAAQMD in its Planning Healthy Places (BAAQMD 2016). Locating sensitive receptors in proximity to freeways may result in adverse health impacts. BAAQMD recommends the implementation of best practices in its Planning Healthy Places (BAAQMD 2016) to reduce impacts.

BAAQMD recommends evaluating the impacts of toxic sources within 1,000 feet of the project site. In addition to the mobile sources identified above, there are existing stationary sources of toxic air contaminants within the 1,000-foot buffer of the project site. Those sources include:

- A-1 Rental Center: Gas Station
- State Route 82: Highway
- El Camino Martco: Gas Station
- Verizon Business: Stationary Source
- Gustavo Greco: Stationary Source
- L.G. Energy Group: Stationary Source

3.2.2 Regulatory Setting

Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the U.S. Environmental Protection Agency (USEPA) to establish national ambient air quality standards (NAAQS), with requires retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2,

2007, the Supreme Court found that carbon dioxide is an air pollutant covered by the CAA; however, no NAAQS have been established for carbon dioxide.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The federal and state ambient air quality standards are listed below in Table 3.2-2, and the attainment status for the criteria pollutants are listed in Table 3.2-3.

Table 3.2-2. California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
		Concentration	Primary	Secondary
Ozone	1 hour	0.09 ppm (180 µg/m^3)	—	Same as primary standard
	8 hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	
Respirable particulate matter	24 hour	50 µg/m^3	150 µg/m^3	Same as primary standard
	Annual arithmetic mean	20 µg/m^3	—	
Fine particulate matter	24 hour	—	35 µg/m^3	Same as primary standard
	Annual arithmetic mean	12 µg/m^3	12 µg/m^3	
Carbon monoxide	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
	8 hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
	8 hour (Lake Tahoe)	6 ppm (7 mg/m^3)	—	—
Nitrogen dioxide	1 hour	0.18 ppm (339 µg/m^3)	100 ppb (18 µg/m^3)	—
	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as primary standard
Sulfur dioxide	1 hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
	3 hour	—	—	0.5 ppm (1,300 µg/m^3)
	24 hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)	—
	Annual arithmetic mean	—	0.030 ppm (for certain areas)	—
Lead	30-day average	1.5 µg/m^3	—	—
	Calendar quarter	—	1.5 µg/m^3	Same as Primary Standard
	Rolling 3-month average	—	0.15 µg/m^3	
Visibility-reducing particles	8 hour	See Footnote[1]	No National Standards	

Pollutant	Averaging Time	California Standards	National Standards	
		Concentration	Primary	Secondary
Sulfates	24 hour	25 µg/m^3		
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m^3)		
Vinyl chloride	24 hour	0.01 ppm (26 µg/m^3)		

Notes:
[1] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.
µg/m^3 =micrograms per liter
mg/m^3 = milligrams per cubic meter
Source: CARB 2016

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designations. As summarized in Table 3.2-3, the SFBAAB is designated as nonattainment for state ozone, $PM_{2.5}$, and PM_{10} standards, as well as national ozone and $PM_{2.5}$ standards.

Table 3.2-3. San Francisco Bay Area Air Basin Designations for State and National Ambient Air Quality

Criteria Pollutants	State Designation	National Designation
Ozone	Non-attainment	Non-attainment
Carbon monoxide	Attainment	Attainment
PM_{10}	Non-attainment	Unclassified
$PM_{2.5}$	Non-attainment	Non-attainment
Carbon monoxide	Attainment	Unclassified/attainment
Nitrogen dioxide	Attainment	Unclassified/attainment
Sulfur dioxide	Attainment	Attainment
Sulfates	Attainment	—
Lead	Attainment	Unclassified/attainment
Hydrogen sulfide	Unclassified	—
Visibility reducing particles	Unclassified	—

Notes:
$PM_{2.5}$ = particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} = particulate matter between 2.5 and 10 microns in aerodynamic diameter
Source: CARB 2017

National Ambient Air Quality Standards

The CAA required USEPA to establish NAAQS. As shown in Table 3.2-2, USEPA has established primary and secondary NAAQS for the following criteria air pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The primary standards protect the public health, and the secondary standards protect public

welfare. The CAA also required each state to prepare an air quality control plan, referred to as a State Implementation Plan (SIP). The federal CAA amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. USEPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation would achieve air quality goals. If USEPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. If an approvable SIP is not submitted or implemented within the mandated timeframe, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Hazardous Air Pollutants

USEPA and CARB regulate hazardous air pollutants (HAPs) and TACs through statutes and regulations that generally require the use of the maximum available control technology or best available control technology for TACs to limit emissions, respectively. These, in conjunction with additional rules set forth by BAAQMD, described further below, establish the regulatory framework for TACs.

Under federal law, 187 substances are currently listed as HAPs. Major sources of specific HAPs are subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) program. The USEPA is establishing regulatory schemes for specific source categories and requires implementation of the Maximum Achievable Control Technologies (MACT) for major sources of HAPs in each source category. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and is aimed at HAPs that are a problem is California. The state has formally identified 244 substances as TACs and is adopting appropriate control measures for each. Once adopted at the state level, each air district will be required to adopt a measure that is equally or more stringent.

State

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues. CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA. California law authorizes CARB to set ambient (outdoor) air pollution standards (California Health and Safety Code [HSC] Section 39606) in consideration of public health, safety, and welfare (California Ambient Air Quality Standards [CAAQS]) (Table 3.2-2).

California Clean Air Act of 1988

The California Clean Air Act allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency (Cal EPA), is responsible for the coordination and administration of both federal and state air pollution programs within California and for implementing the CCAA. California law authorizes CARB to set ambient (outdoor) air pollution standards (California HSC Section 39606) in consideration of public health, safety, and welfare (Table 3.2-2).

California Ambient Air Quality Standards

CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

CCAA requires that all local air districts in the state endeavor to achieve and maintain CAAQS by the earliest date practicable. CCAA specifies that local air districts should focus attention on reducing the emissions from transportation and area-wide emission sources and provides districts with the authority to regulate indirect sources.

Among CARB's other responsibilities are overseeing local air district compliance with federal and state laws, approving local air quality plans, submitting SIPs to Cal EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as a SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments released in 1992 dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The Cal EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the Cal EPA for approval and publication in the Federal Register. The 2017 *Clean Air Plan*, *Spare the Air, Cool the Climate* is the SIP for SFBAAB. The 2017 Clean Air Plan is a regional blueprint for achieving air quality standards and healthful air in the SFBAAB. The 2017 Clean Air Plan focuses on two closely-related goals: protecting public health and protecting the climate. Consistent with the GHG reduction targets adopted by the state of California, the plan lays the groundwork for a long-term effort to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The 2017 plan also addressed a multi-pollutant strategy to simultaneously reduce emissions and ambient concentrations of ozone, fine particulate matter, toxic air contaminants, as well as GHG's. The control strategy focuses on the following priorities: reduce emissions of criteria air pollutants and TACs from all key sectors; reduce emissions of "super-GHGs" such as methane, black carbon, and fluorinated gases; decrease demand for fossil fuels (gasoline, diesel and natural gas); and decarbonize the energy system.

California Air Toxics "Hot Spots"

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs, including diesel particulate matter, and has adopted USEPA's list of HAPs as TACs.

Once a TAC is identified, CARB adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If no safe threshold exists, the source must incorporate best available control technology for toxics to minimize emissions.

CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Recent milestones included the low-sulfur diesel fuel requirement and stricter emissions standards for heavy-duty diesel trucks (effective in 2007 and subsequent model years) and off-road diesel equipment (2011). Over time, replacing older vehicles would result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1,3-butadiene, DPM) in California have been reduced substantially over the last decade; such emissions will be reduced further through a progression of regulatory measures (e.g., low-emission vehicles, clean fuels, and Phase II reformulated-gasoline regulations) and control technologies.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions and a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

In March 2015, the California Office of Environmental Health Hazard Assessment (OEHHA) adopted "The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments" in accordance with the Health and Safety Code, Section 44300. The Final Guidance Manual incorporates the scientific basis from earlier developed Technical Support Documents to assess risk from exposure to facility emissions. The 2015 OEHHA Final Guidance has key changes including greater age sensitivity in particular for children, decreased exposure durations, and higher breathing rate profiles. Because cancer risk could be up to three times greater using this new guidance, it may result in greater mitigation requirements, more agency backlog, and increased difficulty in getting air permits.

Regional

Bay Area Air Quality Management District

BAAQMD is the public agency that regulates stationary sources of air pollution in the nine counties that comprise the San Francisco Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma. BAAQMD attains and maintains air quality conditions in Napa County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of BAAQMD includes the preparation of plans and programs for the attainment of NAAQS and CAAQS,

adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. BAAQMD also inspects stationary sources, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the CAA and CCAA.

Bay Area Air Quality Management District Rules and Regulations

As mentioned above, BAAQMD adopts rules and regulations. All projects are subject to BAAQMD's rules and regulations in effect at the time of construction. Specific rules applicable to project construction may include, but are not limited to:

- **Regulation 2, Rule 1, General Permit Requirements:** Includes criteria for issuance or denial of permits, exemptions, appeals against decisions of the Air Pollution Control Officer and BAAQMD actions on applications.
- **Regulation 2, Rule 2, New Source Review:** Applies to new or modified sources and contains requirements for Best Available Control Technology and emission offsets. Rule 2 implements federal New Source Review and Prevention of Significant Deterioration requirements.
- **Regulation 6, Rule 1, General Requirements:** Limits the quantity of particulate matter in the atmosphere by controlling emission rates, concentration, visible emissions, and opacity.
- **Regulation 7, Odorous Substances:** Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. A person (or facility) must meet all limitations of this regulation but meeting such limitations shall not exempt such person from any other requirements of BAAQMD, state, or national law. The limitations of this regulation shall not be applicable until BAAQMD receives odor complaints from 10 or more complainants within a 90-day period alleging that a person has caused odors perceived at or beyond the property line of such person and deemed to be objectionable by the complainants in the normal course of their work, travel, or residence. When the limits of this regulation become effective as a result of citizen complaints described above the limits shall remain effective until such time as no citizen complaints have been received by BAAQMD for 1 year. The limits of this regulation shall become applicable again if BAAQMD receives odor complaints from five or more complainants within a 90-day period. BAAQMD staff shall investigate and track all odor complaints they receive and shall attempt to visit the site, identify the source of the objectionable odor, and assist the owner or facility in finding a way to reduce the odor.
- **Regulation 8, Rule 3, Architectural Coatings:** Limits the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within BAAQMD.

Bay Area Air Quality Management District Toxic Air Contaminants

At the local level, air pollution control or management districts may adopt and enforce CARB control measures. Under BAAQMD Regulation 2, Rule 1, General Permit Requirements, and Regulation 2, Rule 2, New Source Review, all sources that possess the potential to emit TACs are required to obtain permits from the district. Permits may be granted to these operations if they are constructed and operated in

accordance with applicable regulations including new-source-review standards and air-toxics control measures. BAAQMD limits emissions and public exposure to TACs through programs including the Community Air Risk Evaluation Program, which estimates and reports both local and regional impacts of TACs in the Bay Area. BAAQMD administers certain portions of the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly), which serves to collect data, identify specific facilities that produce localized impacts, assess health risks, notify nearby residents of risks, and reduce those significant risks to acceptable levels through 'Hot Spots' Risk Reduction Audits and Plans for specific facilities.

Bay Area Air Quality Management District CEQA Guidelines

On June 2, 2010, the BAAQMD's Board of Directors unanimously adopted thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on the BAAQMD's website and included in BAAQMD's 2012 CEQA Air Quality Guidelines. The thresholds were challenged in court. Following litigation in the trial court, the court of appeal, and the California Supreme Court, all of the thresholds were upheld.

The BAAQMD published a new version of the guidelines in May 2017, which includes revisions made to address the Supreme Court's opinion. BAAQMD is currently updating its thresholds of significance and CEQA Guidelines.

Local

Redwood City General Plan

The Redwood City General Plan contains the following goals and policies applicable to the project:

Goal NR-4: Maximize energy conservation and renewable energy production in Redwood City to reduce consumption of natural resources and fossil fuels.

- **Policy NR-4.1:** Support energy efficiency through the City's Municipal Code Green Building Ordinance.
- **Policy NR-4.4:** Pursue efforts to reduce energy consumption through appropriate energy conservation and efficiency measures throughout all segments of the community.
- **Policy NR-4.5:** Conserve energy by promoting efficient and cost-effective lighting that reduces glare and light pollution.

Goal PS-1: Maintain good local air quality, and reduce the local contributions of airborne pollutants to the air basin.

- **Policy PS-1.1:** Work with neighboring jurisdictions and regional agencies – including the Association of Bay Area Governments (ABAG), the BAAQMD, and the Metropolitan Transportation Commission (MTC) - to reduce motor vehicle emissions.
- **Policy PS-1.2:** Minimize vehicle emissions by reducing automobile use and encouraging alternative means of transportation.

- **Policy PS 1-3:** Pursue efforts to reduce air pollution and greenhouse gas emissions by promoting the use of renewable energy (e.g., solar, wind, and hydroelectric power), and implement effective energy conservation and efficiency measures.

- **Policy PS-1.4:** Integrate air quality planning with land use, economic development, and transportation planning.

- **Policy PS-1.5:** Require projects that generate potentially significant levels of air pollutants to incorporate the most effective air quality mitigation into project design, as feasible.

Goal PS-2: Minimize the potential impacts from land uses that may pollute proximate to sensitive receptors.

- **Policy PS-2.1:** Consider surrounding land uses when locating sensitive receptors such as schools, hospitals, and residential uses so they are not unreasonably exposed to uses that generate pollutants considered detrimental to human health.

- **Policy PS-2.2:** Prioritize opportunities for compact housing in Downtown and other areas buffered from designated truck routes.

- **Policy PS-2.3:** Consider re-routing truck routes and high volumes of non-residential traffic away from residential neighborhoods, particularly high-density residential neighborhoods.

- **Policy PS-2.4:** Avoid placing sensitive uses within 500 feet- or other distance deemed to be appropriate based on project-specific health risk assessment data- of the Port of Redwood City, related heavy industrial areas, and any roadways serving Port uses.

- **Policy PS-2.6:** Require all land uses proposed within 500 feet of U.S. 101, El Camino Real, and Woodside Road that will house, accommodate, or serve sensitive receptors to incorporate appropriate design and construction features (e.g., filters on heating, ventilating, and air conditioning [HVAC] systems) that reduce potential exposure of persons to pollutants.

- **Policy PS-2.7:** Discourage the establishment of any new school or housing for senior residents within 500 feet of a freeway.

Goal PS-3: Reduce the volume of pollutants generated by motorized vehicles.

- **Policy PS-3.1:** Support programs that increase ridesharing, reduce pollutants generated by vehicle use, and meet the transportation control measures recommended by BAAQMD in the most recent Clean Air Plan.

- **Policy PS-3.2:** Support programs that decrease vehicle emissions by increasing the number of housing units located near jobs and transit, and encouraging commuting via transit, walking, and bicycling; thereby decreasing vehicle miles traveled (VMT). Policy PS-3.3: Implement policies of the Built Environment Element that provide for compact, urban-style forms of development and complete streets and neighborhoods to reduce vehicle emissions by placing residents closer to jobs and services and providing alternative modes of transportation.

- **Policy PS-3.4:** Implement the policies of the Built Environment Element that promote transportation mode shifts away from private automobile travel.

3.2.3 Environmental Impacts

This section analyzes the project's potential to result in significant air quality impacts. When an impact is determined to be significant, mitigation measures are identified that would reduce or avoid impacts.

Methodology for Analysis

Construction

Short-term construction-related emissions of criteria air pollutants and precursors were calculated using the California Emissions Estimator Model (CalEEMod) Version 2020.4.0 computer program (California Air Pollution Control Officers Association 2021). CalEEMod was used to calculate emissions from construction of the parking lot, buildings, and paved areas. Modeling was based on project-specific information (e.g., building type and size, amount of demolition, area to be paved) where available, and default values in CalEEMod that are based on the project's location, land use type, and type of construction.

The Applicant proposes to demolish five of the existing seven structures and concrete and asphalt from the existing parking lot and foundations, respectively. Construction equipment to be used during the project construction phase would include dozers, welders, front-end loaders, generators, and cranes. Construction would begin in February 2024 for a 26 month duration, ending in April 2026.

In addition, the project would require construction of a recycled waterline. The proposed project would construct approximately 2,553 linear feet of 16-inch diameter recycled waterline along Arguello Street from Whipple Avenue to Marshall Street and approximately 1,309 linear feet of 30-inch diameter recycled waterline from Marshall Street to Jefferson Avenue. Construction of the recycled waterline would take place over a six month period starting in December 2024.

Operations

Long-term operational emissions of criteria air pollutants and precursors were also calculated using CalEEMod. Operational emission sources include area sources such as paints and consumer products, energy sources from lighting and heating, as well as mobile-source emissions from residents and employees. Consistent with BAAQMD Regulation 6, Rule 3 the modeling did not include any wood-burning devices (fireplaces and wood stoves) in the residential portion of the proposed project. Operational activity involving area- and water-heating would be provided by natural gas. Emissions from consumer products, landscape maintenance activities, and mobile-source emissions were estimated using the applicable modules in CalEEMod. Mobile-source emissions were estimated using daily trip-rate information in the traffic impact study conducted for the proposed project. Weekday trip-rate estimates are based on the Local Transportation Analysis and Supplemental Memorandum (Appendix E) prepared for the proposed project and weekend trip-rates are based on default CalEEMod factors. Operational emissions from all sources were estimated at full buildout of the proposed project, which is anticipated to occur in 2025.

Detailed model assumptions and inputs for these calculations can be found in Appendix B of this Draft EIR.

Exposure to Toxic Air Contaminants

The level of health risk from exposure to construction- and operational-related TAC emissions was assessed quantitatively. The Health Risk Assessment (HRA) is discussed in Impact AIR-3 and is provided as Appendix B to this Draft EIR.

The purpose of the HRA was to assess potential criteria pollutant and health impacts that would result from construction and operation of the proposed project, consistent with guidelines and methodologies from the BAAQMD, CARB, OEHHA, and USEPA. Consistent with the methods recommended in those guidelines, the HRA evaluated the estimated excess lifetime cancer risk and PM_{10} concentrations associated with diesel exhaust that would be emitted by on-site construction activities and diesel and gasoline exhaust emitted from vehicles associated with operational traffic.

Thresholds of Significance

In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. Regarding a project's cumulative impacts, past, present and future development projects in the BAAQMD region contribute to adverse air quality impacts in the region on a cumulative basis. Air pollution is largely a cumulative impact by its nature. No single project is sufficient in its overall emission, in isolation, to result in nonattainment of ambient air quality standards. A project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The BAAQMD significance thresholds are intended to analyze whether a project's contribution to the cumulative impact is considerable. Therefore, if a project exceeds the identified significance thresholds, its emissions would also be considered cumulatively considerable, resulting in a significant adverse air quality impact to the region's existing air quality conditions and additional analysis to assess cumulative impacts is unnecessary (BAAQMD 2017). Table 3.2-4 summarizes BAAQMD thresholds used for this analysis.

Table 3.2-4. BAAQMD Air Quality CEQA Thresholds of Significance

Pollutant	Construction-Related	Operational-Related	
Criteria Air Pollutants and Precursors (regional)	**Average Daily Emissions (lbs/day)**	**Average Daily Emissions (lbs/day)**	**Maximum Annual Emissions (TPY)**
ROG	54	54	10
NOx	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best management practices	None	

Notes:
lbs/day = pounds per day
NOx = nitrogen oxides

$PM_{2.5}$ = particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} = particulate matter between 2.5 and 10 microns in aerodynamic diameter
ROG = reactive organic gases
TPY = tons per year

Regarding the HRA analysis, the BAAQMD has established a maximum threshold for land use projects that have the potential to expose sensitive receptors (including residential areas) or the general public to substantial levels of toxic air contaminants. The BAAQMD thresholds of significance for TACs for single sources are: 1) probability of contracting cancer for the maximally exposed individual (MEI) exceeds 10 in one million; or 2) ground-level concentrations of noncarcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the MEI. The BAAQMD thresholds of significance under cumulative conditions (all sources) are: 1) a cancer risk level greater than 100 in a million; 2) a non-cancer risk (chronic or acute) hazard index greater than 10.0; or 3) annual average $PM_{2.5}$ of greater than 0.8 micrograms per cubic meter.

CEQA Guidelines

In accordance with the CEQA Guidelines' Appendix G Environmental Checklist, the following questions were analyzed and evaluated to determine whether the project's air quality impacts are significant. Would the project:

- Conflict with or obstruct implementation of the applicable air quality plan?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area under the applicable federal or state ambient air quality standard?
- Expose sensitive receptors to substantial pollutant concentrations?

The following issues were determined to have no impact or a less than significant impact during the NOP Scoping. These issues are summarized in Section 7.0, Effects Found Not to Be Significant, and are not discussed further in this section.

- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Project Impact Analysis and Mitigation Measures

Air Quality Plan

Impact AIR-1	**The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.**

Impact Analysis

The BAAQMD 2017 Clean Air Plan is the regional air quality plan (AQP) for the SFBAAB. It identifies strategies to bring regional emissions into compliance with federal and state air quality standards. The BAAQMD Guidance provides three criteria for determining if a plan-level project is consistent with the current AQP control measures. However, the BAAQMD does not provide a threshold of significance for project-level consistency analysis. Therefore, the following criteria will be used for determining a project's consistency with the AQP.

- Criterion 1: Does the project support the primary goals of the AQP?
- Criterion 2: Does the project include applicable control measures from the AQP?
- Criterion 3: Does the project disrupt or hinder implementation of any AQP control measures?

Criterion 1

The primary goals of the 2017 Clean Air Plan, the current AQP, are to:

- Protect public health through the attainment of air quality standards and
- Protect the climate.

As discussed in impact discussions AIR-2 and AIR-3, the proposed project would not significantly contribute to cumulative nonattainment pollutant violations, expose sensitive receptors to substantial pollutant concentrations, or create or enhance disparities among Bay Area communities in cancer health risk from TACs after implementation of Mitigation Measure AIR-1, which would require all construction contractors to implement the basic construction mitigation measures recommended by the BAAQMD to reduce fugitive dust emissions; and Mitigation Measure AIR-2, which would require Tier 4 emission standards for much of the off road construction equipment. Therefore, the proposed project is consistent with criterion 1 with incorporation of Mitigation Measures AIR-1 and AIR-2 because it would reduce criteria air pollutants and protect public health through the use of cleaner equipment and the protection of sensitive receptors from TACs.

Regarding climate protection, the proposed project's GHG emissions were determined to be less than significant, and the proposed project was consistent with applicable greenhouse gas reduction plans adopted to protect the climate (See Section 3.5, Greenhouse Gas Emissions). Accordingly, the proposed project would be consistent with criterion 1 for climate protection.

Criterion 2

The 2017 Clean Air Plan contains 85 control measures aimed at reducing air and climate pollutants in the Bay Area. For purposes of consistency with climate planning efforts at the state level, the control strategy in the Clean Air Plan is based upon the same economic sector framework used by the CARB for its Climate Change Scoping Plans. The sectors are as follows:

- Stationary sources
- Transportation
- Energy
- Buildings
- Agriculture
- Natural and working lands
- Waste management

- Water
- Super GHG pollutants

Of the 85 measures aimed at reducing air and climate pollutants, only the transportation control measure TR2 Trip Reduction Program would apply to any future land use at the project site that has more than 50 employees. In addition, the Applicant would be required to conform to the energy efficiency requirements of the California Building Standards Code, also known as Title 24. The proposed project would conform to applicable control measures and would be consistent with this criterion.

Criterion 3

If the approval of a project would not cause a disruption, delay, or otherwise hinder the implementation of any clean air plan control measure, it would be considered consistent with the 2017 Clean Air Plan. Examples of how a project may cause the disruption or delay of control measures include a project that precludes an extension of a transit line or bike path or proposes excessive parking beyond parking requirements. The proposed project would not preclude extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementation of any AQP control measures. The proposed project is located in a transit-oriented development area. The project site is in proximity to Downtown Redwood City and is within 0.5-mile of the Redwood City Caltrain Station and the Redwood City Transit Center on El Camino Real and James Avenue. The project site is also two blocks from the nearest Sam Trans bus stop. The project site would place new residents and employment opportunities in close proximity to many transit options, consistent with the goals of the 2017 Clean Air Plan.

Conclusion

The proposed project would be consistent with the criteria of the AQP with incorporation of Mitigation Measures AIR-1 and AIR-2. As such, with the incorporation of these mitigation measures, the project's potential construction and operational impacts would be less than significant.

Level of Significance Before Mitigation
Potentially Significant Impact.

Mitigation Measures

MM AIR-1 **Implement Construction Best Management Practices.** The Applicant shall require all construction contractors to implement the basic construction mitigation measures recommended by the BAAQMD to reduce fugitive dust emissions. Emission reduction measures will include, at a minimum, the following measures. Additional measures may be identified by the BAAQMD or contractor as appropriate:

a) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day;

b) All haul trucks transporting soil, sand, or other loose material off-site should be covered;

c) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

d) All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.

e) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

f) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage shall be provided by construction workers at all access points.

g) All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

h) Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

MM AIR-2 **Minimize Exhaust Emissions.** Exhaust emissions shall be minimized during construction activities with the use of off-road equipment engines that meet or exceed CARB's Tier 4 engine emissions standards for off-road equipment exceeding 50 horsepower (hp). At a minimum, all construction equipment shall be certified as compliant with the Tier 4 engine emissions standards as provided in CCR, Title 13, section 2423(b)(1)(B). Engines can achieve these standards through the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, or other options as they become available.

If use of Tier 4 equipment is not available, the proposed project shall alternatively use equipment that meets U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 60% reduction in particulate matter exhaust in comparison to uncontrolled equipment.

Level of Significance After Mitigation
Less Than Significant Impact with Mitigation.

Criteria Pollutants

Impact AIR-2 **The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.**

Impact Analysis

As discussed previously, in developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. Project construction and operational impacts are assessed separately below.

Construction Emissions

Emissions from construction-related activities are generally short-term but may still cause adverse air quality impacts. The proposed project would generate emissions from construction equipment exhaust, worker travel, and fugitive dust. These construction emissions include criteria air pollutants from the operation of heavy construction equipment.

As discussed in Section 2.0, Project Description, the project construction would begin in February of 2024 with full buildout completed in April of 2026. The anticipated construction schedule and construction equipment required for each phase are provided in Appendix B.

The construction schedule used in the analysis represents a "worst-case" analysis scenario since emission factors for construction equipment decrease as the analysis year increases due to improvements in technology and more stringent regulatory requirements. Therefore, construction emissions would decrease if the construction schedule were delayed to later years. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required pursuant to CEQA Guidelines 15064(f)(5).

The project's "unmitigated" construction emissions are shown in Table 3.2-5. As shown in Table 3.2-5, NOx emissions would exceed BAAQMD's regional thresholds of significance and would require the incorporation of cleaner construction equipment with Mitigation Measure AIR-2. The mitigated construction emissions are presented in Table 3.2-6 and fall below BAAQMD significance thresholds. Therefore, mitigated construction emissions would be less than significant and would not be considered cumulatively considerable.

Table 3.2-5. Annual Unmitigated Construction Emissions

Year	ROG	NOx	PM10 (exhaust)	PM2.5 (exhaust)
Building Construction				
2022 (TPY)	0.08	1.23	0.03	0.03
2023 (TPY)	0.55	9.16	0.19	0.18
2024 (TPY)	0.23	2.00	0.06	0.05
2025 (TPY)	0.01	0.07	0.02	0.02
Subtotal (tons)	*0.87*	*12.46*	*0.30*	*0.28*

Year	ROG	NOx	PM10 (exhaust)	PM2.5 (exhaust)
Subtotal Average Daily Emissions (lbs/day)[1]	*3.04*	*43.57*	*1.05*	*0.98*
Recycled Waterline				
2024 (TPY)[2]	0.01	0.11	<0.01	<0.01
2025 (TPY)	0.05	0.84	0.02	0.02
Subtotal (tons)	*0.06*	*0.95*	*0.02*	*0.02*
Subtotal Average Daily Emissions (lbs/day)[1]	*0.91*	*14.93*	*0.30*	*0.30*
Total Average Daily Emissions (lbs/day)	**3.95**	**58.50**	**1.35**	**1.28**
BAAQMD Significance Threshold (lbs/day)	54	54	82	54
Does Any Year Exceed Significance Threshold?	***No***	***Yes***	***No***	***No***
Significant Impact?	***No***	***Yes***	***No***	***No***

Notes:
BAAQMD = Bay Area Air Quality Management District
lbs/day = pounds per day
lbs/year = pounds per year
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} = particulate matter between 2.5 and 10 microns in aerodynamic diameter
ROG = reactive organic gases
TPY = tons per year
[1] Grubbing/land clearing phase would occur in 2024. Grading/excavation, drainage/utilities/subgrade, and paving phases would occur within 2025.
[2] Average daily emissions based on a 572 working days for building construction and 132 working days for the recycled waterline (accounts for overlapping phases).
Source: CalEEMod Output (Appendix B)

Table 3.2-6. Annual Mitigated Construction Emissions

Year	ROG	NOx	PM10 (exhaust)	PM2.5 (exhaust)
Building Construction				
2022 (TPY)	0.03	0.77	0.01	0.01
2023 (TPY)	0.23	6.58	0.05	0.05
2024 (TPY)	0.13	1.07	0.01	0.01
2025 (TPY)	0.005	0.04	>0.001	0.005
Subtotal (tons)	0.40	8.46	0.07	0.08
Subtotal Average Daily Emissions (lbs/day)	1.40	29.58	0.24	0.28
Recycled Waterline				
2024 (TPY)[2]	>0.01	0.08	<0.01	<0.01
2025 (TPY)	0.03	0.61	0.01	0.01
Subtotal (tons)	*0.03*	*0.79*	*0.01*	*0.01*

Year	ROG	NOx	PM10 (exhaust)	PM2.5 (exhaust)
Subtotal Average Daily Emissions (lbs/day)[1]	*0.45*	11.97	*0.15*	*0.15*
Total Average Daily Emissions (lbs/day)	**1.85**	**41.55**	**0.39**	**0.43**
BAAQMD Significance Threshold (lbs/day)	54	54	82	54
Does Any Year Exceed Significance Threshold?	***No***	***No***	***No***	***No***
Significant Impact?	***No***	***No***	***No***	***No***

Notes:
BAAQMD = Bay Area Air Quality Management District
lbs/day = pounds per day
lbs/year = pounds per year
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} = particulate matter between 2.5 and 10 microns in aerodynamic diameter
ROG = reactive organic gases
TPY = tons per year
[1] Average daily emissions based on a 572 working days for building construction and 132 working days for the recycled waterline (accounts for overlapping phases).
The mitigated equipment modeling accounts for all diesel equipment. The CalEEMod modeling cannot account for some electric and some Tier 4 pieces of the same equipment. As a result, they cannot be modeled together and properly capture all emissions reductions. As shown in CalEEMod modeling for the HRA in Appendix B, electric equipment would not emit any emissions.
Source: CalEEMod Output (Appendix B)

Operational Emissions

Operational emissions would occur over the lifetime of the project and would be from two main sources: area sources and motor vehicles, or mobile sources. It was assumed that the entire project would be operational in 2025 to provide a conservative estimate of operational emissions. If a later buildout year were used, the emissions would be lower due to cleaner vehicles from increasing regulations. Therefore, using an earlier year to consider full buildout of the proposed project would provide a worst-case scenario of emissions. The recycled waterline would not generate any operational emissions.

As shown in Table 3.2-7, the project operational emissions would be below the BAAQMD daily and annual significance thresholds, and therefore, impacts would be less than significant.

Table 3.2-7. Operational Emissions

Emissions Source	ROG	NO_x	PM_{10}	$PM_{2.5}$
Area (TPY)	1.65	<0.01	<0.01	<0.01
Energy (TPY)	0.03	0.30	0.02	0.02
Mobile (TPY)	0.58	0.53	1.33	0.36
Total (TPY)	*2.26*	*0.83*	*1.35*	*0.38*
Thresholds of Significance (TPY)	**10**	**10**	**15**	**10**

Emissions Source	ROG	NO_x	PM_{10}	$PM_{2.5}$
Average Daily Emissions (lbs/day)	*12.38*	*4.55*	*7.40*	*4.55*
Thresholds of Significance (lbs/day)	**54**	**54**	**82**	**54**
Significant?	***No***	***No***	***No***	***No***

Notes:
TPY = tons per year
lbs/day = pounds per day
ROG = reactive organic gases
NOx = nitrous oxides
PM_{10} = particulate matter 10 microns or less in diameter
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
Source: CalEEMod Output (Appendix B)

Level of Significance Before Mitigation
Potentially Significant Impact.

Mitigation Measures
Mitigation Measure AIR-2 is required.

Level of Significance After Mitigation
Less Than Significant Impact with Mitigation.

Sensitive Receptors

Impact AIR-3 **The proposed project would not expose sensitive receptors to substantial pollutant concentrations.**

Impact Analysis

This discussion addresses whether the proposed project would expose sensitive receptors to construction-generated fugitive dust (PM_{10}), naturally occurring asbestos (NOA), construction-generated DPM, operational related TACs, or operational CO hotspots. According to BAAQMD, some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. The project site is considered a sensitive receptor.

The nearest existing sensitive receptors are the residential homes located north and northeast, as close as 80 feet from the project site.

Construction Emissions

Fugitive Dust PM_{10}

Fugitive dust (PM_{10}) would be generated from site grading and other earth-moving activities. Most of this fugitive dust would remain localized and would be deposited near the project site. However, the potential for impacts from fugitive dust exists unless control measures are implemented to reduce the emissions from the project site. The proposed project would implement Mitigation Measure AIR-1 requiring fugitive dust control measures that are consistent with best management practices (BMPs) established by the BAAQMD, to reduce the project's construction-generated fugitive dust impacts to a less than significant level.

Naturally Occurring Asbestos

Construction in areas of rock formations that contain NOA could release asbestos to the air and pose a health hazard. BAAQMD enforces CARB's air toxic control measures at sites that contain ultramafic rock. The air toxic control measures for construction, grading, quarrying and surface mining operations were signed into state law on July 22, 2002, and became effective in the SFBAAB in November 2002. The purpose of this regulation is to reduce public exposure to NOA. A review of the map with areas more likely to have rock formations containing NOA in California indicates that there is no asbestos in the immediate project area (USGS 2011). Therefore, it can be reasonably concluded that the proposed project would not expose sensitive receptors to NOA. Impacts would be less than significant.

Diesel Particulate Matter

An HRA was prepared for the proposed project to assess potential criteria pollutant and health impacts that would result from construction of the proposed project. The HRA evaluated construction period health risk to off-site receptors and stationary and mobile source emissions and their related health risk impacts for future residents of the project. According to the BAAQMD, a project would result in a significant impact if it would individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10.0 in 1 million, an increased non-cancer risk of greater than 1.0 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per liter ($\mu g/m^3$). A significant cumulative impact would occur if the project, in combination with other projects located within a 1,000-foot radius of the project site, would expose sensitive receptors to TACs resulting in an increased cancer risk greater than 100.0 in one million, an increased non-cancer risk of greater than 10.0 on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 $\mu g/m^3$ on an annual average basis.

The project site is in an urban area within 500 feet from existing residential uses (the nearest residence is approximately 80 feet from the proposed project) that could be exposed to diesel emission exhaust during the construction period (from building construction and recycled waterline construction). To estimate the potential cancer risk associated with construction of the proposed project from equipment exhaust (including DPM), a dispersion model was used to translate an emission rate from the source location to a concentration at the receptor location of interest (i.e., a nearby residence). Dispersion modeling varies from a simpler, more conservative screening-level analysis to a more complex and refined detailed analysis. This refined assessment was conducted using CARB exposure methodology with the air dispersion modeling performed using the USEPA's dispersion model AERMOD. The model provides a detailed estimate of exhaust concentrations based on site and source geometry, source emissions strength, distance from the source to the receptor, and site-specific meteorological data.

The health risk analysis utilized the PM_{10} exhaust emissions estimated by the CalEEMod modeling as a proxy for DPM emissions. As discussed within Appendix B, the modeling used to estimate criteria air pollutants (see Table 3.2-5 and 3.2-6) assumes that hauling truck trips will travel 56 miles to the nearest landfill. The CalEEMod modeling accounts for the emissions generated from the total miles traveled from the hauling truck trips to calculate all pollutants include PM_{10} exhaust emissions. However, according to CARB, DPM dissipates with distance from the source, especially within the first 500 feet (CARB 2005). Therefore, to prepare a conservative but more representative HRA, the hauling trucks for building and waterline construction were only assumed to travel one mile from the site. As a result, the DPM emissions utilized within the HRA account for the first mile and last mile of travel from each diesel hauling truck. The emissions from these trucks would occur on the surrounding roadways. It is likely that some truck trips may travel past the MEI while other trips do not. To conservatively estimate the trips, they were evaluated as an emission source at the site similar to the emissions from other construction sources.

To reduce the potential cancer risk associated with construction of the project from equipment exhaust, Mitigation Measure AIR-2 would be implemented. Results of the analysis are shown in Table 3.2-8 and indicate construction of the project would not expose nearby sensitive receptors to substantial pollutant concentrations. Model input and output data used in the construction HRA are shown in Appendix B.

Table 3.2-8. Inhalation Health Risks from Project Construction to Off-site Receptors

	Carcinogenic Inhalation Health Risk in One Million	Chronic Inhalation Hazard Index	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Unmitigated Impacts			
Maximally Exposed Individual Resident (Infant)	83.8	0.068	0.34
Threshold	10.0	1.0	0.30
Exceeds Threshold	**Yes**	**No**	**Yes**
Mitigated Impacts (Implementation of Tier 4 Construction Equipment)			
Maximally Exposed Individual Resident (Infant)	8.74	0.008	0.04
Threshold	10.0	1.0	0.30
Exceeds Threshold	**No**	**No**	**No**

Notes:
$\mu g/m^3$ =micrograms per liter
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
[1] Annual $PM_{2.5}$ concentration is the concentration at the maximally exposed individual receptor during overlap of project and waterline construction.

Operational Emissions

Carbon Monoxide Hotspots

Localized high levels of CO (CO hotspot) are associated with traffic congestion and idling or slow-moving vehicles. The BAAQMD recommends a screening analysis to determine if a project has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is necessary. The project would result in a less than significant impact to air quality for local CO if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; or
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

A review of the San Mateo County 2019 Congestion Management Plan indicates that the proposed project is consistent with the applicable congestion management goals. Based on the daily trip rates provided by the Local Transportation Analysis and Supplemental Memorandum (Appendix E), the proposed project would generate approximately 1,934 new net trips per day and would not substantially increase traffic volumes on nearby roadways above 44,000 vehicles per hour. Furthermore, the adjacent roadways are not located in an area where vertical and/or horizontal mixing, or the free movement of the air mass, is substantially limited by physical barriers such as bridge overpasses or urban or natural canyon walls. Therefore, the proposed project would not significantly contribute to an existing or projected CO hotspot. Impacts would be less than significant.

Toxic Air Contaminant Emissions

Two scenarios have the potential to expose sensitive receptors to TACs. The first is when a project includes a new or modified source of TACs and would be located near an existing or proposed sensitive receptor. The second involves a residential or other sensitive receptor development located near an existing or planned source of TACs.

For project-level analysis, BAAQMD specifies both individual and cumulative-level thresholds of significance for risks and hazards. For projects that are considered new sources of TACs or $PM_{2.5}$ (such as stationary sources, industrial sources, or roadway projects), it is generally appropriate to use both the project-level and cumulative-level thresholds because the project-level threshold identifies said project's individual contribution to risk, while the cumulative threshold assesses said project's cumulative contribution to risk.

Stationary Sources

The stationary source analysis evaluated the risk levels from permitted sources in the project vicinity using the toxic air contaminant emissions reported to the BAAQMD by the stationary sources identified in the project vicinity. Data from the BAAQMD identified five sources of emissions that were within 1,000 feet of the project site. The results of the stationary source analysis are presented in Table 3.2-9. As shown in Table 3.2-9, the highest risk would be 6.16 in one million, which would not exceed the BAAQMD cancer risk threshold of 10 in one million. The hazard index would be 0.0, which is below the threshold of 1.0. The results of the analysis also indicate that the maximum $PM_{2.5}$ concentration would be 0.00 $\mu g/m^3$, which is also below the BAAQMD significance threshold of 0.3 $\mu g/m^3$. The BAAQMD's cumulative threshold of cancer risk greater than 100 in one million, an increased non-cancer risk of greater than 10.0

on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 µg/m^3 on an annual average basis would not be exceeded.

Table 3.2-9. Stationary Sources

Stationary or Roadway Source	Facility ID	Distance (feet)	Adjusted Adult Carcinogenic Risk (in one million)	$PM_{2.5}$ (µg/m^3)	Hazard
Verizon Business	14709	650	0.01	0.0	0.0
Gustavo Greco	109945	1,000	2.11	0.0	0.0
El Camino Martco	110983	524	6.16	0.0	0.0
L.G. Energy Group LLC	109153	996	2.85	0.0	0.0
A-1 Rental Center	105200	0	0.28	0.0	0.0
Maximum Single Source Risks			**6.16**	**0.0**	**0.0**
BAAQMD Single Source Threshold			**10 in 1 million**	**0.30**	**1.000**
Exceeds Threshold?			**No**	**No**	**No**
Total Risk			**11.41**	**0.0**	**0.0**
BAAQMD Cumulative Threshold			**100 in 1 million**	**0.80**	**10.0**
Exceeds Threshold?			**No**	**No**	**No**

Notes:
µg/m^3 =micrograms per liter
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

Cumulative Risks and Hazards

The cumulative analysis sums all sources of emissions in the vicinity of the project site including stationary and mobile sources. The cumulative cancer risk, hazard index, acute index and $PM_{2.5}$ concentrations are shown in Table 3.2-10. Results of the cumulative analysis indicate that the proposed project would not expose future residents of the project site to significant cumulative health risks.

Table 3.2-10. Cumulative Risk from All Sources

Stationary or Roadway Source	Facility ID	Distance (feet)	Adjusted Adult Carcinogenic Risk (in one million)	$PM_{2.5}$ (µg/m^3)	Hazard
Highway 82	-	215	12.67	0.28	0.0
Verizon Business	14709	650	0.01	0.0	0.0
Gustavo Greco	109945	1,000	2.11	0.0	0.0
El Camino Martco	110983	524	6.16	0.0	0.0
L.G. Energy Group LLC	109153	996	2.85	0.0	0.0
A-1 Rental Center	105200	0	0.28	0.0	0.0
Total Risk			**24.07**	**0.28**	**0.0**
BAAQMD Cumulative Threshold			**100 in 1 million**	**0.80**	**10.0**
Exceeds Threshold?			**No**	**No**	**No**

Notes:
µg/m^3 =micrograms per liter

Stationary or Roadway Source	Facility ID	Distance (feet)	Adjusted Adult Carcinogenic Risk (in one million)	$PM_{2.5}$ ($\mu g/m^3$)	Hazard

$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

Conclusion

As shown in Tables 3.2-9 and 3.2-10, a 70-year outdoor exposure of roadway emissions, total organic gases and DPM and stationary source emissions at the proposed residential units on the project site would result in a maximum exposure of future residents to a risk level that would not exceed the criterion of significance for cancer health effects and the individual or cumulative level. Furthermore, Title 24 of the California Building Code now requires the minimum efficiency reporting value (MERV) of HVAC systems include MERV 13 filters in new construction. MERV 13 filters can achieve capture rates of up to 60 percent of PM, including DPM (Stephens 2016).

The HRA results show that the proposed project would not expose future residents of the project site to substantial pollutant concentrations that may cause harmful effects as the risk would be below the thresholds of significance. Additionally, the proposed project would not locate residents near known existing industrial sources of toxic air contaminants. Therefore, health risks associated with the location of new sensitive receptors on the project site would be less than significant.

Level of Significance Before Mitigation
Potentially Significant Impact.

Mitigation Measures
Mitigation Measures AIR-1 and AIR-2 are required.

Level of Significance After Mitigation
Less Than Significant Impact with Mitigation.

3.3 CULTURAL RESOURCES

This section describes the environmental and regulatory setting for cultural resources. It also describes existing conditions and potential impacts related to cultural resources that would result from implementation of the proposed project, and mitigation for potentially significant impacts, where feasible.

3.3.1 Environmental Setting

Cultural Setting

The following discussion is based on the Cultural and Historic Resources Report and Supplemental Memorandum (Appendix C) unless otherwise referenced.

Prehistoric and Ethnographic Context

Human occupation of the project area may have begun between 13,500 and 10,000 years before present (BP) when Clovis big-game hunters presumably lived in the area. Archaeological evidence from this period is scarce, possibly because it has been washed away by stream action, buried under more recent alluvium, or submerged on the continental shelf by rising sea levels (Meyer and Rosenthal 2007). In addition to natural processes, intense urban development in the Bay Area during the late 19th and early 20th centuries damaged or destroyed many archaeological resources before scientific inquiries could be conducted, and many of the earlier archaeological excavations that were performed in this region were salvage efforts lacking the time or resources necessary to allow for adequate data recovery and professional reporting. Available evidence does suggest the existence of a fully developed forager economic pattern by the Early Holocene, or Lower Archaic Period, beginning at around 10,000 BP (Milliken et al. 2007).

A series of five cycles of cultural change beginning at approximately 5500 BP followed: the Early Period (Middle Archaic) from 5500 to 2500 BP, the Lower Middle Period (Initial Upper Archaic) from 2500 to 1500 BP, the Upper Middle Period (Late Upper Archaic) from 1500 to 1000 BP, the Initial Late Period (Lower Emergent) from 1000 to 550 BP, and the Terminal Late Period from 550 BP to the present. For a complete discussion of the characteristic features of each period in the Bay region, see Milliken et al. 2007.

The project area is within the traditional tribal territory of the Ramaytush Costanoan (Kroeber 1925; Levy 1978). Ancestors of the Costanoan, who today refer to themselves as Ohlone, have likely inhabited the San Francisco and Monterrey Bay areas for around 1,500 years. Their territory stretched from the San Francisco Bay to just south of Carmel and extended as far as 60 miles inland from the Pacific Coast, including most of present-day Alameda County (Levy 1978).

The terms Ohlone and Costanoan do not denote a single ethnic or political entity, but rather a linguistically defined group that, together with Miwok, forms the Utian family of the Penutian language stock (Levy 1978). The Ohlone language family consists of eight separate and distinct languages used by approximately 50 autonomous “tribelets,” each consisting of 200-500 people organized into several villages whose locations were largely determined by geographic features (Kroeber 1925; Milliken 1995). A headman or chief controlled each local tribe. While the position was usually inherited patrilineally, it could be held by a man or woman (Levy 1978). Chiefs’ duties included providing for visitors, directing

ceremonial activities, and leading fishing, hunting, and gathering expeditions. The chief also served as the leader of a council of elders, which functioned primarily in an advisory capacity (Levy 1978; Bean 1978).

Though they differed linguistically, tribelets shared similar hunting and gathering strategies relying heavily on acorns and locally obtained maritime and estuarine resources. They also exploited a wide range of other foods, including various seeds, buckeye, berries, roots, land and sea mammals, waterfowl, reptiles, and insects. The Ohlone used tule balsas in the production of watercraft. They also made and used bows and arrows, cordage, bone tools, and twined basketry to procure and process their foodstuffs (Levy 1978). Within tribal groups, extended families lived in domed structures thatched with grass, tule, wild alfalfa, ferns, or carrizo (Levy 1978), and they built semi-subterranean sweat houses in pits excavated into stream banks (Kroeber 1925).

Life changed drastically for the Ohlone with the arrival of the Spanish. By around 1810, the Ohlone had largely abandoned aboriginal lifeways for agricultural ones, and tribal identities were further damaged through the commingling of linguistic groups at Spanish missions. While the estimated Ohlone population was around 10,000 in 1770 before the first mission was established, their population had rapidly declined to fewer than 2,000 by 1832 due to the introduction of diseases, the imposition of harsh living conditions, and a reduction in birth rates associated with Mission life (Levy 1978; Milliken 1995). By 1925, Kroeber considered the Ohlone way of life lost (Kroeber 1925).

The names and exact locations of prehistoric village sites in in the project vicinity were largely lost before they could be ethnographically recorded due to rapid Euro-American expansion and massive social upheaval following the founding of the Spanish missions. Numerous shellmounds, prehistoric habitation sites, have been recorded in the Bay Area, including an unnamed Nelson mound approximately 0.75-mile south of Redwood City (Nelson 1909).

Historic Context

City of Redwood City

The first known non-Native American settlers came to Redwood City in the 1850s and 1860s. Redwood City was established as the seat of County Government in 1856, twelve years prior to incorporation on March 27th, 1886. These early San Mateo County judicial and administrative services is reflected in four generations of courthouses constructed on the same site, two of these annexes were added by the Works Progress Administration. Residential and commercial buildings from this period reflect Victorian Era design and, the oldest known commercial building in Redwood City is a general store built in 1859, at 726 Main Street. Another building dating to this period, the John Offerman House (built 1850s) at 1018 Main Street, reflects Greek Revival design, and was expanded in size in 1889. Major businesses included the Grand Hotel, the Redwood City Hotel, the Eureka Brewery, the Frank and the Beeger tanneries, and the Redwood City Flour Mill. Smaller businesses on Main Street included saloons, stables, tin shops, butcher shops, barber shops, flour mill, and drug store.

Early residential neighborhoods began to develop around the town's business center near Main Street and Broadway, and Simon M. Mezes, the legal agent for title of the Arguello Family "Rancho de las Pulgas", platted "Mezesville" in 1854. Today, a portion of this area is now the Mezesville Historic District, located in the Centennial neighborhood. As Redwood City continued to grow in population, the waterfront

was developed, and the earliest waterfront facilities were wharfs at the "Embarcadero" for lumber and tanning commerce. Some early businesses at these facilities include the Hanson-Ackerson Lumber Company (founded in 1860s) and the S.H. Frank Tannnery (founded in 1874). By the 1870s much of the town's commerce passed through the Embarcadero by ships, with as many as 28 a day loaded and sent to the Bay Area markets.

Bayfront industries required access to wharves, and early enterprises at the turn of the 20th century operated in tideland areas on the banks of Redwood Creek. In the 1920s, the city's population reached 5,500 residents, this led to construction of several new schools, including Washington, Lincoln, and John Gill. Residential growth during this time saw development southwest of Camino Real in the early 1900s and 1910s, much of which was related to the 1906 earthquake that displaced thousands. The City also built Sequoia High School in 1923-1924, relocating it from Downtown, the new campus is on the National Register of Historic Places, and is a local historic landmark. Prosperity and growth of Redwood City's bayfront industries led to eventual construction of a deep-water port in the 1930s, closer to the Bay along Redwood Creek. By the end of World War II, the economic center shifted to southwest of El Camino Real and along Woodside Road, as well as along U.S. 101.

Archaeological Resources in the Project Area

Records Search and Literature Review

Page & Turnbull reviewed various local repositories including the San Mateo County Assessor office, the City of Redwood City Community Development and Transportation Department, as well as online sources including Ancestroy.com, the California Digital Newspaper Collection, Newspapers.com, and Archive.org. Key primary sources consulted and cited in this report include Sanborn Fire Insurance Company maps, Redwood City building permit applications, city directories and census data, San Mateo County Office of the Assessor-Recorder records, historical photographs, historical newspapers, and historic periodicals including, Pacific Gas & Electric Company's Pacific Service Magazine.

As part of the cultural resource review, a records search was conducted by Stantec at the Northwest Information Center (NWIC) of the California Historic Resources Information System (CHRIS) on January 26, 2022 (NWIC File No. 21-1203) for the project area and within 0.25-mile. The record search included a review of all previously recorded cultural resources and studies. Other sources reviewed include the Office of Historic Preservation (OHP) Historic Property Data File, Determination of Eligibility, National Register of Historic Places (NRHP)/California Register of Historical Resources (CRHR).

One resource is located within the area of potential effect (APE), and four additional resources are located within 0.25-mile of the project area (Table 3.3-1). Five previous studies include or are adjacent to the project area (Table 3.3-2), with an additional eight within 0.25-mile of the project area (Table 3.3-3).

Table 3.3-1. Resources within 0.25 Mile of the Project Area

P-Number/ Trinomial	Description	Type	NRHP Evaluation	Within APE or 0.25 Mile Buffer?
P-41-002687	First National Bank of Northern California	Building	6Z (Not Eligible)	APE
P-41-000420	Peninsula Commute Service (San Francisco and San Jose Railway)	Structure	6Z (Not Eligible)	Buffer

P-41-002384	Whipple and El Camino/ T-Mobile West LLC SF03236A	Structure	7 (Unevaluated)	Buffer
P-41-002541	210 Howland Street	Building	6Z (Not Eligible)	Buffer
P-41-002550	667-673 El Camino Real	Building	6Z (Not Eligible)	Buffer

Table 3.3-2. Previous Studies within or Adjacent to the Project Area

Study Number	Author	Year	Title
S-017993	Brian Hatoff, Barb Voss, Sharon Waechter, Stephen Wee, and Vance Bente	1995	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project
S-026045	Richard Carrico, Theodore Cooley, and William Eckhardt	2000	Cultural Resources Reconnaissance Survey and Inventory Report for the Metromedia Fiberoptic Cable Project, San Francisco Bay Area and Los Angeles Basin Networks
S-029573	Jonathan Goodrich and John Holson	2000	Final Report, Archaeological Survey and Record Search for the Six Fluor Global Fiber Optic Segments, Mountain View, Palo Alto, and San Mateo County, California.
S-029657	Wendy J. Nelson, Tammara Norton, Larry Chiea, and Reinhard Pribish	2002	Archaeological Inventory for the Caltrain Electrification Program Alternative in San Francisco, San Mateo, and Santa Clara Counties, California
S-048738	Denise Jurich and Amber Grady	2011	California High-Speed Train Project, Environmental Impact Report/Environmental Impact Statement, San Francisco to San Jose Section, Archaeological Survey Report, Technical Report [Draft]

Table 3.3-3. Previous Studies within 0.25 Mile of the Project Area.

Study Number	Author	Year	Title
S-003077	Stephen Dietz	1979	Report of An Archaeological Reconnaissance of The City of Redwood City's Redwood Shores Water Main Project, EIR 78-21 P.W. File 3028
S-011396	BioSystems Analysis, Inc.	1989	Technical Report of Cultural Resources Studies for the Proposed WTG-WEST, Inc., Los Angeles to San Francisco and Sacramento, California: Fiber Optic Cable Project
S-025174	John Holson, Cordelia Sutch, and Stephanie Pau	2002	Cultural Resources Report for San Bruno to Mountain View Internodal Level 3 Fiber Optics Project in San Mateo and Santa Clara Counties, California
S-033061	Nancy Sikes, Cindy Arrington, Bryon Bass, Chris Corey, Kevin Hunt, Steve'O'Neil, Catherine Pruett, Tony Sawyer, Michael Tuma, Leslie Wagner, and Alex Wesson	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California

S-038684	Stacy Kozakavich and Alexandra Merritt-Smith	2008	A Cultural Resources Study for the San Mateo County SMART Corridors Project, San Mateo County, California
S-039104	Brian F. Byrd, John E. Berg, Philip Kaijankoski, Jelmer W. Eerkens, Anna Fritschi, Kenneth W. Gobalet, Deborah Jones, Rebecca Kellawan, Jack Meyer, Thomas M. Origer, Howard Spero, Eric Wohlgemuth, and Jeffrey Rosenthal	2012	Archaeological Investigations for the State Route 82 Signal Interconnect and Intersection Modification Project, San Mateo County, California, 04-SMA-82 PM 0.0/15.9, EA 04-24992
S-039469	Neal Kaptain	2012	Historical Resources Compliance Report for the San Mateo County SMART Corridors Project, Segment III, Redwood City, Atherton, Menlo Park, East Palo Alto, and Palo Alto, San Mateo County & Santa Clara County, California; EA #4A9201; EFIS #0400001169, Caltrans District 4
S-043679	Richard Brandi	2014	Documentation of 303 and 321 Fuller Street, Redwood City, CA, For the Partial Mitigation of the Classics@Redwood City Project

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed for the proposed project and the results were negative.

Field Survey

Page & Turnbull staff conducted site visits to 1111-1227 Arguello Street in December 2019 and February 2021. All photographs were taken at those times unless otherwise noted.

Historical Resources in the Project Area

The HRE conducted by Page & Turnbull found that none of the six properties that make up the project site (1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street) contain historic resources that appear to be individually eligible for listing in the CRHR. An additional nine resources were reviewed by Page & Turnbull, as they relate to the proposed alignment of the proposed recycled waterline installation along Arguello Street and Marshall Street. The following sources were reviewed:

- National Park Service (NPS), **National Register of Historic Places, Map Database** (last minor update, September 2020), https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466
- California Office of Historic Preservation (OHP), **California Historical Resources**, https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=41
- OHP, **Built Environment Resources Directory (BERD)**, https://ohp.parks.ca.gov/?page_id=30338
- **Redwood City Community GIS Portal**, http://webgis.redwoodcity.org/community/

- **Redwood City General Plan** (2010), "Appendix F: Redwood City Known Historic Resources," https://www.redwoodcity.org/home/showdocument?id=5063
- **Redwood City Downtown Precise Plan** (Adopted January 24, 2011)

Page & Turnbull has found that 1203 Arguello Street is not individually eligible for listing as a Redwood City Historic Landmark. The properties at 1203, 1219, and 1227 Arguello Street do meet the definition of historical resources for the purposes of CEQA, as 1203 Arguello Street has been previously identified as a contributor to the Mezesville Historic District, and the properties at 1219 and 1227 Arguello Street have each previously been found to be contributors to the Mezesville Historic District and are designated as Redwood City Historic Landmarks by the City. The property at 1209 Arguello Street is located within the Mezesville Historic District boundary, but is a vacant lot.

An additional nine properties (701, 817, 926, 1006, and 1200 Arguello Street; 2200 Broadway; 627 Hamilton Street; 210 Howland Street; and 710 Winslow Street) were reviewed by Page & Turnbull as historical resource properties which have at least one property frontage along the alignment of the proposed recycled waterline installation along Arguello Street and Marshall Street. These historical resources include one property that is located within the locally listed Mezesville Historic District (1200 Arguello Street which is also individually listed local landmark); the National Register-listed former San Mateo County Courthouse (also a local landmark); the National Register-listed Lathrop House (also a local landmark); and six identified eligible or potentially eligible historical resources. See Figure 1 of the Supplemental Historical Resources Analysis Memorandum prepared on November 3, 2022 (Appendix C) for a map of the identified eligible and listed historical resources in the study area and the location of the identified resources with respect to the project site and off-site recycled waterline alignment.

Table 3.3-4. Identified Eligible & Listed Historical Resources in Study Area

Address (APN)	Use	Year Built	Individual Historic Status	Locally Listed Mezesville Historic District	Historic Resources for CEQA
701 Arguello St. (052-272-150)	Commercial/ Industrial	ca. 1955	Potential resource per RWC General Plan	No	Yes*
817 Arguello St. (052-272-080)	Residential	1855	Needs to be reevaluated per RWC General Plan	No	Yes*
926 Arguello St. (052-273-010)	Residential	1020	Potential historical resource	No	Yes*
1006 Arguello St. (052-255-080)	Residential	1872	Potential historical resource	No	Yes*
1200 Arguello St. (052-253-090)	Residential	1867, 1880	Listed Redwood City Historic Landmark	Contributor	Yes (as part of Mezesville Historic District)

1111 Arguello Street (052-252-080) (project site)	Commercial/ Industrial	1931: 1959: 1980	Not Eligible for California Register	Outside District Boundary, Non-contributor	No
1125 Arguello Street (052-252-090) (project site)	Commercial/ Industrial	1931: 1959	Not Eligible for California Register	Outside District Boundary, Non-contributor	No
1203 Arguello Street (052-252-040) (project site)	Residential	ca. 1921	Not Eligible for California Register or as Redwood City Historic Landmark	Contributor	Yes (as part of Mezesville Historic District)
1209 Arguello Street (052-252-030) (project site)	Undeveloped	ca. 1885, demolished 1979	Not Eligible for California Register	Non-Contributor	Yes (as part of Mezesville Historic District) but is no longer present
1219 Arguello Street (052-252-020) (project site)	Office (former residential)	1908	Listed Redwood City Historic Landmark	Contributor	Yes
1227 Arguello Street (052-252-060) (project site)	Office (former residential)	1890	Listed Redwood City Historic Landmark	Contributor	Yes
2200 Broadway (052-367-010)	Former San Mateo County Courthouse	1910	Individually listed in National Register	No	Yes
627 Hamilton St. (052-344-140)	Residential	1863	Individually listed in National Register	No	Yes
210 Howland St. (052-254-010)	Residential	1870	Potential historical resource	No	Yes*
710 Winslow St. (052-361-030)	Residential	c. 1945	Individual property that is eligible for local listing	No	Yes

Source: Page & Turnbull 2021
* Indicates that while the resource is not formally evaluated, it is assumed to be an Historic Resources for the purposes of this analysis.

Assembly Bill 52

The City oversees consultation with Native American Tribes for this project. On November 18, 2021, the City sent certified notification letters to the following Tribes who have requested to be consulted on City projects under AB 52:

- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Costanoan Rumsen Carmel Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- The Ohlone Indian Tribe

The letters contained a description of the proposed project and project location, a map of the project area, an invitation to consult on the proposed project, and asked for responses within 30 days. The City has not received any responses or requests for AB 52 consultation related to the proposed project to date. Please refer to Section 3.9, Tribal Cultural Resources, for additional discussion related to tribal cultural resources.

3.3.2 Regulatory Setting

State

California Environmental Quality Act

Lead agencies (local governments with permit approval) are required by CEQA to carry out environmental impact analysis. Historical resources are considered part of the environment and are subject to review under CEQA. Historical resources are defined by CEQA Guidelines (CCR Title 14, Chapter 3, 15064.5) as follows:

1. A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in the CRHR (PRC 5024.1, Title 14 CCR, Section 4850 et seq.).
2. A resource included in a local register of historical resources, as defined in section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided that the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the California Register of Historical Resources.

California Register of Historic Resources

Under Section 21083.2 of CEQA, an important archaeological or historical resource is an object, artifact, structure, or site that is listed on or is eligible to be listed on the CRHR. Eligible resources are those that can be clearly shown to meet any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

2. Is associated with the lives of persons important in our past.

3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic value.

4. Has yielded or may be likely to yield information that is important in prehistory or history.

Automatic listings include properties that are listed on the NRHP. In addition, Points of Historical Interest nominated from January 1998 onward are to be jointly listed as Points of Historical Interest and in the CRHR. Resources listed in a local historical register or deemed significant in a historical resources survey, as provided under PRC Section 5024.1(g), are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates that they are not. A resource that is not listed on or determined to be ineligible for listing on the CRHR, not included in a local register of historical resources, or not deemed significant in a historical resources survey may nonetheless be historically significant, as determined by the lead agency (PRC Section 21084.1 and Section 21098.1).

California Health and Safety Code and Public Resources Code

Broad provisions for the protection of Native American cultural resources are contained in the HSC, Division 7, Part 2, Chapter 5 (Sections 8010 through 8030). Several provisions of the PRC also govern archaeological finds of human remains and associated objects. Procedures are detailed under PRC Section 5097.98 through 5097.996 for actions to be taken whenever Native American remains are discovered.

Section 7050.5 of the HSC states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the PRC. Any person removing human remains without authority of law or written permission of the person or persons having the right to control the remains under PRC Section 7100 has committed a public offense that is punishable by imprisonment. PRC Chapter 1.7, Section 5097.5/5097.9 (Stats. 1965, c. 1136, p. 2792), entitled Archaeological and Historical Sites, defines any unauthorized disturbance or removal of remains on public land as a misdemeanor.

Local

City of Redwood City General Plan

The Built Environment Element of the General Plan includes the following two Guiding Principles related to historic resources:

- Ensure that change harmonizes with existing development to preserve our historic and neighborhood character.

- Preserve and generate awareness of our cultural, educational, economic, recreational diversity, and historic heritage.

The following lists goals and policies from the City of Redwood City General Plan pertaining to cultural resources that are applicable to the proposed project.

Goal BE-37: Protect, preserve, restore, rehabilitate, and/or enhance historic resources.

- **Policy BE-37.1:** Enhance, restore, preserve, and protect, as appropriate, historic resources throughout the city.
- **Policy BE-37.2:** Preserve historic landmark structures, landscapes (including trees), trails, and sites that serve additional community needs, such as recreational open space and/or cultural needs.
- **Policy BE-37.3:** Encourage the retention and/or adaptive reuse of historic residential, commercial, and industrial buildings.
- **Policy BE-37.4:** Consider relocation of landmark structures to vacant sites within established landmark districts when no other alternative exists for their preservation, or if a particular structure is not protected by ordinance.
- **Policy BE-37.5:** Provide incentives, support, and guidance to the owners of designated historic landmark sites to preserve and rehabilitate structures.
- **Policy BE-37.6:** Allow only compatible, historically appropriate development on vacant parcels within or adjacent to designated historic areas, neighborhoods, and/or sites in compliance with the Secretary of the Interior's Standards.
- **Policy BE-37.7:** Strive for compatibility with existing historic resources when planning for infrastructure improvements, restorations, new construction, alterations, or similar projects in designated historic districts.
- **Policy BE-37.8:** Permit removal of non-contributing elements of structures in or adjacent to designated historic resources to allow replacement by compatible, historically appropriate structures.

Redwood City Historic Preservation Ordinance

The City adopted the Historic Preservation Ordinance (Chapter 40 of the City Municipal Code) in 1980. The Historic Preservation Ordinance is intended to safeguard the City's heritage by providing for the protection of historic landmarks, encourage public knowledge of the City's history, and foster a sense of identity in the community. The Historic Preservation Ordinance is also structured to identify historical resources at the early stages of projects and to resolve conflicts that arise between land uses and the preservation of historical resources. The Historic Preservation Ordinance requires that applications or projects affecting historic resources comply with applicable local, state, and federal laws. Under the Historic Preservation Ordinance, the City also maintains a list of individual historic landmarks, resources, and districts. The list is continually updated as new sites and landmarks are identified.

A property may be listed as a historic landmark or historic site if it meets one or more of the following criteria:

A. It exemplifies or reflects special elements of the City's cultural, aesthetic or architectural history; or

B. It is identified with persons or events significant in local, State or national history; or

C. It embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or

D. It is representative of the notable work of a builder, designer, or architect.

Section 40.8 of the Redwood City Municipal Code requires any alteration (demolished, construction, removal, relocation) of a designated historic landmark or which lies within a historic district to obtain prior written approval from the Commission before any construction activities can take place. Section 40.8 identifies that *"It is unlawful for any person to tear down, demolish, construct, alter, remove or relocate any improvement, or any portion thereof, which has been designated a historic landmark pursuant to the provisions of this Chapter, or which lies within a historic district, or to alter in any manger any exterior architectural feature of such a historic landmark or improvement within a historic district, or to place, erect, alter, or relocate any sign within a historic district or on a historic landmark or historic site, without first obtaining written approval to do so in the manner provided in this Chapter, nor shall the Building Official, Planning Director, or any other officer of the City grant any permit to carry out such work on a designated historic landmark or historic site or within a historic district, without the prior written approval of the Commission."*

Historic Resources Advisory Committee and Cultural Resources Management Plan

The City Council established the HRAC in 1980. In 1992, the HRAC attained National Park Service Certified Local Government (CLG) status, a program administered by the California OHP. The HRAC advises the City Council, Planning Commission, and Zoning Administrator on matters concerning historic resources and their preservation. The HRAC actively pursues historic preservation projects in the City, such as overseeing management of the City's Historic Resources Inventory, which is based on surveys initially conducted in 1976 and updated in 1996. The inventory has been updated since that time using the Department of Parks and Recreation forms (DPR 523 form series).

The HRAC also developed and oversees implementation of a Cultural Resources Management Plan that outlines the City's policies for the treatment of historic resources impacted by development projects in the City. The Cultural Resources Management Plan is applied to all historic sites which have a potential for the on-site discovery, reconnaissance, and identification of a cultural resource. The CLG program is a preservation partnership, jointly administered by the National Park Service and the OHPs in each state; in this case, the California OHP. The CLG program is focused on promoting historic preservation at the grass roots level. Local communities go through a certification process to become recognized as CLGs. The HRAC is responsible for maintaining the City's CLG status.

3.3.3 Environmental Impacts

This section analyzes the project's potential to result in significant cultural resources impacts. When an impact is determined to be significant, mitigation measures are identified that would reduce or avoid impacts.

Methodology for Analysis

The following impact analysis is based on the Historical Resources Evaluation and Impact Analysis Report prepared for the proposed project by Page & Turnbull, on November 4, 2021 and its Supplemental Memorandum prepared on November 3, 2022 (Appendix C).

Page & Turnbull prepared the report and memorandum using research collected at various local repositories, including the San Mateo County Assessor office, the City of Redwood City Community Development and Transportation Department, as well as various online sources including Ancestry.com, the California Digital Newspaper Collection, Newspapers.com, and Archive.org. Key primary sources consulted and cited in this report include Sanborn Fire Insurance Company maps, Redwood City building permit applications, city directories and census data, San Mateo County Office of the Assessor-Recorder records, historical photographs, historical newspapers, and historic periodicals including, Pacific Gas & Electric Company's Pacific Service Magazine. Page & Turnbull staff conducted site visits to 1111- 1227 Arguello Street in December 2019 and February 2021.

The survey methods employed in the Historical Resources Report as prepared by Page & Turnbull appear sound, effective, and adequate for the purposes of identifying and evaluating historical resources in the survey area.

The properties at 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street consist of two industrial properties developed from 1931 to 1980, and four properties that were originally developed for residential use between 1890 and circa 1921. Research of each property relied on previous documentation and additional archival research to understand each property's site development history, construction chronology, and history of ownership and occupancy. Each property's development was studied in context with the historic development of Redwood City, and in particular the Centennial neighborhood and Mezesville Historic District, within which 1203, 1209, 1219, and 1227 Arguello Street are located. Research did not find that any of the subject properties appear to be individually eligible for listing in the CRHR under any criteria. The buildings at 1219 and 1227 Arguello Street are each designated local Redwood City Historic Landmarks and, therefore, are each individual historical resources for the purposes of CEQA.

The parcel at 1209 Arguello Street is a vacant lot with surface parking and is a non-contributor within the Mezesville Historic District. The single-family residence at 1203 Arguello Street is not currently listed as an individual Redwood City Historic Landmark and does not appear to be individually eligible. The properties at 1203, 1219, and 1227 Arguello Street continue to have sufficient historic integrity as contributors to the Mezesville Historic District. The Mezesville Historic District is a historical resource for the purposes of CEQA. The properties at 1111 and 1125 Arguello Street are not historical resources for the purposes of CEQA.

The subsequent memorandum prepared for the proposed project's recycled waterline component by Page & Turnbull identified nine additional eligible or listed historical resources in the study area. The nine additional properties identified have at least one property frontage along the alignment of the proposed recycled waterline installation along Arguello Street and Marshall Street. These historical resources include one property that is located within the locally listed Mezesville Historic District (1200 Arguello Street which is also an individually listed local landmark); the National Register-listed former San Mateo

County Courthouse (also a local landmark); the National Register-listed Lathrop House (also a local landmark); and six identified eligible or potentially eligible historical resources. All but one of the identified historical resources in the study area appear to be wood-frame buildings. The exception is of the former San Mateo Courthouse building at 2200 Broadway, built in 1910. The former courthouse building is located at the center of a large through-block lot, and the historic masonry portion of the former San Mateo County Courthouse is located over 80 feet from the public right-of-way along Marshall Street.

Thresholds of Significance

The significance criteria used to identify cultural resources impacts is from Appendix G of the CEQA Guidelines (2022). The proposed project would cause a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;

The following issues were determined to have no impact or a less than significant impact during the NOP Scoping. These issues are summarized in Section 7.0, Effects Found Not to Be Significant, and are not discussed further in this section.

- Disturb any human remains, including those interred outside of formal cemeteries?

Project Impact Analysis and Mitigation Measures

Historical Resources

Impact CUL-1	**The proposed project would not cause a substantial adverse change in the significance of a historical resource as identified in Section 15064.5.**

Impact Analysis

Direct Impacts to Historical Resources

Individual Historical Resources

The HRE and supplemental memorandum prepared for the proposed project identified three historical resources within the project site: the single-family residence at 1203 Arguello Street, the office (former single-family residence) at 1219 Arguello Street, and the office (former single-family residence) at 1227 Arguello Street, all three of which are eligible contributors to the Mezesville Historic District (Page & Turnbull 2021). The proposed project site includes two types of historic resources: individual historical resources, 1219 and 1227 Arguello Street, and contributors to the Mezesville Historic District, 1203, 1219, and 1227 Arguello Street. As individual historical resources, there would be no direct impacts to 1219 and 1227 Arguello Street.

The proposed project is a mixed-use development project on the site, which includes six legal parcels: 1111 Arguello Street, 1125 Arguello Street, 1203 Arguello Street, 1209 Arguello Street (vacant lot), 1219 Arguello Street, and 1227 Arguello Street. The proposed project includes the adaptive reuse of 1219 and 1227 Arguello Street and the demolition of 1111, 1125, and 1203 Arguello Street (1209 is a vacant lot). In

place of 1203 and 1209 Arguello Street, the proposed project would construct a childcare facility that would abut 1219 Arguello Street.

The CEQA Guidelines state that the significance of a historical resource is materially impaired by demolition, which destroys a resource's ability to convey its significance. The only resource being demolished as part of the proposed project is the single-family residence at 1203 Arguello Street, which while a contributor to the Mezesville Historic District, is not an individually eligible historical resource. The proposed project includes the interior rehabilitation of the two individual historical resources at 1219 and 1227 Arguello Street, the addition of the proposed new abutting childcare building, and the proposed detached office and multi-family residential buildings.

Additionally, as outlined above under Section 3.3.1, an additional nine properties were reviewed as historical resource properties which have at least one property frontage along the alignment of the proposed recycled waterline. The installation of the off-site recycled waterline would entail excavation of a trench up to five feet wide and 15 feet deep using excavators and a bobcat loader. The required trench would be located entirely in the public right-of-way along Arguello Street and Marshall Street. Therefore, none of the excavation would occur within the property boundaries of any of the identified off-site historical resources. The recycled waterline would be below grade and covered such that there would be no substantial change to the character, alignment, or grade of the street that would impact the character of the neighborhood or overall historical development patterns. Therefore, the proposed off-site recycled waterline installation along Arguello Street and Marshall Street would not have a substantial adverse change in the significance of any adjacent historical resources, and the resources would retain their eligibility for listing on the respective local, state, and/or national register, including individual historic resources and the Mezesville Historic District.

Page & Turnbull completed the previous Proposed Project Impact Analysis and applied the *Secretary of the Interior's Standards for Rehabilitation* to the proposed project. In their analysis, the proposed project meets all ten of the criteria within the Standards. As the two individual historical resources at 1219 and 1227 Arguello Street would be maintained in their existing conditions, with no alterations made to the exterior of the buildings and all character-defining features retained, there would not be any direct impacts to the buildings from the proposed project. Therefore, the proposed project would not have an adverse impact on the two individual historical resources, and the impact would be less than significant.

Mezesville Historic District

The project site encompasses three buildings (four properties) within the Mezesville Historic District (1203, 1219, and 1227 Arguello Street), one of which would be demolished (1203 Arguello Street). The project site also includes 1209 Arguello Street, which is within the Mezesville Historic District but is currently undeveloped. The rest of the project site (1111 and 1125 Arguello Street) is outside the boundary of the historic district. Additionally, 1200 Arguello Street, which is located within the Mezesville Historic District, is located across Arguello Street from the project site and is located along the proposed recycled waterline. 1200 Arguello Street is not located within the project site and as such, no modifications or demolition to 1200 Arguello Street would occur and there would be no impact to 1200 Arguello Street. The Mezesville Historic District is comprised of single-family residences built between 1867 and 1946 for working class families in Redwood City. The Mezesville Historic District has 77 parcels, including 52 contributing properties and 25 non-contributing properties. The contributing

properties within the project site (1203, 1219 and 1227 Arguello Street) are on the edge of the historic district boundary and are currently adjacent to an industrial site and commercial properties. They are not at the heart of the district; therefore, the proposed demolition of 1203 Arguello Street would not disrupt any aspects of design in the Mezesville Historic District streetscape patterns or visual cohesiveness within the district. Additionally, 1203 is on the edge of the district, between the vacant lot at 1209 Arguello, and an industrial building.

The proposed project would include alteration to the existing Historic Landmark buildings at 1219 and 1227 Arguello Street to adaptively reuse the buildings for the proposed childcare facility. The Historic Landmark building located at 1219 Arguello Street would require the southern elevation building blown out to include the additional extension building that would enable the building to function together and properly for childcare. The proposed project would require approval under Section 40.8 of the Redwood City Municipal Code which requires any alteration of a designated historic landmark or which lies within a historic district to obtain prior written approval from the Commission before any construction activities take place. Obtaining approval under Redwood City Municipal Code Section 40.8 would ensure the adaptive reuse of the two Historic Landmark buildings would not result in significant impact.

While the property at 1203 Arguello Street is not individually eligible for listing on the CRHR and is not included on the list of Redwood City Historic Landmark, it is a historical resource for the purposes of CEQA based on its contributing status for the Mezesville Historic District. In 2021, Page & Turnbull determined, based on the location of the resource and the relative size/nature of the Mezesville Historic District, that the demolition of 1203 Arguello Street would have a less than significant impact on Mezesville Historic District, as it would not result in the loss of historic significance or integrity to the overall historic district.

Indirect Impacts to Historical Resources

The project site includes the properties at 1111 and 1125 Arguello Street that are outside the boundary of the Mezesville Historic District and are not historical resources. The properties at 1111 and 1125 Arguello Street are industrial buildings formerly used by PG&E and are now rented by an automobile towing business and property management business. The proposed project would demolish the buildings at 1111 and 1125 Arguello Street to construct new office and residential buildings on the site. This portion of the project site is located behind and adjacent to the contributing properties at 1219 and 1227 Arguello Street and directly past the boundary of the Mezesville Historic District. A landscaped open space area and driveway to access the underground parking garage below the new office buildings would separate 1219 and 1227 Arguello Street from the construction.

The proposed new office and residential buildings would be set back and sited in such a way that their scale and design would not affect the setting of the historic district or 1219 and 1227 Arguello Street, as contributors to the Mezesville Historic District and as individual historical resources. The new buildings would conform to the *Secretary of the Interior's Standards for the Treatment of Historic Properties.* Projects that conform to the standards are considered to not cause a significant impact under CEQA (United States Department of the Interior National Park Service Technical Preservation Services 2017). In addition, the proposed off-site recycled waterline installation along Arguello Street and Marshall Street will not have a substantial adverse change in the significance of any adjacent historical resources or historic

districts, and the resources will retain their eligibility for listing on the respective local, state, and/or national register.

The proposed project would not alter the use or features that characterize the adjacent historic properties. As such, the proposed project would not indirectly impact adjacent historic properties and impacts would be less than significant.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

Archaeological Resources

Impact CUL-2	**The proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.**

Impact Analysis
An archival record search and literature review were performed as part of the cultural resources assessment for the proposed project. No archaeological resources were identified within the project site. The proposed project is therefore not anticipated to have an impact on any known or potential archeological resources. However, the records search conducted for the proposed project identified one resource located within the APE and four additional resources located within 0.25-mile of the project area. Therefore, there is a possibility of undiscovered unique archaeological resources to exist on-site and subsurface construction activities associated with the proposed project could potentially damage or destroy previously undiscovered unique archaeological resources. Therefore, the proposed project would be required to implement Mitigation Measure CUL-1, which would require a worker awareness training for cultural resources, and Mitigation Measure CUL-2 in the event previously undiscovered subsurface unique archaeological resources are found at the project site. The implementation of Mitigation Measures CUL-1 and CUL-2 would be in accordance with the standard worker awareness training and inadvertent discovery procedures to reduce potential impacts to previously undiscovered subsurface unique archaeological resources. Therefore, with the implementation of Mitigation Measures CUL-1 and CUL-2, potential impacts to undiscovered archaeological resources would be less than significant.

Level of Significance Before Mitigation
Potentially Significant Impact.

Mitigation Measures

MM CUL-1: **Workers Awareness Training.** Prior to the start of any ground disturbing activities, a cultural resources awareness training shall be provided for all construction personnel involved in project implementation. The training shall be provided by a qualified cultural resources specialist. The training program shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations,

protocols for avoidance, and consequences of violating State laws and regulations. The worker cultural resources awareness program shall also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and shall outline what to do and whom to contact if any potential archaeological resources or artifacts are encountered. The program shall also underscore the requirement for confidentiality and culturally appropriate treatment for any find of significance to Native Americans and behaviors, consistent with Native American tribal values. A sign-in sheet shall be distributed to all participants of the training program and submitted to the City within two weeks of program completion.

MM CUL-2: **Cultural Materials Discovered During Construction.** If any cultural resource is encountered during ground disturbance or subsurface construction activities (e.g., trenching, grading), all construction activities within a 50-foot radius of the identified potential resource shall cease until a Secretary of the Interior-qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation 523 series forms. All forms and associated reports shall be submitted to the NWIC of the CHRIS. The archaeologist shall determine whether the resource requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the resource is determined to be eligible for listing on the CRHR as a unique archaeological resource as defined in PRC Section 15064.5, the archaeologist shall develop a plan for the treatment of the resource. The plan shall contain appropriate mitigation measures, including avoidance, preservation in place, data recovery excavation, or other appropriate measures outlined in PRC Section 21083.2.

Level of Significance After Mitigation
Less Than Significant Impact with Mitigation.

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3.4 GREENHOUSE GAS EMISSIONS

This section describes the impacts on greenhouse gas (GHG) emissions that would result from implementation of the proposed project. Included is a review of existing conditions, a summary of applicable policies and regulations related to GHG emissions, and analysis of environmental impacts of the proposed project. Where applicable, mitigation measures are included for significant impacts.

3.4.1 Environmental Setting

Greenhouse Gases

GHGs and climate change are cumulative global issues. CARB and the Cal EPA regulate GHG emissions within the State of California and the U.S., respectively. While the CARB has the primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emission reductions.

Many chemical compounds in the earth's atmosphere act as GHGs, as they absorb and emit radiation within the thermal infrared range. When radiation from the sun reaches the Earth's surface, some of it is reflected back into the atmosphere as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy from the sun to the Earth's surface should be approximately equal to the amount of energy radiated back into space, leaving the temperature of the earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide [CO_2], methane [CH_4], and nitrous oxide [N_2O]), while others are exclusively human-made (like gases used for aerosols).

The principal climate change gases resulting from human activity that enter and accumulate in the atmosphere are listed below:

- **Carbon Dioxide.** CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- **Methane.** CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills, raising livestock, natural gas and petroleum systems, stationary and mobile combustion, and wastewater treatment.
- **Nitrous Oxide.** N_2O is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste. N_2O emissions from motor vehicles generally occur directly from operation of vehicles.
- **Hydrofluorocarbons (HFC).** HFCs are one of several high global warming potential (GWP) gases that are not naturally occurring and are generated from industrial processes. HFC (refrigerant) emissions from vehicle air conditioning systems occur due to leakage, losses during recharging, or release from scrapping vehicles at end of their useful life.

- **Perfluorocarbons (PFC).** PFCs are another high GWP gas that are not naturally occurring and are generated in a variety of industrial processes.
- **Sulfur Hexafluoride (SF_6).** SF_6 is another high GWP gas that is not naturally occurring and is generated in a variety of industrial processes.

Sources of Greenhouse Gas Emissions

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. World-wide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions.

In 2019, GHG emissions within California totaled 418.1 million metric tons (MMT) of CO_2e. Within California, the transportation sector is the largest contributor, accounting for approximately 41 percent of the total statewide GHG emissions. Emissions associated with industrial uses are the second largest contributor, totaling roughly 24 percent. Electricity generation totaled roughly 14 percent. Residential, commercial, and agricultural/forestry made up the approximately 8 percent, 6 percent, and 8 percent of the remaining GHG emissions (CARB 2021).

Potential Environmental Impacts

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, increased air pollution episodes, and the consequence of these effects on the economy.

Within California, climate changes would likely alter the ecological characteristics of many ecosystems throughout the state. Such alterations would likely include increases in surface temperatures and changes in the form, timing, and intensity of precipitation. For instance, historical records are depicting an increasing trend toward earlier snowmelt in the Sierra Nevada. This snowpack is a principal supply of water for the state, providing roughly 50 percent of state's annual runoff. If this trend continues, some areas of the state may experience an increased danger of floods during the winter months and possible exhaustion of the snowpack during spring and summer months. An earlier snowmelt would also impact the state's energy resources. An early exhaustion of the Sierra snowpack may force electricity producers to switch to more costly or non-renewable forms of electricity generation during spring and summer months. A changing climate may also impact agricultural crop yields, coastal structures, and biodiversity. As a result, resultant changes in climate will likely have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry.

3.4.2 Regulatory Setting

State

In the absence of federal regulations, control of GHGs is generally regulated at the state level and is typically approached by setting emission reduction targets for existing sources of GHGs, setting policies to promote renewable energy and increase energy efficiency, and developing statewide action plans.

California has adopted statewide legislation addressing various aspects of climate change and GHG emissions mitigation. Much of this legislation establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. The governor has also issued several executive orders (EOs) related to the state's evolving climate change policy. Of particular importance are the following:

Assembly Bill 32

The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include CO_2, CH_4, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> *Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.*

CARB approved the 1990 GHG emissions level of 427 million metric tons of CO_2 equivalent ($MMTCO_2e$) on December 6, 2007 (CARB 2007). Therefore, to meet the state's target, emissions generated in California in 2020 were required to be equal to or less than 427 $MMTCO_2e$. In order to set a framework for the state to meet this target, CARB was tasked with creating a Scoping Plan (as described below). California announced in July 2018 that the state emitted 427 MMTCO2e in 2016 and achieved AB 32 goals.

Senate Bill 32

Senate Bill (SB) 32 was signed into law on September 8, 2016. SB 32 gives CARB the statutory responsibility to include the 2030 target previously contained in EO B-30-15 in the 2017 Scoping Plan Update. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030."

Climate Change Scoping Plan

In December 2008, CARB approved the AB 32 Scoping Plan outlining the state's strategy to achieve the 2020 GHG emissions limit. The Scoping Plan estimates a reduction of 174 $MMTCO_2e$ (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and high climate-change-potential sectors, and proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health. The Scoping Plan must be updated every 5 years to evaluate the implementation of AB 32 policies to ensure that California is on track to achieve the 2020 GHG reduction goal. The First Update to the Climate Change Scoping Plan was approved by the CARB on May 22, 2014. In 2016, the State Legislature passed SB 32, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the State Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, the CARB approved the Second Update to the Climate Change Scoping Plan, the 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target (CARB 2017). The 2017 Scoping Plan identified key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. Through a combination of data synthesis and modeling, CARB determined that the target statewide 2030 emissions limit is 260 $MMTCO_2e$, and that further commitments will need to be made to achieve an additional reduction of 50 $MMTCO_2e$ beyond current policies and programs. Key elements of the 2017 Update include a proposed 20 percent reduction in GHG emissions from refineries and an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal.

Assembly Bill 398

The Governor signed AB 398 on July 25, 2017, to extend the Cap-and-Trade Program to 2030. The legislation includes provisions to ensure that offsets used by sources are limited to 4 percent of their compliance obligation from 2021 to 2025 and 6 percent of their compliance obligation from 2026 through 2030. AB 398 also prevents air districts from adopting or implementing emission reduction rules from stationary sources that are also subject to the Cap-and-Trade Program (CARB 2017).

Senate Bill 375: The Sustainable Communities and Climate Protection Act of 2008

SB 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits more than 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

CARB has prepared the Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets that includes regional targets for each Metropolitan Planning Organization (MPO) for 2020 and 2035 to achieve significant additional GHG reductions from changed land use patterns and improved transportation. The Metropolitan Transportation Commissions and the Association of Bay Area

Governments (MTC/ABAG), the MPO for the Bay Area, received a target of reduction transportation GHG emissions by 10 percent for 2020 and by 19 percent for 2035 (CARB 2022).

Senate Bill 1368: Emission Performance Standards

In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant.

Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the state. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds of CO_2 per megawatt-hour (MWh).

Senate Bill 1078: Renewable Electricity Standards

On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed EO S-14-08, which established an RPS target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger signed EO S-21-09, which directed CARB to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23. In 2011, the State Legislature adopted this higher standard in SB X1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The State Legislature approved and the governor then signed SB 350 on October 7, 2015, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations.

Senate Bill 100: California Renewables Portfolio Standard Program.

The Governor approved SB 100 on September 10, 2018. The legislation revised the RPS goals to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. The bill would require that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so

that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030.

Executive Order S-3-05

On June 1, 2005, former California Governor Arnold Schwarzenegger announced EO S-3-05, which announced the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that would stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an EO, the goals are not legally enforceable for local governments or the private sector.

Executive Order B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's EO aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris in late 2015. The EO sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure that California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The EO also requires the state's climate adaptation plan to be updated every 3 years and for the state to continue its climate change research program, among other provisions. As with EO S-3-05, this EO is not legally enforceable against local governments and the private sector. Legislation that would update AB 32 to provide post-2020 targets was signed by the Governor in 2016. SB 32 includes a 2030 mandate matching the requirements of the EO.

Executive Order S-01-07: Low Carbon Fuel Standard

The governor signed EO S 01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the EO established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to CARB for consideration as an "early action" item under AB 32. CARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The LCFS was subject to legal challenge in 2011. Ultimately, CARB was required to bring a new LCFS regulation for consideration in February 2015. The proposed LCFS regulation was required to contain

revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The Office of Administrative Law approved the regulation on November 16, 2015. The regulation was last amended in 2018.

Executive Order S-13-08

EO S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the EO, the 2009 California Climate Adaptation Strategy was adopted, which is the "… first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-55-18

EO B-55-18 issued by Governor Brown on September 10, 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and to achieve and maintain net negative emissions thereafter. The EO directs CARB to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal.

California Energy Code

Compliance with the California Energy Code (Title 24, Part 6, of the CCR, California's Energy Efficiency Standards) and Title 20, Public Utilities and Energy, standards must occur for all new buildings constructed in California. These efficiency standards apply to new construction of both residential and nonresidential (i.e., maintenance buildings and pump station buildings associated with the Program) buildings, and they regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit processes, and local government agencies may adopt and enforce energy standards for new buildings provided that these standards meet or exceed those provided in the Title 24 guidelines.

Local

City of Redwood City General Plan

The Redwood City General Plan contains the following goals and policies related to GHGs that are applicable to the proposed project:

Goal PS-5: Mitigate against and adapt to climate change.

- **Policy PS-5.2:** Strive to reduce per capita greenhouse gas emissions and total municipal greenhouse gas emissions to 15 percent below 2005 levels by 2020.
- **Policy PS-5.3:** Reduce greenhouse gas emissions and adapt to climate change with efforts in the following areas. Major mitigation and adaptation strategies will include:

Energy: Incentivize renewable energy installation, facilitate green technology and business, and reduce community-wide energy consumption.

Land Use: Encourage investment and development in Downtown, transit-oriented development, compact development, infill development, and a mix of uses. Discourage development on land vulnerable to flooding from sea level rise where potential impacts cannot be adequately addressed.

Transportation: Enhance bicycling and walking infrastructure, and support public transit, including Caltrain, rapid rail, streetcars, and public bus service.

Buildings: Educate developers regarding the City's Green Building Ordinance, and develop an assessment of green building techniques as a formal stage of City design review. Consider strategies to encourage energy and water conservation retrofits in existing buildings. Adaptation strategies will also include increased water efficiency in buildings.

Waste: Increase composting, recycling, and efforts to reduce waste generation, focusing especially on large commercial and industrial waste producers.

Ecology: Plant trees and more vegetation, and endeavor to preserve open space. Major climate adaptation strategies will include native and drought-resistant planting and preservation of open space buffers near floodplains that may be affected by seal level rise.

Redwood City 2030 Climate Action Plan

The Redwood City 2030 Climate Action Plan (CAP) was adopted on November 16, 2020, and presents goals to reduce local GHG emissions; meet state, regional, and local reduction targets; and streamline future environmental review of projects with the City by following CEQA Guidelines and meeting the BAAQMD expectations for a qualified GHG reduction strategy. The CAP is consistent with State CEQA Guidelines, Section 151835.a, which states:

> *Lead agencies may analyze and mitigate the significant impacts of greenhouse gas emissions at a programmatic level, such as in a general plan, a long-range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review.*

The CAP serves as a qualified greenhouse gas reduction plans and includes all the elements required under State CEQA Guideline, Section 151835.b including quantification of GHG emissions, an established reduction level, identification of GHGs resulting from actions within the area, an identified group of measures to be implemented on a project-by-project basis, a mechanism to monitor the plan's progress, and has been adopted following public review.

The CAP goes beyond the reductions called for in SB 32 and commits to a 50 percent reduction in GHG emissions below 2005 levels by 2030. These reductions will frame the City's path to achieving the statewide target of carbon neutrality before 2045. The following goals and GHG reduction strategies from the CAP that are relevant to the proposed project are included in Table 3.4-3 under the impact analysis below (City of Redwood City 2020).

3.4.3 Environmental Impacts

This section discusses how GHG thresholds were determined, BAAQMD's project-specific thresholds, and the methodology and approach taken to conduct the analysis. Additionally, this section analyzes the project's potential to result in significant greenhouse gas impacts. When an impact is determined to be significant, mitigation measures are identified that would reduce or avoid impacts.

Methodology for Analysis

The proposed project would result in both short- and long-term emissions of GHGs. Construction emissions would be generated from the exhaust of equipment, the exhaust of construction hauling trips, and worker commuter trips. Long-term, operational GHG emissions would result from vehicular traffic, on-site combustion of natural gas, operation of any landscaping equipment, off-site generation of electrical power over the life of the project, the energy required to convey water to and wastewater from the project site, the emissions associated with the hauling and disposal of solid waste from the project site, and any fugitive refrigerants from air conditioning or refrigerators.

Construction and operational emissions were estimated using the CalEEMod (version 2020.4.0). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The model was developed in collaboration with the air districts in California. Default data (emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is an accurate and comprehensive tool for quantifying air quality impacts from land use projects throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as CEQA documents. For the proposed project, site-specific grading calculations, equipment vehicle use, and construction schedule were developed in consultation with the City. Information used in the emission modeling is documented in Section 2.0, Project Description, and Appendix B. The CalEEMod model used regulatory compliance reductions for certain existing regulatory requirements that are termed "mitigation" within the model, the mitigated output from CalEEMod is used; however, those modeling components are not considered mitigation under CEQA, but rather are treated as part of the baseline conditions.

GHG emissions from operation are disclosed under Impact GHG-1, however, consistent with BAAQMD recommended thresholds, project significance is based on compliance with the City of Redwood's 2030 CAP and CARB's 2017 Scoping Plan.

Thresholds of Significance

CEQA Guidelines

The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potentially significant environmental effects of proposed activities;
- Identify ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

CEQA Guidelines define a significant effect on the environment as, "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

In accordance with the CEQA Guidelines' Appendix G Environmental Checklist, the following questions were analyzed and evaluated to determine whether impacts to greenhouse gas emissions are significant:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Addressing GHG generation impacts requires an agency to make a determination as to what constitutes a significant impact. The amendments to the CEQA Guidelines specifically allow lead agencies to determine thresholds of significance that illustrate the extent of an impact and are a basis from which to apply mitigation measures. This means that each agency is left to determine whether a project's GHG emissions will have a significant impact on the environment. The guidelines direct that agencies are to use "careful judgment" and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" the project's GHG emissions (14 CCR Section 15064.4[a]).

Thresholds

In April 2022, the BAAQMD approved qualitative GHG thresholds for individual land use projects to achieve California's long-term climate goal of carbon neutrality by 2045. BAAQMD determined that projects can either demonstrate a less than significant impacts by meeting threshold A or threshold B, as described below:

Threshold A. Projects must include, at a minimum, the following project design elements:

1. Buildings

a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).

b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

2. Transportation

a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:

i. Residential projects: 15 percent below the existing VMT per capita

ii. Office projects: 15 percent below the existing VMT per employee

iii. Retail projects: no net increase in existing VMT

b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

Threshold B. Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

As discussed above, the City of Redwood City has a CAP that evaluates the City's GHG emissions into 2030 and 2045. Project significance was determined under BAAQMD's Threshold B by demonstrating compliance with Redwood City's CAP. Moreover, GHG emissions were disclosed for informational purposes. GHG emissions were calculated using the California Emissions Estimator Model, version 2020.4.0 (CalEEMod 2020.4.0).

Project Impact Analysis and Mitigation Measures

Generation of Greenhouse Gases

Impact GHG-1	**The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.**

Impact Analysis

Constructions Emission Inventory

The proposed project would emit GHG emissions during construction from the off-road equipment, worker vehicles, and any hauling that may occur. As previously indicated, BAAQMD does not presently provide a construction-related GHG generation threshold but recommends that construction-generated GHGs be quantified and disclosed. Therefore, construction emissions are provided for informational purposes only.

Construction emissions would be generated from the exhaust of equipment, the exhaust of construction hauling trips, and worker commuter trips. The construction phases include site preparation, site demolition, site grading, paving, building construction, and architectural coating. Some air districts (Sacramento Air Quality Management District, South Coast Air Quality Management District, and San Luis Obispo County Air Pollution Control District) recommend amortizing construction emissions over the life of the project. Commercial projects are typically amortized over a 30- to 40-year lifespan. To provide a conservative estimate, the 30-year period was used.

Metric tons of CO_2 equivalent ($MTCO_2e$) emissions during construction of the proposed project are shown in Table 3.4-1.

Table 3.4-1. Construction Greenhouse Gas Emissions (Unmitigated)

Construction Year	$MTCO_2e$
Building Construction	
2022	390
2023	3,450
2024	789
2025	29
Subtotal	*4,658*
Recycled Waterline Construction	
2024[1]	46
2025	357
Subtotal	*403*
Total	**5,061**
Amortized over 30 years	**169**

Notes:
$MTCO_2e$ = metric tons of CO_2 equivalent
[1] Grubbing/land clearing phase would occur in 2024. Grading/excavation, drainage/utilities/subgrade, and paving phases would occur within 2025.
Source: CalEEMod Output (Appendix B), unmitigated emissions.

The amortized construction emissions are expected to be 169 $MTCO_2e$ per year.

Operational Emission Inventory

Long-term operational GHG emissions would result from proposed project-generated vehicular traffic, on-site combustion of natural gas, operation of any landscaping equipment, off-site generation of electrical power over the life of the project, the energy required to convey water to and wastewater from the project site, the emissions associated with the hauling and disposal of solid waste from the project site, and any fugitive refrigerants from air conditioning or refrigerators.

Annual operational GHG emissions were determined by modelling the proposed project emissions. As shown in Table 3.4-2, the project's annual emissions are approximately 2,339 MTCO2e/year. The proposed project is anticipated to generate 89 residents, 1,350 office employees, and 16 childcare employees. With a service population (SP) of 1,455 people, the proposed project would generate approximately 1.62 metric tons of CO_2 equivalent per service population per year ($MTCO_2e$/SP/year).

Table 3.4-2. Operational Greenhouse Gas Emissions

Source Category	$MTCO_2e$
Area	1
Energy Consumption	833
Mobile (Vehicle)	1,083
Solid Waste Generation	151
Water Usage	116
Total Operational Emissions	2,184
Annualized Construction Emissions	169
Total Project Emissions	**2,353**
Service Population	1,455 residents and employees
Per Service Population Emissions	**1.62 $MTCO_2e$/SP/year**

Notes:
a. Includes CalEEMod "mitigation" for locational features, compliance with regulatory measure
b. Construction emissions annualized over an anticipated 30-year project lifespan.
$MTCO_2e$ = metric tons of CO2 equivalent
Source: CalEEMod Output (Appendix B)

As shown in Table 3.4-2, the project's per service population emission would be approximately 1.62 MTCO2e/SP/year. The quantification of GHG emissions is provided for information purposes while significance is based on the project's consistency with plans to meet the state reduction goals set in SB 32; these plans include the City of Redwood 2030 CAP and CARB's 2017 Scoping Plan. See Impact GHG-2.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

Conflict with an Applicable Plan, Policy, or Regulation

Impact GHG-2 **The proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.**

Impact Analysis

The proposed project would have a significant impact with respect to GHG emissions and global climate change if it substantially conflicts with the provisions of Section 15064.4(b) of the CEQA Guidelines. Pursuant to Appendix G of the *CEQA Guidelines*, a significant GHG impact is identified if the project could conflict with applicable GHG reduction plans, policies, or regulations. In order to demonstrate consistency with applicable plans, policies, and regulations, the proposed project was compared to the City's 2030 CAP and CARB's 2017 Scoping Plan.

Redwood City 2030 Climate Action Plan

The City adopted their latest CAP in 2020, which was developed to reduce local GHG emissions; meet state, regional, and local reduction targets; and streamline future environmental review and meet SB 32 state GHG reduction requirements. Table 3.4-3 identifies the Redwood City 2030 CAP policies that are applicable to the proposed project.

Table 3.4-3. Redwood City 2030 Climate Action Plan Consistency Analysis

Number	Measure	Description	Project Consistency
EC-5	Commercial Energy Efficiency Program	Promote participation in commercial energy efficiency programs and demand response programs offered by SMC Energy Watch and PG&E – including PG&E's appliance rebates, 0% energy efficiency financing and demand response programs. Encourage commercial energy audits.	**Consistent.** The proposed project's commercial element would participate in the following energy efficiency programs: LEED Gold and WELL Standards, and Peninsula Clean Energy's Reach Code.
EC-6	Residential Energy Efficiency Programs	Promote participation in residential energy efficiency programs, including BayREN's Home Upgrade program and PG&E's efficient appliance rebates. Encourage residential energy audits.	**Consistent.** The proposed office buildings are targeting LEED Gold and WELL Certification, and Peninsula Clean Energy's Reach Code. The proposed residential building is targeting to meet the Green-Point System.
EC-8	Commercial Energy Conservation Program	Establish a voluntary commercial energy conservation program, encouraging minimum energy efficiency and water efficiency standards at the time of building sale. Transition to mandatory comprehensive energy assessments and reporting by registered energy assessors.	**Consistent.** This policy is aimed at the city-level to establish an energy conservation program. However, the proposed project is volunteering to target LEED Gold and WELL Certification, and Peninsula Clean Energy's Reach Code in the office buildings.

Number	Measure	Description	Project Consistency
EC-9	Residential Energy Conservation Program	Establish a voluntary residential energy conservation program, encouraging minimum energy efficiency and water efficiency standards at the time of building sale. Transition to mandatory comprehensive energy assessments and reporting by registered energy assessors.	**Consistent.** This policy is aimed at the city-level to establish an energy conservation program. However, the proposed project is volunteering to target a Green Point Rating in its residential building.
EC-10	Green Building Policy: All Electric	Updated building code to require proposed new building to be all-electric, as specified (adopted September 21, 2020).	**Consistent.** The proposed project's office buildings and residential building would comply with the City's green building measures and sustainability goals, including 100 percent electric.
EC-11	Electric Panel Upgrade Incentives	Leverage incentives provided by Peninsula Clean Energy to assist residents in upgrading electric panels in order to accommodate all-electric technologies including solar photovoltaic, battery storage, air source heat pumps, heat pump water heaters, electric dryers, electric stoves and electric vehicles.	**Consistent.** The proposed project's office buildings and residential building would comply with the City's green building measures and sustainability goals, including 100 percent electric.
EW-1	Water Conservation Programs	Promote Bay area Water Supply and Conservation Agency residential water conservation rebate programs for items including high efficiency washing machines and toilets, rain barrels, sprinkler nozzles, irrigation controls and Lawn Be Gone (drought tolerant landscapes).	**Consistent.** The proposed project would include the installation of low flow plumbing features, includes toilets, faucets, and showerheads. The site would also include the construction of a recycled waterline which would reduce potable water use on the site.
EW-2	Water Efficient Landscape Ordinance	Enforce existing Water Efficient Landscape Ordinance.	**Consistent.** The proposed project would include drought tolerant plants as part of the landscaping of the office and residential buildings.
TM-3	Commuter Alternatives Program: Municipal	Continue commute alternatives program including pre-tax commuter benefits, transit subsidies, and carpool program	**Consistent.** The project site is in proximity to Downtown Redwood City and is within 0.5-mile from Redwood City Caltrain Station and the Redwood City Transit Center on El Camino Real and James Avenue. The project site is also two blocks from the nearest SamTrans bus stop. The office and residential buildings would provide long-term and short-term bicycle parking spaces.

Number	Measure	Description	Project Consistency
TL-1	Smart Growth Development Policy	Continue smart growth policy that prioritizes infill, higher density, transportation-oriented and mixed-use development. Continue focusing new growth in Priority Development Areas (Downtown and transit corridors), encourage orderly, new, high density mixed-use infill growth with a jobs/housing balance, and consider precise plans for transit corridors to implement the goals and policies of the Built Environment Element of the Redwood City General Plan.	**Consistent.** The project site is within the El Camino Real Priority Development Area, and within a Transit Priority Area as it is within 0.5-mile of the Redwood City Caltrain Station. The proposed project would redevelop an infill site to provide affordable housing and new jobs near transit.
TL-2	Walkable/Bikeable Streets	Modify landscape to make walking and biking more desirable. Integrate the Citywide Transportation Plan and Green infrastructure Plan projects to form a network throughout the City that prioritizes connected active transportation and a healthy ecology. Develop a Vision Zero Strategic Plan per the Citywide Transportation Plan.	**Consistent.** The project site lies adjacent to an existing bicycle lane along Arguello Street and Whipple Avenue. Both the office buildings and residential building would provide long-term and short-term bicycle parking spaces.
TL-4	Parking Policies Promoting Public Transit, Biking, and Walking	Continue parking policies such as metered parking, reduced parking requirements for new development, and “unbundling” sales/leases of parking space to increase public transit use, biking, and walking	**Consistent.** The office buildings would provide 748 parking spaces, which is less than the zoning code requirement. A Planned Development Permit has been requested to allow for the proposed parking reduction.
TL-7	Local Farmer’s Markets Promotion	Encourage community farmer’s markets with locally-grown food and community garden to reduce associated VMT.	**Consistent.** The proposed project includes landscaped garden beds that would provide outdoor gathering and gardening opportunities for the neighborhood.
TL-9	Expand Electric Vehicle Charging Infrastructure	Leverage partnerships and incentives to expand electric vehicle charging infrastructure in public properties, multi-unit dwellings and workplaces	**Consistent.** The proposed project would provide 62 electric charging station spaces (60 for the office buildings and 2 for the residential building).
WC-1	Increase Waste Diversion Rate	Achieve 90% waste diversion rate through promotion of traditional and new recycling and organics recycling programs, local enforcement of requirements, and sustainable vendors policy for public events.	**Consistent.** The proposed project would comply with all waste diversion measures for construction and would be serviced by a waste provider that would be required to meet city and state diversion goals.

Notes:
CalGreen = California Green Building Standards
GHG = greenhouse gas
PG&E = Pacific Gas and Electric

California Climate Change Scoping Plan

CARB issued the Final 2017 Scoping Plan Update in November 2017 and establishes emissions reduction strategies necessary to meet SB 32's 2030 reduction goals. Table 3.4-4 identifies the 2017 Scoping Plan policies that are applicable to the proposed project.

Table 3.4-4. SB 32 Scoping Plan Consistency Analysis

Measure Name	Measure Description	Consistency Determination
SB 350 50% Renewable Mandate.	Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	**Consistent.** The proposed project will purchase electricity from a utility subject to the SB 350 Renewable Mandate. In addition, the proposed project would be required to adhere to the latest Title 24 and CalGreen building standards for non-residential buildings.
Low Carbon Fuel Standard	This measure requires fuel providers to meet an 18% reduction in carbon content by 2030.	**Consistent.** Vehicles accessing the proposed project site would use fuel containing lower carbon content as the fuel standard is implemented.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario)	Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	**Consistent.** Future employees and residents can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year and the proposed project would include 62 electric charging vehicle spaces.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy	The strategy requires the reduction of SLCPs by 40% from 2013 levels by 2030 and the reduction of black carbon by 50% from 2013 levels by 2030.	**Consistent.** SLCPs include HFCs, black carbon, and methane. Black carbon is created from the burning of fuels such as coal, diesel, and biomass. The proposed office and residential buildings would be 100% electric and generate very few diesel truck trips and would not contribute to black carbon pollution. HFCs are a group of industrial chemicals primarily used for air conditioning and refrigeration. CARB has already banned a series of HFCs including those used for residential refrigeration. The proposed project would comply with all applicable regulations.
SB 375 Sustainable Communities Strategies	Requires Regional Transportation Plans to include a sustainable communities' strategy for reduction of per capita vehicle miles traveled.	**Consistent.** The proposed project is located in a Transit Priority Area The project site is in proximity to Downtown Redwood City and is within 0.5-mile from Redwood City Caltrain Station and the Redwood City Transit Center on El Camino Real and James Avenue. The project site is also two blocks from the nearest SamTrans bus stop. Therefore, placing jobs and housing in close proximity to transit would reduce per capita VMT.

Measure Name	Measure Description	Consistency Determination
Post-2020 Cap-and-Trade Program	The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Consistent.** The Post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.

Source: CARB 2017

The proposed project would be consistent with applicable GHG reduction plans and would further the state's goals of reducing GHG emissions to 40 percent below 1990 levels by 2030 as well as the City's goal of reaching carbon neutrality by 2045.

In addition to the Plan level consistency analysis presented in Tables 3.4-3 and 3.4-4, the proposed project would be subject to Title 24 energy efficiency standards. Energy-efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The proposed project would comply with the CalGreen Code, which includes requirements to increase recycling, reduce waste, reduce water use, increase bicycle use, and other measures that would reduce GHG emissions. Motor vehicle emissions associated with the proposed project would be reduced through compliance with State regulations on fuel efficiency and fuel carbon content. The proposed project would not conflict with the City's CAP, the regional plan, or regulations adopted by the State of California to reduce GHG emissions; therefore, impacts would be less than significant.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

3.5 LAND USE AND PLANNING

This section describes the environmental and regulatory setting for land use and planning. It also describes existing conditions and potential impacts related to land use and planning that would result from implementation of the proposed project, and mitigation for potentially significant impacts, where feasible.

3.5.1 Environmental Setting

Regional Setting

As described in the City's General Plan EIR (Resolution No. 15060), the plan area comprises approximately 38 square miles within a diverse physical setting, with flat lands near the Bayfront area; hills in the western portion of the City; and the San Francisco Bay, stream corridors, and tidal marshes in the northern and eastern portions. The City's planning area mostly includes office, commercial, and residential uses to the south and west of U.S. 101, while open space and industrial uses are located north of U.S. 101 or in the southwestern foothill areas. The City consists of a variety of densities, which includes a conventional Downtown with retail, restaurant, office, and civic uses; active industrial areas including research and development and heavy industrial uses associated with the Port of Redwood City; open space areas; and civic areas including County offices, parks, schools, and community centers (City of Redwood City 2010b).

The General Plan identifies the project site within the City's Downtown and Downtown adjacent areas, which includes a mix of commercial, office, industrial, and public and quasi-public uses. (City of Redwood City 2010b). A portion of the project site is also located within the Mezesville Historic District which was listed as a Local Historic District by the City Council in 2006. The Mezesville Historic District contains a mix of early 20th and mid-century homes that are one- or two-story, wood-frame buildings in a variety of architectural styles (City of Redwood City 2010a).

Project Site Setting

The project site is approximately 3.5 acres and bounded by Whipple Avenue to the north, Arguello Street to the east, and the Caltrain tracks to the west. The project site is located on six contiguous parcels that are currently developed with seven structures for commercial, industrial, and residential uses with overhead powerlines.

The seven existing structures total approximately 28,201 square feet and are one to two stories tall. Specifically, the 1111 and 1125 Arguello Street parcels are developed with commercial/industrial uses; the 1203 Arguello Street parcel contains a vacant residential building with garage; the 1219 and 1227 Arguello Street parcels were originally developed as residences but have been converted for office use; and 1209 Arguello Street is currently a vacant lot used for parking. The existing structures located at 1203 Arguello Street and 1219 Arguello Street are currently vacant. The existing structures at 1125 Arguello Street are also vacant; however, the yard space is currently rented by an automobile towing business. The existing Historic Landmark building located at 1227 Arguello Street is also currently rented by a property management business.

The project site is located within the El Camino Real Priority Development Area (Figure 3-1). Priority Development Areas are locally designated areas within existing communities that have been identified and approved by local cities or counties for future growth. These areas are typically accessible to transit, jobs, shopping, and other services. Additionally, the project site is located within a transit priority area as it is located within 0.5-mile from the Redwood City Caltrain Station and the Redwood City Transit Center located at El Camino Real and James Avenue. The nearest SamTrans bus stop is also located at El Camino Real and Whipple Avenue, approximately 0.2-mile northwest of the project site (Figure 2-2). The Caltrain tracks are located west of the project site with a Caltrain track crossing located east of the intersection of Whipple Avenue and El Camino Real.

Surrounding Land Uses

The project site is bounded by Whipple Avenue to the north, Arguello Street to the east, and the Caltrain tracks to the west. As shown in Figure 2-3, lands surrounding the project site are zoned and designated by the General Plan for mixed-use and residential development. The area north of the project site is developed with multiple single-story commercial buildings. Across Arguello Street, the area is primarily developed with single-family and multi-family residential buildings that are one to three stories tall. The areas to the south and west are primarily developed with car dealerships and commercial buildings that are one to two stories tall.

General Plan Land Use Designation

The City's General Plan designates the project site as MUT (Figure 2-3). The City's General Plan defines the MUT designation as a creative mix of residential, industrial, and commercial uses. This land use designation is represented by its transition from lower density residential or light industrial to higher density mixed-use or more commercial, industrial, or urban areas. The transitional category represents a mixture of uses that are moderate in scale. Live/work uses are encouraged and typically include artist lofts, studio spaces, small offices, and similar low intensity uses. Creative industrial workspace areas are also permitted, provided that activities limit or confine noise, dust, and vibration impacts. Adaptive reuse of existing structures is also encouraged (City of Redwood City 2010a).

Zoning

The project site is also zoned MUT. The purpose of the MUT Zoning District is to:

- Reflect the transitional nature of the area from lower density residential or light industrial to higher density mixed-use or more commercial, industrial, or urban areas.
- Promote a mix of low-to-moderate scaled buildings.
- Allow light industrial and residential areas to transition into a diverse mix of workplaces and residences while retaining viable light industrial uses.
- Permit stand-alone commercial or industrial workspace areas, provided that activities limit or confine noise, dust, and vibration impacts, are low impact in nature, and are compatible with any nearby existing or allowed residential uses.

- Allow existing single family and duplex dwelling units to remain and expand residential density in keeping with the transitional nature of the area.

Office spaces exceeding 10,000 square feet in the MUT Zoning District are allowed conditionally, and the proposed project would be required to obtain a Use Permit, in addition to other land use entitlements. The MUT Zoning District does not require a minimum lot size.

3.5.2 Regulatory Setting

State

General Plans

The land use planning and zoning authority of local jurisdictions in California is set forth in the state's planning laws. California Government Code Section 65300, et seq. obliges cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning. The general plan addresses a broad range of topics including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period. Although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow flexibility in the approach taken to achieve the plan's goals.

State Zoning Law

The State Zoning Law (California Government Code Section 65800, et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with the general plan and any applicable specific plans. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in the general plan would also be allowable by the zoning ordinance (Government Code Section 65860, sub.[c]).

Subdivision Map Act

The State of California Subdivision Map Act's (Government Code 66410-66499.58) purpose is to regulate and control design and improvement of subdivisions with proper consideration for their relation to adjoining areas; require subdividers to install streets and other improvements; prevent fraud and exploitation; and protect both the public and purchasers of subdivided lands. Regulation and control of the design and improvement of subdivision are vested in the legislative bodies of local agencies and each local agency shall, by ordinance, regulate and control the initial design and improvement of common interest developments as defined in Section 4100 or 6534 of the Civil Code and subdivisions for which this division requires a tentative and final or parcel map.

Regional

Plan Bay Area 2050

The MTC and ABAG's Plan Bay Area 2050 is the Bay Area's Regional Transportation Plan (RTP)/Sustainable Community Strategy (SCS). Plan Bay Area 2050 was adopted jointly by the MTC and ABAG on October 21, 2021 and is a regional long-range plan for housing, economic development, transportation and environmental resilience and charts the course for the future of the San Francisco Bay Area. Plan Bay Area 2050 sets a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB. An overarching goal of Plan Bay Area is to concentrate development in Priority Development Areas where there are existing services and infrastructure rather than allocate new growth to outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle, VMT, and associated GHG emissions reductions.

The project site is located within the El Camino Real Priority Development Area, which has been identified by the City as an area to concentrate future growth, including affordable housing, high-density mixed-use development, and employment centers that are in proximity to transit and accessible to existing city services and infrastructure.

Local

Redwood City General Plan

The Redwood City General Plan provides a blueprint for growth within the City limits and sphere of influence. The City Council adopted the most recent General Plan on October 11, 2010. The General Plan contains five topical elements: the built environment, housing, building community, public safety, and natural resources. Each element establishes goals and policies to guide future land use activities and development within the General Plan boundaries. The General Plan also establishes land use designations for each parcel to guide development.

Redwood City Municipal and Zoning Code

The Redwood City Zoning Code consists of a zoning map that delineates the boundaries of zoning designations within the City and regulations that govern the use of land and placement of buildings and improvements within the various classes of districts. The purpose of the Zoning Code is to protect the health, safety, peace, morals, comfort, convenience, and general welfare of the people of Redwood City, and to serve as an instrument for the effectuation of the General Plan. Article 3 Designation of Districts of the Zoning Code describes where specific allowed uses, such as multifamily dwellings, emergency shelter, day center, or transitional living space, may be located. Article 55.3 of the City's Zoning Code describes the development standards for the MUT District.

Chapter 30 of the Redwood City Municipal Code was enacted to provide for the regulation and control of the design and improvement of subdivisions in the City. The provisions identified under Chapter 30 are intended to ensure that subdivisions in the City will comply and be consistent with the spirit and intent of the Subdivision Map Act. Chapter 30 of the Redwood City Municipal Code is also intended to facilitate implementation of the planned development provisions of the Redwood City Zoning Ordinance. It is the

policy of the City to require preparation of maps for all divisions of land or redivisions of land as required by the Subdivision Map Act.

San Carlos Airport Land Use Plan

The San Carlos Airport Land Use Compatibility Plan (ALUCP), which is a chapter in the San Mateo County ALUCP, establishes airport noise and land use compatibility standards for development in the airport vicinity of San Carlos Airport and its takeoff and approach zones. San Carlos Airport is located within the neighboring city of San Carlos and is owned and operated by the County of San Mateo. The City/County Association of Governments of San Mateo County (C/CAG) Board of Directors serves as the State-mandated airport land use commission for the county. The Board established the C/CAG Airport Land Use Committee (ALUC) to review proposed land use policy actions and related development in jurisdictions surrounding the three airports in the county, including the San Carlos facility. The ALUC makes recommendations to the C/CAG Board regarding the consistency of proposed land use policy actions and related development with relevant airport/land use compatibility policies and criteria within defined Airport Influence Area (AIA) boundaries for each airport. The City of Redwood City is a member of the ALUC and the C/CAG Board.

The adopted AIA boundary for San Carlos Airport consists of two parts: Area A and Area B. Area A defines a geographic area that is subject to real estate disclosures of potential airport/aircraft impacts. Area B defines an area within which, in addition to the real estate disclosure provisions, affected jurisdictions must refer their proposed land use policy actions (including General Plan land use amendments) to the ALUC and to the C/CAG Board for a formal airport/land use compatibility review (C/CAG 2015). The project site is located within Area B as identified in the General Plan EIR Figure 4.7-2 (City of Redwood City 2010b) (Figure 3-2) and a consistency review of the project by the C/CAG Board is required for the project.

The proposed project is located within Zone 6 – Traffic Pattern Zone of the San Carlos Airport Safety Zones (Figure 3-3). Zone 6 does not have any residential density restrictions or nonresidential intensity limit. New residential development within this zone is compatible and is not restricted for safety reasons. Though no limit is placed on the intensity of new, nonresidential uses within Safety Zone 6, exceptions to these criteria would be considered on a case-by-case basis by the C/CAG Board when reviewing development proposals or during mandatory reviews that entail large indoor or outdoor assembly facilities (C/CAG 2015). Commercial day care centers are conditionally compatible in Zone 6. The project site is not located within any noise compatibility zone for the San Carlos Airport.

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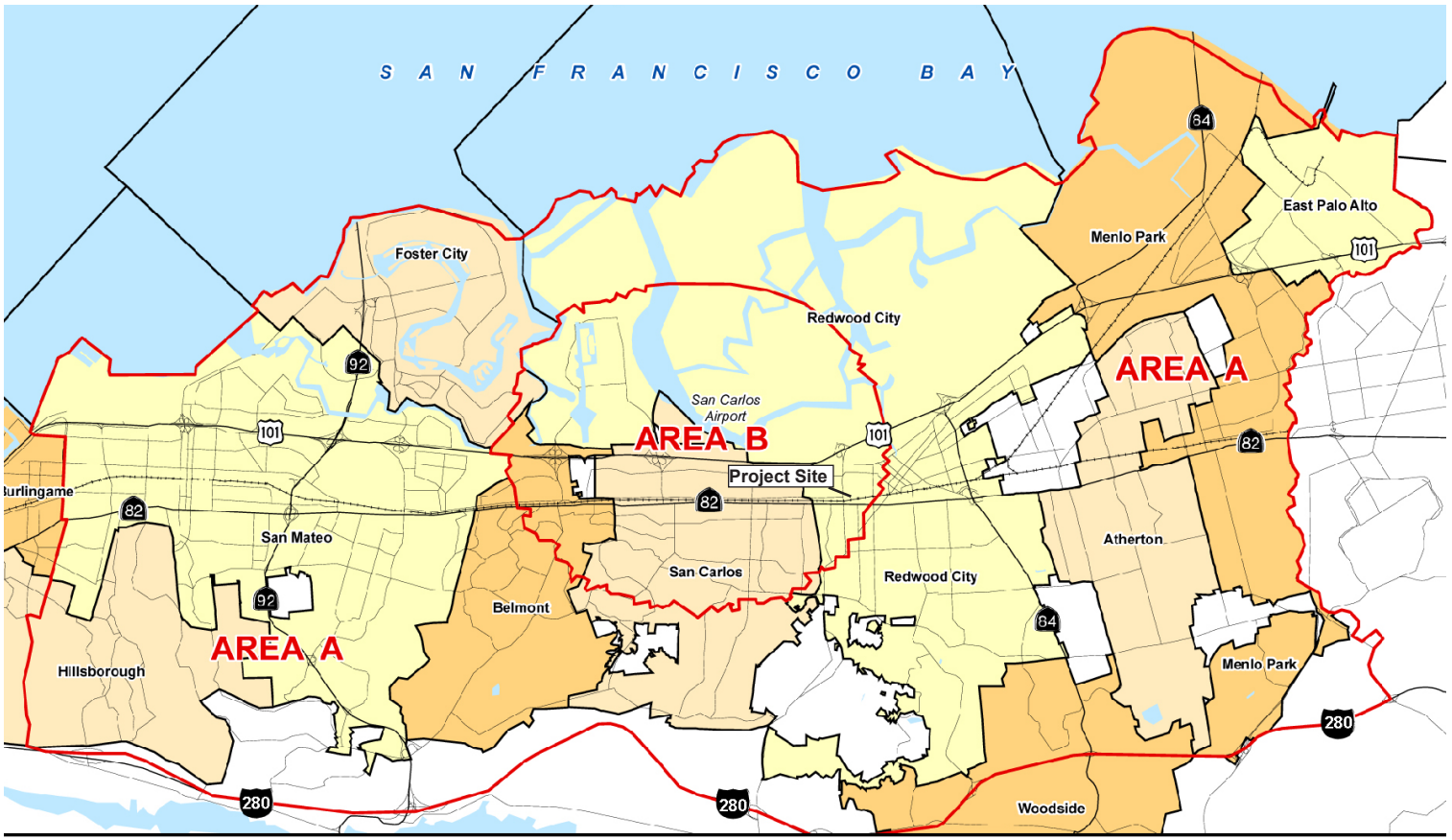

Source: Redwood City Draft Public Safety Element, 2009

Legend

City Boundary *

* City fill color varies from yellow to orange

Airport Influence Area (AIA)

Area A: Proposed Revised Airport Influence Area (AIA) Boundary (real estate disclosure only)

Area B: Proposed CCAG/ALUC Review Area Boundary (real estate disclosure and formal CCAG/ALUC) review

Not To Scale

Source: DLR Group June 2022

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
3-2

Title
San Carlos Airport Influence Area Zones

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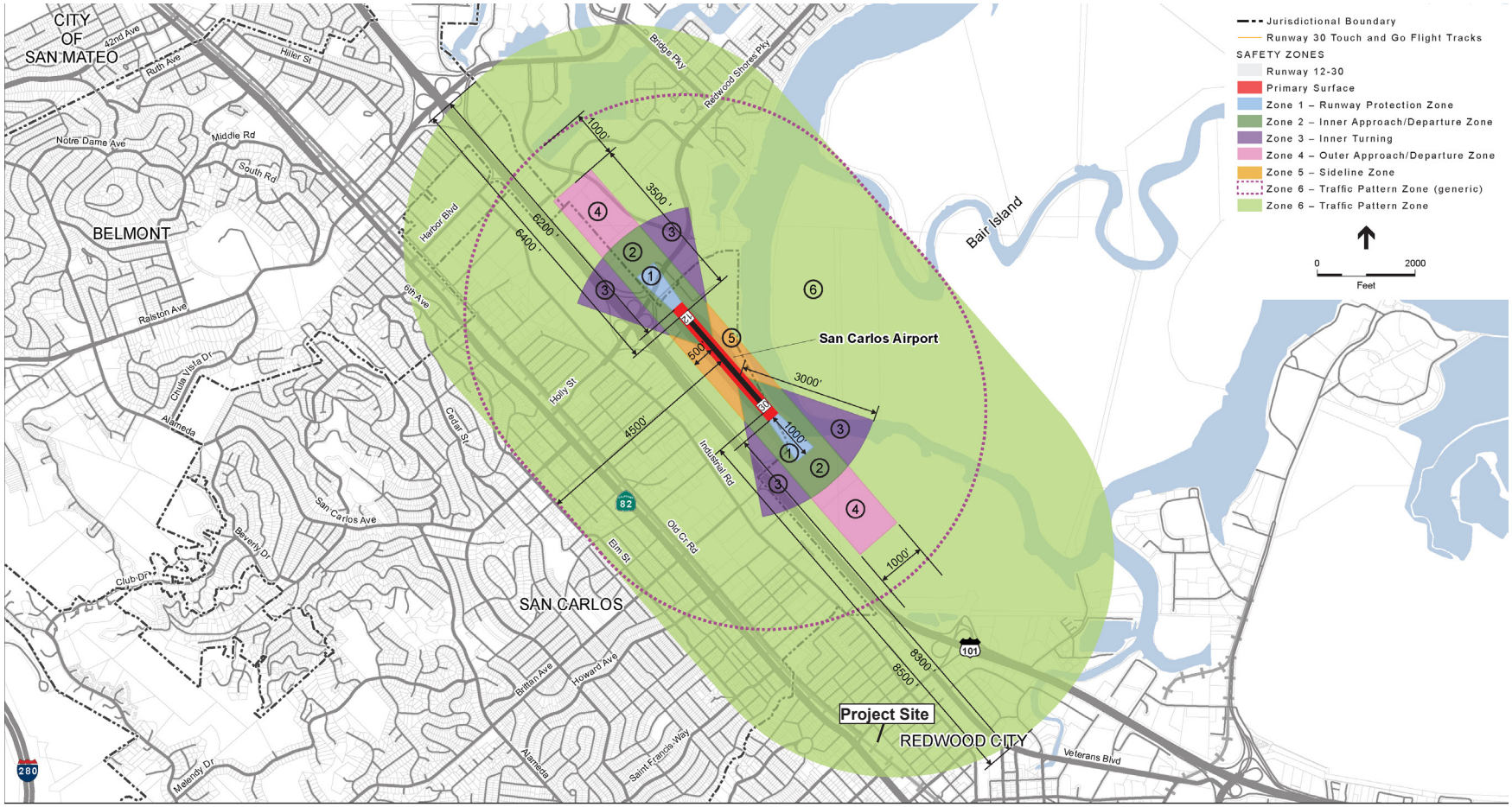

Source: DLR Group June 2022

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
3-3

Title
San Carlos Airport ALUCP Safety Zones

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3.5.3 Environmental Impacts

This section analyzes the project's potential to result in significant land use and planning impacts. When an impact is determined to be significant, mitigation measures are identified that would reduce or avoid impacts.

Methodology for Analysis

The analysis of potential land use impacts considers the project's consistency with adopted plans and policies that regulate land use on the project site, and the project's compatibility with surrounding land uses. The determination of consistency with applicable land use policies and ordinances is based upon a review of the previously identified planning documents that regulate land use or guide land use decisions pertaining to the project site. CEQA Guidelines section 15125(d) requires that an EIR discuss inconsistencies with applicable plans that the decision-makers should address. Evaluations are made to determine whether a project is consistent with such plans. Projects are considered consistent with regulatory plans if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. The intent of the consistency evaluation is to determine if noncompliance with regulatory plans would result in a significant impact. The impact analysis was based on a review of the City's General Plan to identify planned land uses and policies applicable to the project. Existing land uses were determined from site reconnaissance and General Plan designations. The City's zoning regulations were also reviewed to determine the project's consistency with existing zoning.

Thresholds of Significance

In accordance with the CEQA Guidelines' Appendix G Environmental Checklist, the following questions were analyzed and evaluated to determine whether impacts to land use and planning are significant:

- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The following issues were determined to have no impact or a less than significant impact during the Initial Study and NOP Scoping process. These issues are summarized in Section 7.0, Effects Found Not to Be Significant, and are not discussed further in this section.

- Would it physically divide an established community?

Project Impact Analysis and Mitigation Measures

Conflict with Plans, Policies, or Regulations

Impact LU-1 **The proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**

Impact Analysis

General Plan Consistency Analysis

The proposed project is consistent with the MUT land use designation. A detailed analysis of the proposed project's consistency with applicable General Plan policies and goals is provided in Table 3.5-1 below. The General Plan Consistency Analysis table is provided to identity whether the proposed project would create an inconsistency with the General Plan. The analysis provided in Table 3.5-1 demonstrated that the proposed project would be consistent with applicable General Plan policies and goals.

Table 3.5-1. General Plan Consistency Analysis

Policy	Consistency Analysis
Built Environment Element	
BE-1.4: Require that buildings and properties be designed to ensure compatibility within and provide interfaces between neighborhoods, corridors, and centers.	**Consistent.** The mixed-use nature of the proposed project would be compatible with the surrounding commercial and residential uses. The proposed project would create open spaces for the proposed office buildings and provide setbacks on upper floors, as well as the ground floor to create a pedestrian scale. The setbacks would allow for the project to create a more integrated edge between the office buildings and the adjacent neighborhood by way of street trees, landscaped garden beds, and the adaptive reuse of the existing Historic Landmark buildings at 1219 and 1227 Arguello Street for the proposed childcare facility. The proposed residential building would be oriented toward Arguello Street. The second floor of the residential building would be articulated to provide private open space for residents. The upper floors of the residential building would be oriented to align with the planes of the adjacent office buildings.
BE-1.5: Require that new and renovated buildings be designed to avoid styles, colors, and materials that negatively impact the environment or the design character of the neighborhood, corridor, and center in which they are located.	**Consistent.** As discussed in Section 2.1.14, Aesthetics and Design, the architectural style of the proposed buildings would consist of modern materials such as mass timber, glass, and concrete. The proposed materials would be subject to review and approval from the City as part of design review to ensure that the new buildings and the renovation of the existing Historic Landmark buildings for the childcare facility would not negatively impact the neighborhood. Any renovations required for the adaptive reuse of the two Historic Landmark buildings and construction of the proposed extension building would be designed to conform to the style of the Historic Landmark buildings. Historic materials would be preserved, and repair and replacement materials would use matching finishes if the existing materials were deteriorated beyond repair.

Policy	Consistency Analysis
	Furthermore, the project site plan would include landscaping to visually "soften" the comparative newness and prominence of the proposed buildings compared to the lower-scaled development on surrounding parcels.
BE-1.6: Require that new large-scale projects are developed with an interconnected pattern of small blocks to induce walking and create walkable neighborhoods and to maximize connections between neighborhoods. If a new large-scale development project is able to achieve circulation interconnectedness for all modes and maximize walkability, then the small block pattern may not be required.	**Consistent.** The project frontage on Whipple Avenue and Arguello Street would be improved with new/widened sidewalk, American with Disabilities Act-compliant ramps at corners, and crosswalks. In addition, the plazas at the office buildings would be accessible to the public.
BE-1.7: Require that new large-scale projects consist of buildings primarily oriented to public streets, rather than private drives, walkways, and parking lots.	**Consistent.** The proposed office buildings, residential building, and childcare facility would be oriented toward Arguello Street.
BE-1.8: Require that new projects are integrated as seamlessly as possible into surrounding development, creating extensions of the urban fabric.	**Consistent.** See discussion for Policies BE-1.4 through BE-1.6.
BE-2.1: Create complete neighborhoods by integrating schools, parks, childcare centers, community centers, infrastructure, green spaces and parks, and other public amenities into each neighborhood.	**Consistent.** The proposed project is a mixed-use development, and integrates office, residential, and childcare uses at the project site.
BE-2.5: Protect neighborhoods from the encroachment of incompatible activities or land uses that may have a negative impact on the residential living environment.	**Consistent.** The proposed project is consistent with the MUT General Plan land use designation and MUT Zoning District, and would build a mixed-use development that is compatible with the adjacent residential and commercial uses.
BE-2.7: Effectively integrate single-unit and multi-unit housing with local-serving convenience and neighborhood shopping centers, parks and recreation opportunities, childcare, and other uses appropriate for a neighborhood.	**Consistent.** The proposed project includes a mixed-use development consisting of office, residential, and childcare uses.
BE-3.1: Provide high-quality public streetscapes in all neighborhoods, particularly in locations where new investment in historic property renovation and infill development are desired.	**Consistent.** Development of the proposed childcare facility would reuse the buildings located at 1219 and 1227 Arguello Street that are designated City Historic Landmarks. The project design would include trees and other landscape elements. A final landscape plan would be submitted for City's review and approval in conjunction with the architectural review.
BE-3.2: Encourage new development to create direct and clear visual relationships between residences and public streets, while minimizing driveways, parking areas, and garage doors in front of yard spaces.	**Consistent.** The proposed project would orient the residential, office, and childcare facility buildings toward Arguello Street. The parking for the two office buildings would be belowground and would not be visible from public roads.
BE-3.3: Require new development to provide engaging, well-landscaped outdoor spaces that invite and support outdoor activities for residents, especially areas viewed or accessible by the public.	**Consistent.** The proposed project would develop public and private open spaces at the residential and office buildings consisting of balconies, terraces, and open plazas. The two open plazas located at the entrances of the office buildings would be surrounded by street trees and landscaped garden beds to provide an inviting view of the new development.
BE-17.3: Encourage and facilitate the establishment of child-care facilities in proximity to large employment	**Consistent.** The proposed project would include a childcare facility within 0.5-mile from the Redwood City

Policy	Consistency Analysis
areas such as Downtown, south Broadway, Redwood Shores, the Kaiser and Sequoia Hospital areas, and near high-density residential areas and transit nodes.	Caltrain Station and the Redwood City Transit Center located at El Camino Real and James Avenue.
BE-22.1: Strive for consistency between the General Plan and the Zoning Ordinance and other local regulatory documents that implement General Plan policies.	**Consistent.** The proposed project is consistent with the existing MUT land use designation and MUT Zoning District. A Use Permit is required for development of the proposed office buildings, and a Planned Development Permit is needed to reduce the amount of parking for the office buildings. However, this is not inconsistent with the City's land use regulations.
BE-23.1: Accommodate a range of land uses to meet the economic, environmental, and social needs of Redwood City.	**Consistent.** The proposed project is a mixed-use development and consists of residential, office, and childcare uses.
BE-23.6: Accommodate mixed-use projects pursuant to the Land Use Map and any implementing regulations.	**Consistent.** See discussion for Policy BE-23.1.
BE-23.7: Promote higher residential densities at locations near or within commercial, financial, and compatible employment centers, and also transportation corridors where neighborhood services are available.	**Consistent.** The project site is near the City's Downtown. Implementation of the proposed project would replace auto-oriented uses and surface parking with a mixed-use project near transit.
BE-26.6: Require new development projects to provide pedestrian, bicycle, and electric bicycle/scooter facilities that connect to existing and planned pedestrian and bicycle facilities; and require large parking facilities to accommodate pedestrian, bicycle, and electric bicycle/scooter circulation.	**Consistent.** The proposed project would include clean air vehicle/carpool spaces, electric charging station spaces, motorcycle parking spaces, and bicycle parking spaces.
BE-27.5: Require that new development of projects improve access to and accommodations for public transit.	**Consistent.** See discussion for Policy BE-17.3.
BE-37.2: Encourage the retention and/or adaptive reuse of historic residential, commercial, and industrial buildings.	**Consistent.** Development of the proposed childcare facility involves the adaptive reuse of the existing buildings at 1219 and 1227 Arguello Street that are designated City Historic Landmark buildings.
BE-44.2: Continue to require the placement of utilities underground with new development.	**Consistent.** The proposed project would underground the overhead utility lines along the property frontages on Arguello Street and Whipple Avenue, up to the next pole located off the property frontage.
Building Community	
BC-1.1: Require parkland dedications and/or provision of on-site usable public space for significant development projects involving new residential construction.	**Consistent.** The proposed residential building would provide approximately 2,979 square feet of private open space and the proposed office buildings would provide 27,950 square feet of public open space. However, since the open space provided would not consist of useable active recreational open space like a park, the proposed project would be required to pay the City's Parks Impact Fee to meet the City's parkland standard of 3.0 acres of developed parkland per 1,000 residents.
Public Safety Element	
PS-1.5: Require projects that generate potentially significant levels of air pollutants to incorporate the most effective air quality mitigation into project design, as feasible.	**Consistent.** The proposed project would be a mixed-use development near transit and is expected to result in reduced auto dependency. As discussed in Section 3.2, Air Quality, the proposed project would implement Mitigation Measures AIR-1 and AIR-2 to minimize air

Policy	Consistency Analysis
	pollutants from construction and operation of the proposed project. Implementation of Mitigation Measures AIR-1 and AIR-2 identified would ensure significant levels of air pollutants would not be generated.
PS-2.6: Require all land uses proposed within 500 feet of U.S. 101, El Camino Real, and Woodside Road that will house, accommodate, or serve sensitive receptors to incorporate appropriate design and construction features (e.g., filters on HVAC systems) that reduce potential exposure of persons to pollutants.	**Consistent.** The project site is within 500 feet of El Camino Real. As discussed in Section 3.2, Air Quality, the proposed project would not expose sensitive receptors or persons to substantial pollutant concentrations with the implementation of Mitigation Measures AIR-1 and AIR-2
PS-13.6: Require all exterior noise sources (construction operations, air compressors, pumps, fans, and leaf blowers) to use available noise suppressions devices and techniques to bring exterior noise down to acceptable levels that are compatible with adjacent land uses.	**Consistent.** As discussed in Section 3.6, Noise, the proposed project would implement Mitigation Measures NOI-2 and NOI-3 to reduce construction related noise and vibration impacts to a less than significant level. The noise analysis also determined that operational exterior noise sources would not be significant and would not be above unacceptable levels.
PS-13.7: Require that mixed-use structures be designed to account for noise from adjacent uses and minimize transfer of noise and vibrations from commercial/retail to residential uses.	**Consistent.** The proposed office and residential buildings are separated by an access road. Moreover, the residential buildings would be oriented at an angle from the office. As discussed in Section 3.6, Noise, the proposed project would minimize transfer of noise and vibrations from commercial and residential uses with the implementation of Mitigation Measure NOI-1. This mitigation measure would require the use of standard construction with a window system achieving a minimum Outside-Inside Transmission Class (OITC) rating of 23 to achieve the California Building Code interior noise requirement for residential units. The use of window systems with a OITC 23 rating would minimize transfer of noise and vibrations from commercial and residential uses.
PS-13.8: Implement all standard construction noise controls for all construction projects.	**Consistent.** The proposed project would incorporate City's Conditions of Approval (COAs) and Standard Development Requirements (SDRs) as they apply to the project. Additionally, the proposed project would implement Mitigation Measures NOI-2 and NOI-3 to reduce construction noise and vibration and ensure compliance with all standard construction noise controls.
PS-14.4: Require development that is, or will be, affected by railroad noise and/or vibrations to include appropriate measures to minimize adverse noise effects on residents and business persons.	**Consistent.** The proposed project would be located in proximity to the Caltrain tracks. The proposed childcare facility would be well-shieled from the Caltrain tracks by the proposed north office building and would achieve CalGreen requirements with incorporation of standard construction measures. Additionally, the proposed residential building would be constructed with window systems with a OITC 23 rating which would ensure interior noise levels from adjacent Caltrain tracks would be within acceptable levels. Vibration impacts from the adjacent Caltrain tracks was determined to be significant to the office buildings that have a façade facing the Caltrain tracks. The analysis contained in Section 3.6, Noise, of this EIR determined that implementation of Mitigation Measures NOI-1 and NOI-

Policy	Consistency Analysis
	4 would minimize adverse noise and vibration effects from adjacent railroad tracks.
Natural Resources Element	
NR-3.1: Require new development to demonstrate that adequate water is available before project approval and to fund its fair-share costs associated with the provision of water service.	**Consistent.** The WSA prepared for the proposed project determined that there would be adequate water supplies available to serve the proposed project and other users with the use of recycled water. Recycled water service is not currently available in the vicinity of the project site and therefore, the proposed project is required to extend the City's recycled water service to the vicinity of the project site. The proposed project includes the construction of approximately 3,862 linear feet of recycled waterline which would ensure that the proposed project would be able to utilize recycled water and adequate water supplies is available to serve the proposed project. .
NR-7.2: Encourage the use of site and landscape designs that minimize surface runoff and retain or detain stormwater runoff, minimizing volume and pollutant concentrations.	**Consistent.** The project site is almost entirely covered with impervious surfaces under existing conditions. The proposed project would result in an increase in pervious areas that would allow increased opportunities for groundwater recharge. Furthermore, the proposed project would include on-site detention and treatment measures that would capture and treat stormwater before entering the City's storm drain system.

Redwood City Zoning Code Consistency

The project site is zoned MUT consistent with the General Plan Land Use designation and would not be rezoned. The proposed project is required to obtain a Use Permit as office spaces exceeding 10,000 square feet are allowed conditionally in the MUT Zoning District. The proposed project also requires a Tentative Parcel Map, Architectural Permit, Condominium Permit, Planned Development Permit, Historic Resources approval per Section 40.8 of the Redwood City Municipal Code, an Affordable Housing Plan, and Community Benefits request.

The proposed project is seeking a height concession under the City's Community Benefits Program in exchange for providing a 4,132 square foot childcare facility serving 30 children and new for-sale, on-site affordable housing with 33 multi-family units. The MUT Zoning District allows increased height and density in exchange for the provision of community benefits as part of the project. The MUT Zoning District development standards allow residential, mixed-use, and commercial buildings to have a maximum height of 40 feet. Through the Community Benefits Program, residential, mixed-use, and commercial buildings may be increased to a maximum height of 60 feet. The proposed project is requesting to allow the proposed office buildings to be four stories and 60 feet in height, and the residential building to be four stories and 46 feet in height.

Additionally, the proposed project qualifies for certain requests pursuant to the State Density Bonus Law. The Applicant is requesting concessions of reduced parking and open space requirements and a waiver for upper story setback and personal storage requirements. The City's Zoning Code requires two parking spaces per unit for two-bedroom units or larger, and one space for every four units for guest parking. For

a 33 unit building with units that are all two-bedroom units or larger, 75 parking spaces are required. The Applicant is requesting a parking reduction for the residential building in the amount of one parking space per unit for a total of 33 parking spaces. The City's Zoning Code requires 125 square feet of open space per unit and the residential building is requesting an open space reduction to allow the residential building to provide an average of 90 square feet per unit (70 square foot minimum) of private open space consisting of balconies that are less than 125 square feet per unit. Additionally, the City's Zoning Code has upper story setback requirements that require buildings to not intercept a 45-degree daylight plane inclined inward from 15 feet above existing grade at the property line of the parcel that is adjacent to the property line of an adjacent property containing public open space or a historic resource. The proposed project is requesting a waiver from this upper story setback requirements for the residential units facing Arguello Street. The City's Zoning Code also requires 80 cubic feet of personal storage for each residential unit. The Applicant is requesting a waiver from this requirement and would not provide any personal storage space.

The proposed project would require these approvals to not conflict with the City's plans, policies, and regulations. Additionally, the proposed project would require design review and an Architectural Permit as required by Article 45 of the City's Zoning Code to ensure that the proposed buildings are compatible with the surrounding land uses. With these approvals, the proposed project would not conflict with the general plan land use designation or zoning, and impacts would be less than significant.

San Carlos Airport Land Use Plan

The proposed project is located within Zone 6 – Traffic Pattern Zone of the San Carlos Airport Safety Zones (C/CAG 2015). Zone 6 does not have any residential density restrictions or nonresidential intensity limit. Commercial daycare centers are conditionally compatible in Zone 6 and would be required to comply with all relevant criteria applied to Safety Zone 6 (C/CAG 2015). Additionally, the development proposal would require consistency review by the C/CAG Board. The project site is not located within any noise compatibility zone for the San Carlos Airport. The proposed project would not conflict with the San Carlos ALUCP as Safety Zone 6 does not place any restrictions on building heights or density/intensities. The San Carlos ALUCP outlines certain project types that should be submitted to C/CAG for advisory review of development proposals. The C/CAG encourages local governments to submit development proposals located within Area B of the AIA to the ALUC for advisory review for development proposals of commercial or mixed use development of more than 100,000 square feet of gross building area. The project site is located within Area B and consists of a mixed-use development of more than 100,000 square feet of gross building area. Therefore, the proposed project would be submitted to the ALUC for advisory review to ensure development would not conflict with the San Carlos ALUCP, and the impact would be less than significant.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

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3.6 NOISE

This section describes the environmental and regulatory setting for noise and vibration. It also describes existing conditions and potential impacts related to noise that would result from the implementation of the proposed project, and mitigation for potentially significant impacts, where feasible. Descriptions and analysis in this section are based on noise modeling performed by Stantec. The noise modeling output is included in this Draft EIR as Appendix D.

3.6.1 Environmental Setting

Noise Fundamentals and Terminology

Noise is generally defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is mechanical energy transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level (SPL) is the most common descriptor used to characterize the loudness of an existing sound level.

Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The perceived loudness of sound is dependent upon many factors, including sound pressure level and frequency content. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called A-weighting, written as dB(A) and referred to as A-weighted decibels. There is a strong correlation between A-weighted sound levels and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. Table 3.6-1 summarizes typical A-weighted sound levels for different common noise sources.

Table 3.6-1. Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level (dB(A))	Common Indoor Activities
	-110-	Rock band
Jet flyover at 1,000 Feet		
	-100-	
Gas lawnmower at 3 Feet		
	-90-	
Diesel truck at 50 Feet at 50 MPH		Food blender at 3 Feet
Noisy urban area, daytime	-80-	Garbage Disposal at 3 Feet
Gas lawnmower, 100 Feet		
Commercial area	-70-	Vacuum Cleaner at 10 Feet
Heavy traffic at 300 Feet		Normal Speech at 3 Feet
	-60-	
Quiet urban daytime		Large business office
	-50-	Dishwasher in next room
Quiet urban nighttime		
Quiet suburban nighttime	-40-	Theater, large conference room (Background)
	-30-	
Quiet rural nighttime		Library
	-20-	Bedroom at night, concert hall (Background)
	-10-	
		Broadcast/recording studio
	-0-	

Source: Caltrans 2013

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (Leq), the minimum and maximum sound levels (Lmin and Lmax), percentile-exceeded sound levels (such as L10, L20), the day-night sound level (Ldn), and the community noise equivalent level (CNEL). Ldn and CNEL values often differ by less than 1 dB. As a matter of practice, Ldn and CNEL values are considered to be equivalent and are treated as such in this assessment. Table 3.6-2 defines sound measurements and other terminology used in this report.

Table 3.6-2. Definition of Sound Measurements

Sound Measurements	Definition
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-Weighted Decibel (dB(A))	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
Maximum Sound Level (Lmax)	The maximum sound level measured during the measurement period.

Sound Measurements	Definition
Minimum Sound Level (Lmin)	The minimum sound level measured during the measurement period.
Equivalent Sound Level (Leq)	The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.
Percentile-Exceeded Sound Level (Lxx)	The sound level exceeded xx % of a specific time period. L10 is the sound level exceeded 10% of the time. L90 is the sound level exceeded 90% of the time. L90 is often considered to be representative of the background noise level in a given area.
Day-Night Level (Ldn)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 PM to 10:00 PM and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM.
Peak Particle Velocity (Peak Velocity or PPV)	A measurement of ground vibration defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. PPV is usually expressed in inches/second.
Frequency: Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.

Source: FHWA 2006

With respect to how humans perceive and react to changes in noise levels, a 1 dB(A) increase is imperceptible, a 3 dB(A) increase is barely perceptible, a 5 dB(A) increase is clearly noticeable, and a 10 dB(A) increase is subjectively perceived as approximately twice as loud. These subjective reactions to changes in noise levels were developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broadband noise and to changes in levels of a given noise source. These statistical indicators are thought to be most applicable to noise levels in the range of 50 to 70 dB(A), as this is the usual range of voice and interior noise levels. Numbers of agencies and municipalities have developed or adopted noise level standards, consistent with these and other similar studies to help prevent annoyance and to protect against the degradation of the existing noise environment.

For a point source such as a stationary compressor or construction equipment, sound attenuates based on geometry at a rate of 6 dB per doubling of distance. For a line source such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance. Atmospheric conditions including wind, temperature gradients, and humidity can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a slightly greater rate than sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1–2 dB per doubling of distance. Barriers, such as buildings and topography that block the line of sight between a source and receiver, also increase the attenuation of sound over distance.

Decibel Addition

Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. On the dB scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, their combined sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one source produces a sound pressure level of 70 dB(A), two identical sources would combine to produce 73 dB(A). The cumulative sound level of any number of sources can be determined using decibel addition.

Vibration Standards

Vibration is like noise such that it involves a source, a transmission path, and a receiver. While related to noise, vibration differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system that is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocity in inches per second (in/sec PPV). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of in/sec PPV.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.6-3 notes the general threshold at which human annoyance could occur is 0.1 PPV for continuous/frequent sources. Table 3.6-4 indicates the threshold for damage to typical residential and commercial structures ranges from 0.3 to 0.5 PPV for continuous/frequent sources.

Table 3.6-3. Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Sources
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.90	0.10
Severe	2.0	0.40

Notes:
Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seal equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans 2020

Table 3.6-4. Guideline Vibration Damage Potential Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.30	0.12
Historic and some old buildings	0.50	0.20
Older residential structure	0.70	0.30
New residential structures	1.2	0.50
Modern industrial/commercial buildings	2.0	0.50

Notes:
Transient sources again create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seal equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans 2020

The operation of heavy construction equipment, particularly pile driving, and other impact devices, such as pavement breakers, create seismic waves that radiate along the surface of the ground and downward into the earth. These surface waves can be felt as ground vibration. Vibration from the operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance. Perceptible groundborne vibration is generally limited to areas within a few hundred feet of construction activities.

Table 7-4, Vibration Source Levels for Construction Equipment, in the 2018 Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (FTA 2018) lists vibration source levels for the construction equipment most likely to generate high levels of ground vibration. The equipment listed in the FTA table includes impact and sonic pile drivers, clam shovel drops, hydromills, vibratory rollers, hoe rams, large and small bulldozers, caisson drilling, loaded trucks, and jackhammers. Table 3.6-5 below summarizes typical reference vibration levels generated by select construction equipment proposed for this project.

Table 3.6-5. Vibration Source Levels for Construction Equipment

Equipment	PPVref at 25 Feet
Vibratory roller	0.210
Large bulldozer	0.089
Loaded trucks	0.076

Equipment	PPVref at 25 Feet
Small bulldozer	0.003
Caisson drilling	0.089

Source: FTA 2018

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions (Federal Transit Administration 2018). “PPVref” is the reference PPV from Table 5 and “Distance” is the distance between the source and the receptor:

$$PPV = PPVref \times (25/Distance)^{1.5}$$

Existing Project Setting

Sensitive Receptors

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are considered to be more sensitive to noise intrusion than are commercial or industrial activities. Ambient noise levels can also affect the perceived desirability or livability of a development.

The proposed project is located at 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street in Redwood City on an approximately 3.5 acre site. The project site is within a highly urbanized area. The 1111 and 1125 Arguello Street parcels are developed with commercial/industrial uses; the 1203 Arguello Street parcel contains a vacant residential building with garage; the 1219 and 1227 Arguello Street parcels were originally developed as residences but have been converted for office use; and 1209 Arguello Street is currently a vacant lot used for parking.

The project site is surrounded by commercial uses to the north and south; single-family and multi-family uses to the east; and the Caltrain tracks to the west, beyond which lies automobile dealerships. The closest noise-sensitive receptors are the single- and multi-family residential buildings at 1250 to 1006 Arguello Street, located at about 80 feet from the eastern edge of the project site.

Existing Ambient Noise Levels

The existing or ambient, noise environment in a project area is characterized by the area’s general level of development. Areas which are not urbanized are relatively quiet, while areas which are more urbanized are noisier as a result of roadway traffic, industrial activities, and other human activities.

The City of Redwood City is exposed to several sources of noise, including traffic on major highways, like U.S. 101, noise from traffic on busy arterial roads, such as El Camino Real, railroad traffic, and noise from commercial and industrial activities. The ambient noise levels at the project site were determined using the noise contours listed in Figure PS-12, 2030 Projected Noise Contours, in the Public Safety Element of the General Plan (shown below as Figure 3-4). From Figure 3-4, most of the project site would be contained within the 65-70 dB(A) Ldn contour. Noise levels at the residential receptors across Arguello

Street are shown in both the 60-65 dB(A) Ldn and 65-70 dB(A) Ldn contours. Therefore, the ambient noise levels at the project site and closest residential receptors are expected to be within the "Conditionally Acceptable" to "Normally Unacceptable" ranges according to Figure PS-10 (shown as Figure 3-5 below) in the General Plan.

3.6.2 Regulatory Setting

Federal, state, and local agencies regulate different aspects of environmental noise. Generally, the federal government sets standards for transportation-related noise sources closely linked to interstate commerce, including aircraft, locomotives, and trucks. No federal noise standards are directly applicable to this proposed project. The state government sets standards for transportation noise sources such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies. Local general plans identify general principles intended to guide and influence development plans.

State

California Building Code

Part 2, Title 24 of the California Code of Regulations California Noise Insulation Standards establishes minimum noise insulation standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than single-family residences. Under Section 1207.11, Exterior Sound Transmission Control, interior noise levels attributable to exterior noise sources cannot exceed 45 dB(A) Ldn in any habitable room. Where such residences are located in an environment where exterior noise is 60 dB(A) Ldn or greater, an acoustical analysis is required to ensure interior levels do not exceed the 45 dB(A) Ldn interior standard. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the building must also specify a ventilation or air conditioning system to provide a habitable interior environment.

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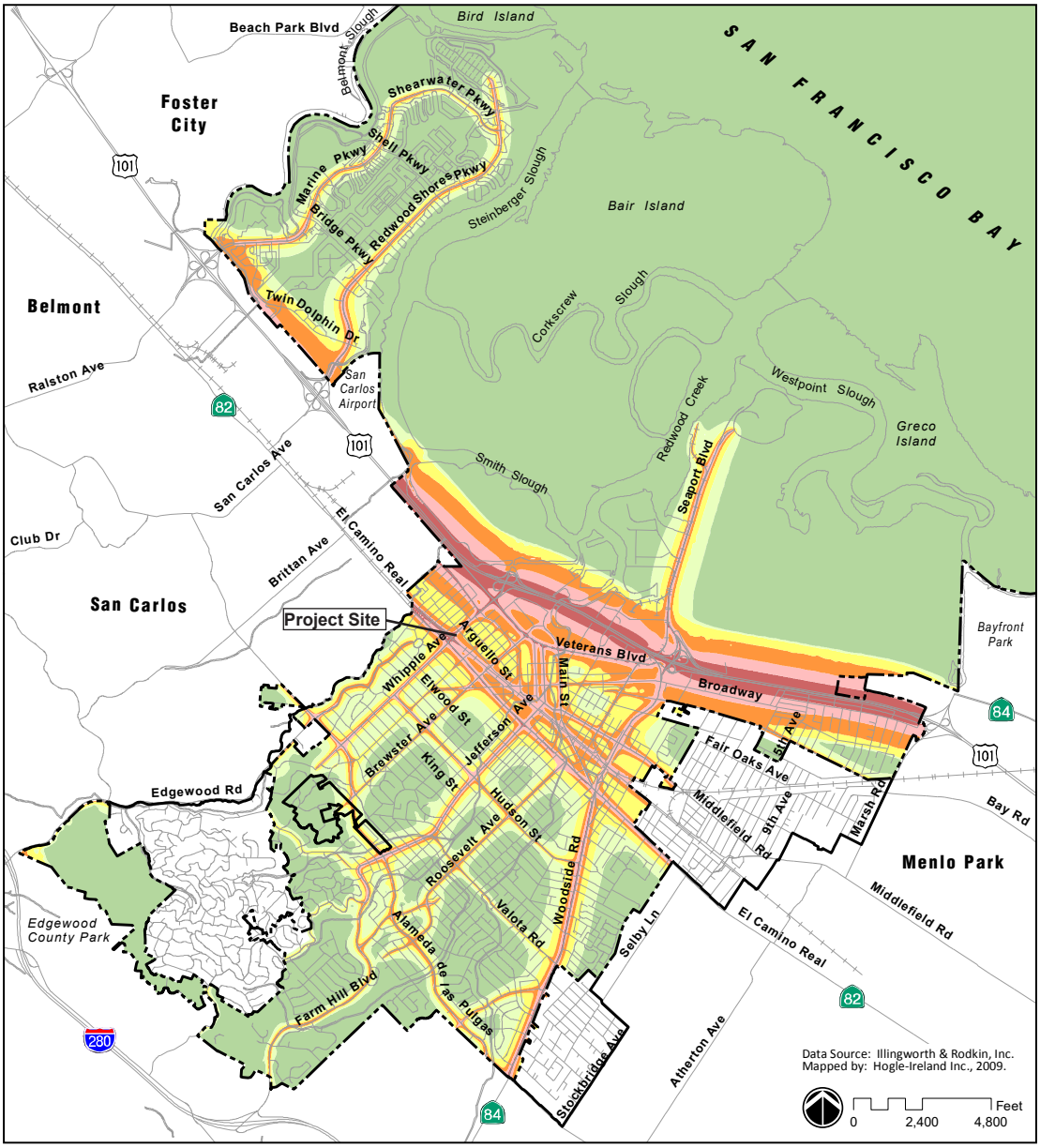

Future Traffic Noise Level

- <55 db(A)
- 55-60 db(A)
- 60-65 db(A)
- 65-70 db(A)
- 70-75 db(A)
- >75 db(A)

- City Boundary
- Sphere of Influence
- Freeway/Highway
- Major Roads
- Railroad
- Waterways

Source: City of Redwood City 2010a

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Mixed-Use Development Project
Draft EIR

Figure No.
3-4

2030 Projected Noise Contours

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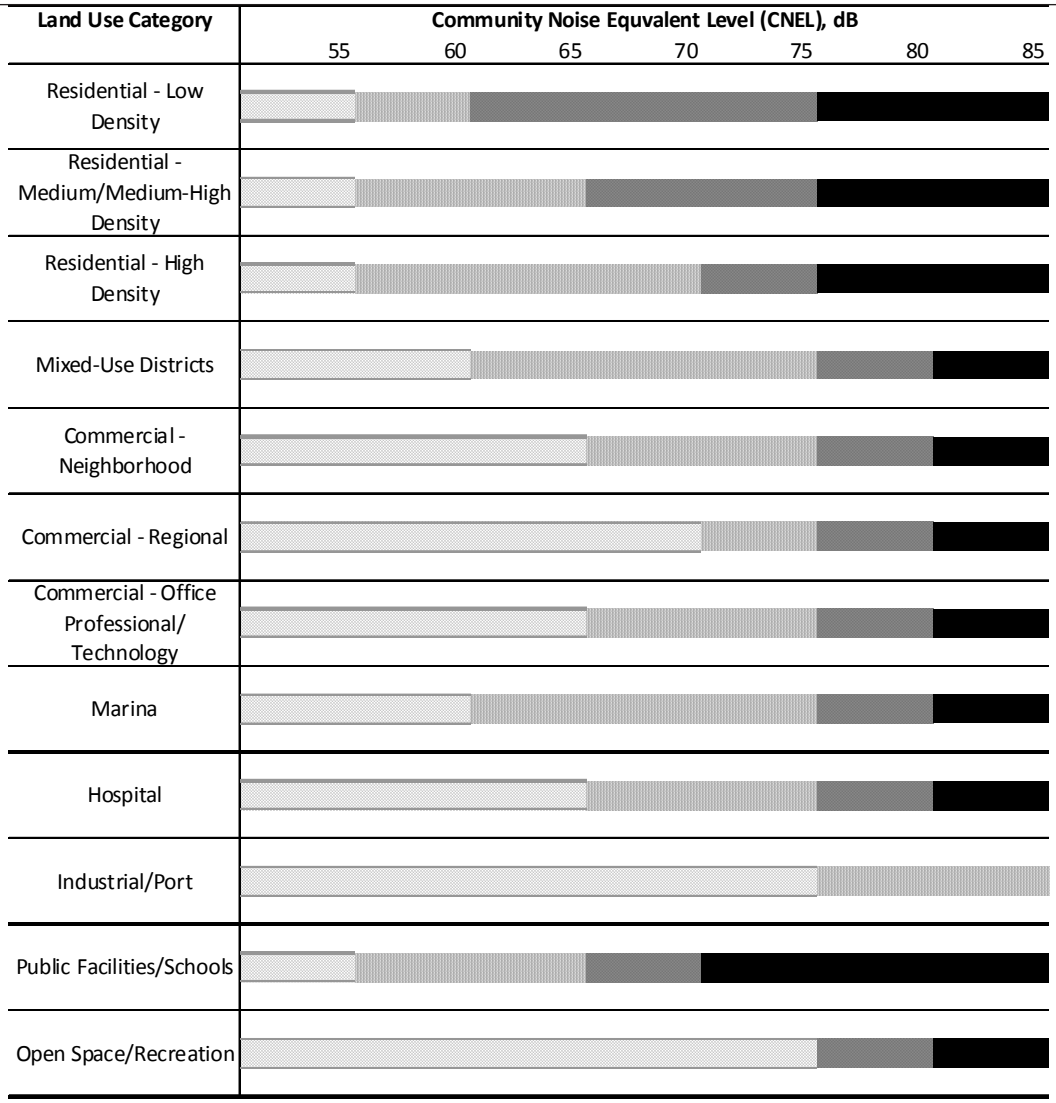

Source: City of Redwood City 2010a

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Mixed-Use Development Project
Draft EIR

Figure No.
3-5

Redwood City Noise Guidelines for Land Use Planning

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California Green Building Standards

CalGreen establishes interior noise insulation standards for non-residential occupied buildings, such as office buildings. The CalGreen code also applies to occupied non-residential spaces within a multifamily residential building, such as community rooms, offices, etc. CalGreen Section 5.507, Environmental Comfort, states the following:

5.507.4.1 Exterior noise transmission. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite sound transmission class (STC) rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

Within the 65 CNEL noise contour of an airport

Exceptions:

Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.

Ldn or CNEL for other airports and heliports for which a land use plan that has not been developed shall be determined by the local general plan noise element.

Within the 65 CNEL or Ldn noise contour of a freeway or expressway, railroad, industrial source or fxed-guideway notice source as determined by the Noise Element of the General Plan.

5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB Leq-1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

5.507.4.2 Performance method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq -1Hr) of 50 dBA in occupied areas during any hours of operations

5.507.4.2.1 Site features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition, or alteration project to mitigate sound migration to the interior.

5.507.4.2.2 Documentation of compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

California Environmental Quality Act

CEQA Guidelines, Appendix G, indicates a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under Section 3.6.3, Environmental Impacts.

Local

Redwood City General Plan

The Noise section in the Public Safety Element of the General Plan states that it encourages mixed-use development to work toward more sustainable development approaches, to increase access to affordable housing for more people, to create a lively Downtown, and to allow people to live closer to their jobs. These objectives necessarily require that Redwood City adopt more flexible noise guidelines for mixed-use districts.

The land use compatibility chart shown in Figure 3-5 identifies land use compatibility standards for land uses impacted by transportation and non-transportation noise sources. As shown in Figure 3-5, the ranges for mixed-use projects are as follows:

- “Normally Acceptable” – <60 dB(A) CNEL
- “Conditionally Acceptable” – 60-75 dB(A) CNEL
- “Normally Unacceptable” – 75-80 dB(A) CNEL
- “Clearly Unacceptable” – Higher than 80 dB(A) Ldn

Sites with ambient noise at “Conditionally Acceptable” levels should be undertaken only after a detailed analysis of the noise reduction requirements is made. New construction with exterior noise levels in the “Normally Unacceptable” range should be generally discouraged, if not, a detailed analysis of noise reduction requirements must be made.

The General Plan also includes the following noise goals, policies, and programs relevant to the proposed project.

Goal PS-13: Minimize the impact of point source noise and ambient noise levels throughout the community.

- **Policy PS-13.3:** Consider noise impacts as part of the development review process, particularly the location of parking, ingress/egress/loading, and refuse collection areas relative to surrounding residential development and other noise-sensitive land uses.
- **Policy PS-13.4:** In accordance with the Municipal Code and noise standards contained in the General Plan, strive to provide a noise environment that is at an acceptable noise level near schools, hospitals, and other noise sensitive areas.
- **Policy PS-13.5:** Limit the hours of operation at all noise generation sources that are adjacent to noise sensitive areas, wherever practical.

- **Policy PS-13.6:** Require all exterior noise sources (construction operations, air compressors, pumps, fans, and leaf blowers) to use available noise suppression devices and techniques to bring exterior noise down to acceptable levels that are compatible with adjacent land uses.
- **Policy PS-13.7:** Require that mixed-use structures be designed to account for noise from adjacent uses and minimize transfer of noise and vibration from commercial/retail to residential uses.
- **Policy PS-13.8:** Implement appropriate standard construction noise controls for all construction projects.
- **Policy PS-13.9:** Require noise created by non-transportation noise sources to be mitigated so as not to exceed acceptable interior and exterior noise level standards.
- **Policy PS-13.10:** Do not allow new residential or noise sensitive land use development in noise impacted areas unless effective mitigation measures are incorporated into the project design to reduce outdoor activity area noise levels.

Goal PS-14: Minimize the impacts of transportation-related noise.

- **Policy PS-14.4:** Require development that is, or will be, affected by railroad noise and/or vibration to include appropriate measures to minimize adverse noise effects on residents and business persons.

Program PS-61: Acoustical Analyses. Require acoustical analyses, as appropriate, for proposed stand-alone residential development within the 60 dB(A) CNEL or higher contours, as shown in Figure PS-12. Require incorporation of mitigation measures as necessary to reduce noise levels to levels deemed appropriate by the City.

Program PS-63: Enforcing Construction and Maintenance Noise Regulations. Minimize noise from property maintenance equipment, construction activities, and other non-transportation noise sources by enforcing construction and maintenance hours, including vehicle start-up and preparation. Enforce standard construction noise control such as:

- Limit construction to the hours of 8:00 AM to 5:00 PM on weekdays, and 9:00 AM to 5:00 PM on Saturdays, with no noise-generating construction on Sundays or holidays.
- Control noise from construction workers' radios to the point where they are not audible at existing residences that border the project site.
- Equip all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment.
- Utilize quiet models of air compressors and other stationary noise sources where technology exists.
- Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Prohibit unnecessary idling of internal combustion engines.
- Notify residents adjacent to the project site of the construction schedule in writing.

Program PS-67: Railroad Vibration. Require vibration-sensitive buildings (including but not limited to residential buildings) to be sited at least 100 feet from the centerline of railroad tracks, whenever feasible. Require the preparation of a site-specific vibration study for any residential or vibration-sensitive development proposed within 100 feet of the centerline of railroad tracks in Redwood City. The study shall include recommended measures to reduce vibration to meet citywide vibration standards. Potential measures to reduce vibration include, but are not limited to, modifications in site planning or building construction. The City shall include the recommendation(s) of site-specific vibration studies as conditions of any subsequent project approvals involving potentially significant vibration impacts.

Redwood City Municipal Code

The Redwood City Municipal Code includes the following requirements related to noise that are applicable to the proposed project.

Chapter 24, Noise Regulation

Sec. 24.30. Excessive and Unreasonable Noises:

The following are deemed to be excessive and unreasonable noises:

A. Noise levels generated by loud equipment or construction activities, including demolition, alteration, repair, landscaping, or remodeling of or to existing structures and construction of new structures on property within the City, at more than one hundred ten (110) dB measured at any point within a residential district of the City and outside of the plane of said property;

B. Any noise generated by construction activities that persists for ten (10) continuous minutes or more outside of the hours identified in Section 24.32 of this Code;

C. Noise levels generated by an individual item of machinery, equipment or device used during construction activities, including demolition, alteration, repair, or remodeling of or to existing structures and construction of new structures on property within the City, at more than one hundred ten (110) dB measured within a residential district of the City at a distance of twenty-five (25) feet from said machinery, equipment or device. If said machinery, equipment or device is housed within a structure on the property, then the measurement shall be made at a distance as near to twenty-five (25) feet from said machinery, equipment or device as possible.

Sec. 24.31. Prohibited Noise Levels:

It shall be unlawful for any person to suffer or allow noise levels to be generated by:

A. Construction activities, including demolition, alteration, repair or remodeling of or to existing structures and construction of new structures on property within the City, at more than 110 dB measured at any point within a residential district of the City and outside of the plane of said property; or

B. An individual item of machinery, equipment or device used during construction activities, including demolition, alteration, repair or remodeling of or to existing structures and construction of new structures on property within the City, at more than 110 dB measured within a residential district of the City at a distance of twenty-five feet (25′) from said machinery, equipment or device. If said

machinery, equipment or device is housed within a structure on the property, then the measurement shall be made at a distance as near to twenty-five feet (25′) from said machinery, equipment or device as possible.

Sec. 24.32. Time Limitations:

A. General construction noise on private projects shall be limited to weekdays from seven o'clock (7:00) A.M. to eight o'clock (8:00) P.M. Excessive or unreasonable construction noises, as identified under Section 24.30, shall be limited to weekdays from nine o'clock (9:00) A.M. to four o'clock (4:00) P.M. General and excessive or unreasonable construction noise is prohibited during holiday periods, as indicated on the City website.

B. Preconstruction noise including, but not limited to, loading and unloading, cleaning of mechanical toilets, maintenance of vehicles, deliveries, truck idling, backup beeps, yelling and radios is also limited to the general and excessive or unreasonable construction noise hours.

C. The Building Official or their designee may approve construction work occurring outside the times described in Section A and B above for private projects. A request for work outside the designated periods must be received by the Building Official or their designee prior to construction. A copy of the approved request shall be kept on the site of the work.

Sec. 24.33. Construction Site Notice:

A. Generally: The owner of any property in a residential district of the City or of any property located within five hundred feet (500′) of any such district upon which construction activities, including demolition, alteration, repair or remodeling of or to existing structures, and construction of new structures are proposed to occur, shall post a sign at all entrances to the work site prior to commencement of the work for the purpose of informing all contractors and subcontractors, their employees, agents, materialmen and all other persons at the property of the basic limitations upon noise and construction activities provided in this Division. Said sign(s) shall be posted at least five feet (5′) above ground level and shall be on a white background with black lettering, which lettering shall be a minimum of one and one-half inches (1 ½″) in height.

B. Sign Text: Said sign(s) shall read as follows:

Noise limitations upon work on properties in or near residential districts (Includes any and all deliveries)

<u>Noise Prohibited</u>

During the foregoing periods, no noise above the local ambient level in Residential Districts shall be generated by construction work or activities.

- Mondays through Fridays - 8:00 PM to 7:00 AM
- Saturdays, Sundays, and Holidays - All Day

<u>Work Noise Limits at all Other Times:</u>

1. No individual item of machinery, equipment, or device used in or near a residential district shall produce sound in excess of 110 dBA, measured twenty-five feet (25′) from such machinery, equipment, or device;

2. Work noise level at any point outside of the construction site property plane shall not exceed 110 dBA within any part of a residential district.

Sec. 24.34. Exceptions; Permits:

Upon a showing by a property owner to the enforcement officer that a diligent investigation of available noise abatement techniques indicates that compliance with the requirements of this Division would be impracticable or unreasonable, the enforcement officer may issue a permit allowing an exception to the provisions contained in all or any portion of this Division subject to such reasonable and appropriate conditions as the enforcement officer may impose, including, but not limited to, a compliance schedule, restrictions upon construction methods or use of machinery, equipment or devices, permission to engage in construction activities on Saturdays, Sundays, and holidays only between the hours of nine o'clock (9:00) AM and eight o'clock (8:00) PM, or implementation of such other practices as the enforcement officer deems appropriate. Any such permit shall be effective for a period not to exceed six (6) months and shall be of such reasonably short duration as the enforcement officer shall determine giving due regard to the extent and the complexity of the construction to which it pertains.

Any person aggrieved by the decision of the enforcement officer in issuing or denying the issuance of a permit pursuant to this Section may appeal the enforcement officer's decision to the Community Development Director. Such appeal shall be filed, processed and heard in accordance with the provisions of Chapter 1 of this Municipal Code.

Sec. 24.35. Exemptions:

Noise levels generated by construction activities, including demolition, alteration, repair or remodeling of or to existing structures and the construction of new structures on property within the City: a) in the course or within the scope of emergency work; and b) in the course of work performed personally by the owner or resident of a dwelling unit with respect to said unit on Mondays through Fridays between the hours of seven o'clock (7:00) AM and eight o'clock (8:00) PM and on Saturdays, Sundays, and holidays between the hours of nine o'clock (9:00) AM and eight o'clock (8:00) PM, are exempt from the provisions of this Division.

3.6.3 Environmental Impacts

Methodology for Analysis

As noted above in Figure 3-4, the noise contours listed in Figure PS-12, 2030 Projected Noise Contours, of the General Plan were used to provide baseline noise conditions at nearby sensitive receptors and within the project site vicinity. For the purpose of this analysis, potential sensitive receptors were determined by reviewing current aerial photography.

Impacts from future project-related traffic were estimated using predicted peak hour volumes contained in the Local Transportation Analysis and its Supplemental Memorandum (Appendix E).

The FHWA Roadway Construction Noise Model (RCNM) was used to estimate the impact from short-term construction activities. The RCNM is used as the FHWA's national standard for predicting noise generated from construction activities. The RCNM analysis includes the calculation of noise levels at a defined distance for a variety of construction equipment. The spreadsheet inputs include acoustical use factors and distance to receptors and calculates the expected Lmax values and Leq values at a selected receptor.

Thresholds of Significance

In accordance with the CEQA Guidelines' Appendix G Environmental Checklist, the following questions were analyzed and evaluated to determine whether noise impacts are significant. The proposed project would result in a significant noise impact if it would result in:

- Generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Generation of excessive groundborne vibration or groundborne noise levels?

The following issues were determined to have no impact or a less than significant impact during the NOP Scoping. These issues are summarized in Section 7.0, Effects Found Not to Be Significant, and are not discussed further in this section.

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

USEPA Guidelines

The USEPA has established guidelines (USEPA 1973) for assessing the impact of an increase in noise levels. These guidelines have been used as industry standard for several years to determine the potential impact of noise increases on communities. Most people will tolerate a small increase in background noise (up to about 5 dB(A)) without complaint, especially if the increase is gradual over a period of years (such as from gradually increasing traffic volumes). Increases greater than 5 dB(A) may cause complaints and interference with sleep. Increases above 10 dB(A) (heard as a doubling of judged loudness) are likely to cause complaints and should be considered a serious increase. Table 3.6-6 defines each of the traditional impact descriptions, their quantitative range, and the qualitative human response to changes in noise levels.

Table 3.6-6. USEPA Impact Guidelines

Increase over Existing or Baseline Sound Levels	Impact Per USEPA Region Guidelines	Qualitative Human Perception of Difference in Sound Levels
0 dB to 5 dB	Minimum Impact	Imperceivable or Slight Difference
6 dB to 10 dB	Significant Impact	Significant Noticeable Difference – Complaints Possible

Increase over Existing or Baseline Sound Levels	Impact Per USEPA Region Guidelines	Qualitative Human Perception of Difference in Sound Levels
Over 10 dB	Serious Impact	Loudness Changes by a Factor of Two or Greater. Clearly Audible Difference – Complaints Likely

Project Impact Analysis and Mitigation Measures

Noise Levels in Excess of Standards

Impact NOI-1 **The proposed project would not result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**

Impact Analysis

Exterior Traffic Noise Level Impacts

Traffic noise depends primarily on vehicle speed (tire noise increases with speed), proportion of medium and large truck traffic (trucks generate engine, exhaust, and wind noise in addition to tire noise), and number of speed control devices, such as traffic lights and stop signs (accelerating and decelerating vehicles and trucks can generate more noise).

Changes in traffic volumes can also have an impact on overall traffic noise levels. For example, it takes 25 percent more traffic volume to produce an increase of only 1 dB(A) in the ambient noise level. For roads already heavy with traffic volume, an increase in traffic numbers could even reduce noise because the heavier volumes could slow down the average speed of the vehicles. A doubling of traffic volume results in a 3 dB(A) increase in noise levels.

To initially describe the impact expected from traffic added from the proposed project, AM and PM peak hour traffic volumes (with and without the proposed project) listed in the Local Transportation Analysis and Supplemental Memorandum (Appendix E) were used to determine the percentage increase of traffic on the roads adjacent to the project site and nearby sensitive receptors.

Table 3-6.7 shows the peak hour volumes associated with traffic on the local roadway network under the existing and existing plus proposed project traffic conditions. The last columns in the table show the overall percentage change and the estimated difference in peak hour noise level in dB(A).

Table 3.6-7. Traffic Peak Hour Counts and Estimated Noise Increase

Roadway Intersection	Existing Peak Hour Traffic Volumes	Existing Peak Hour Traffic Volumes with proposed project	Percentage Change	Estimated dB(A) Change
Whipple Avenue and Industrial Way / Winslow Street	3,170 (3,336)	3,277 (3,445)	3.38% (3.27%)	0.135 (0.131)

Roadway Intersection	Existing Peak Hour Traffic Volumes	Existing Peak Hour Traffic Volumes with proposed project	Percentage Change	Estimated dB(A) Change
Whipple Avenue and Arguello Street	2,281 (2,383)	2,424 (2,530)	6.27% (6.17%)	0.251 (0.247)
Whipple Avenue and El Camino Real	4,164 (4,447)	4,200 (4,487)	0.86% (0.90%)	0.035 (0.036)
Warren Street and Standish Street	139 (120)	141 (122)	1.44% (1.67%)	0.058 (0.067)
Brewster Avenue and Arguello Street	1,232 (1,127)	1,299 (1,202)	5.44% (6.65%)	0.218 (0.266)

Notes:
Numbers in parenthesis are PM peak hour traffic volumes; numbers not in parenthesis are AM peak hour traffic volumes.

Based on the November 2021 traffic analysis, the proposed project is expected to minimally increase traffic counts on the surrounding roadways. There would essentially be no change in traffic noise (below 1 dB[A]) expected along these streets.

On November 8, 2022, Kimley Horn provided an updated trip generation analysis for the project based on the most up-to-date project description. Table 3 “Trip Generation Comparison” in the updated memo states the new project description would result in 40 fewer daily trips as noted in November 2021. Less trips would result in lower noise levels generated from traffic. Therefore, the proposed project would not cause increased traffic noise levels over the baseline conditions at the neighboring sensitive receptors, and this would be a less than significant impact.

Interior Traffic Noise Level Impacts – Affordable Housing Units

The California Building Code states the interior noise levels attributable to exterior sources shall not exceed 45 dB(A) Ldn in any habitable room within multi-family residential units. The needed sound isolation requirements of a building’s exterior façade will be dependent on the following conditions:

- The dimension of the rooms with exterior windows;
- The finishes within the rooms;
- The ratio of clear glass to solid wall in the exterior wall assembly; and
- The exterior solid wall construction.

Modern construction with punch windows typically provides a 25 dB(A) exterior-to-interior noise level reduction with the windows closed. Therefore, generally speaking, sensitive receptors exposed to an exterior noise level of 70 dB(A) Ldn or less will typically comply with the code-required interior noise level standard. Modern construction utilizing window walls, curtainwalls, or a high ratio of exterior clear glass will provide less reduction with the windows closed. Buildings using a high amount of glass will typically comply with the code-required interior noise level standard if exposed to exterior noise levels of 67 dB(A) Ldn or less.

The building elevations shown in the current project drawing set shows the multi-family units are expected to use punch windows and a small ratio of window to solid exterior wall. Noise levels experienced at the project site are expected to be as high as 70 dB(A) Ldn according to the noise contours shown in Figure 3-4. Assuming an exterior noise level of 70 dB(A) Ldn, standard construction with a window system achieving a minimum Outside-Inside Transmission Class (OITC) rating of OITC 23 would be sufficient to achieve the California Building Code interior noise requirement for residential units. An OITC window system would be achievable with a typical insulating glass unit assembled of 0.25-inch glass –0.5-inch airspace – 0.25-inch glass. Therefore, exterior traffic noise levels would have a less than significant impact on the proposed multi-family units.

Interior Traffic Noise Level Impacts – Office Buildings, Childcare Facility, and Occupied Non-Residential Spaces

CalGreen states if an occupied non-residential space (i.e., office building, childcare, community room, etc.) is exposed to a noise level of 65 dB(A) Leq 1-hour during any hour of operation, the exterior façade design shall incorporate features to reduce noise inside the spaces to a maximum of 50 dB(A) Leq 1-hour.

The information in the current project drawing set shows the proposed office buildings would be constructed using full-height curtainwall, including the facades which face the Caltrain tracks. Given the project site may be exposed to an overall level of 70 dB(A) Ldn and the relatively close proximity of the Caltrain tracks to the project site, there is a high probability the proposed office buildings would be exposed to a noise level of 65 dB(A) Leq 1-hour during business hours and as a result, the proposed project would be subject to the CalGreen requirements. Therefore, exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30) would be used in all affected areas or wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope would be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hours of operations.

The exterior façade design of the proposed office buildings would implement the CalGreen requirements, such as laminated window systems, as Mitigation Measure NOI-1 to reduce noise levels on the interior of the proposed office buildings to a maximum of 50 dB(A) Leq during normal operating hours.

The proposed childcare facility would be well-shielded from the Caltrain tracks by the proposed north office building. Therefore, the interior noise levels within the proposed childcare facility would achieve the CalGreen requirements with standard construction.

The non-residential spaces of the proposed residential building are all non-occupied spaces, such as utility, trash, and parking, and therefore are not required to meet the CalGreen requirements.

As such, with the implementation of Mitigation Measure NOI-1, the impact of exterior traffic noise within the proposed office buildings, childcare facility, and occupied non-residential spaces would be less than significant.

Proposed Project Fixed-Source Noise

Typical commercial building construction would involve new rooftop mechanical equipment, including air handling units, exhaust fans, and potentially chillers and cooling towers. This equipment would generate noise that would radiate to the neighboring properties. Chapter 24, Noise Regulation, of the Redwood City Municipal Code does not currently have any specific noise restrictions for exterior mechanical equipment to neighboring properties. Policy PS-13.6 in the Redwood City General Plan states to "require all exterior noise sources (construction operations, air compressors, pumps, fan, and leaf blowers) to use available noise suppressions devices and techniques to bring exterior noise down to acceptable levels that are compatible with adjacent land uses."

When the actual on-site equipment is selected, the equipment would be designed to incorporate measures as needed, such as shielding, barriers, and/or attenuators, to reduce noise levels that may affect nearby properties. Therefore, the impact of fixed-source noise to the neighboring properties would be less than significant.

Short-term Construction Noise Impacts

Two types of short-term noise impacts could occur during construction. The first type of noise is from construction crew vehicular commutes. Construction crew commutes would incrementally increase noise levels on access roads leading to the project site.

The construction of the project would involve a peak of approximately 230 construction workers traveling to and from the site. Assuming a worst-case of all worker vehicles entering or exiting the site at the same time, this would add 230 vehicles to the peak hour traffic volume on the neighboring roadways. Adding 230 vehicles to the existing traffic at the intersection of Whipple Avenue and Arguello Street represents a 10.1 percent increase in traffic volumes, which equates to a 0.40 dB(A) increase in noise and results in a less than significant impact.

The second type of noise generated during construction is from the construction activity itself. Construction activities would include site preparation (including demolition and undergrounding utilities), grading (including shoring and three levels of excavation for the proposed underground parking garage), building construction, paving (including site improvements, hardscape, and landscape), and architectural coating. Each construction stage has its own mix of equipment, and consequently, its own noise characteristics. The various construction operations would change the character of the noise generated at the project site and therefore, the noise level as construction progresses. The loudest stages of construction include the grading and site preparation stages, as the noisiest construction equipment is typically earthmoving and grading equipment. The main types of noise-producing equipment for each construction stage are shown in Table 3.6-8.

Table 3.6-8. Construction Stage Equipment

Construction Stage	Construction Equipment	
Site Preparation	• Excavators (2) • Compressor • Front-End Loader	• Generator • Backhoes (2) • Haul Trucks (3)

Construction Stage	Construction Equipment	
Grading	• Rubber-Tired Dozer • Drill Rigs (6) • Excavators (2) • Generators (2) • Compressor	• Front-End Loader • Crane • Backhoes (2) • Roller • Haul Trucks (3)
Building Construction	• Cranes (4) • Compressor • Backhoe	• Man Lifts (2) • Welders (6)
Paving	• Backhoe • Paver • Man Lift	• Front-End Loader • Roller • Compressor
Architectural Coating	• Air Compressor	
Off-Site Recycled Waterline Installation	• Excavators (3) • Haul Trucks (4)	• Front-End Loader • Flatbed Truck

Table 3.6-9 lists the types of construction equipment and the maximum and average operational noise level as measured at 50 feet or 80 feet from the operating equipment. The 80-foot distance represents the approximate distance between the proposed project and the closest noise-sensitive residential receptors located across Arguello Street. The 50-foot distance is the estimated distance between the off-site recycled waterline installation and the closest noise-sensitive receptors across Arguello Street.

Table 3.6-9. Calculated Noise Level from Each Piece of Construction Equipment

Construction Equipment Source at the Project Site	Distance to Nearest Sensitive Receptor, feet	Sound Level at Receptor		
		Lmax, dB(A)	Acoustical Use Factor (%)	Leq, dB(A)
Backhoe	80	73.5	40	69.5
Compressor (Air)	80	73.6	40	69.6
Crane	80	76.5	16	68.5
Drill Rig Truck	80	75.1	20	68.1
Excavator	80	76.6	40	72.6
Excavator	50	80.7	40	76.7
Flat Bed Truck	50	74.3	40	70.3
Front-End Loader	80	75.0	40	71.0
Front-End Loader	50	79.1	40	75.1

Construction Equipment Source at the Project Site	Distance to Nearest Sensitive Receptor, feet	Sound Level at Receptor		
		Lmax, dB(A)	Acoustical Use Factor (%)	Leq, dB(A)
Generator	80	76.5	50	73.5
Haul Truck	80	72.4	40	68.4
Haul Truck	50	76.5	40	72.5
Man Lift	80	70.6	20	63.6
Paver	80	73.1	50	70.1
Roller	80	75.9	20	68.9
Rubber-Tired Dozer	80	77.6	40	73.6
Welder	80	69.9	40	65.9

Source: Stantec 2022, Federal Highway Administration RCNM v1.1 2008

A worst-case condition for construction activity would assume all noise-generating equipment were operating at the same time and at the same distance from the closest noise-sensitive receptor. Using this assumption, the RCNM program calculated the following combined Leq and Lmax noise levels from each stage of construction as shown in Table 3.6-10.

Table 3.6-10. Calculated Noise Level from Each Construction Stage

Construction Phase	Distance to Closest Noise Sensitive Receptor, ft	Calculated Lmax, dB(A)	Calculated Leq, dB(A)
Site Preparation	80	84.6	80.8
Grading	80	88.2	83.4
Building Construction	80	84.9	78.7
Paving	80	81.7	77.1
Architectural Coating	80	73.6	69.6
Off-Site Recycled Waterline Installation	50	84.1	88.1

Although noise levels could range into the “Clearly Unacceptable” ranges, as defined in the General Plan, construction activities and increases in noise levels from construction activities would be temporary and construction activities would be limited to the restrictions set by Chapter 24, Noise Regulation, of the Redwood City Municipal Code.

In addition to the restrictions listed in the Redwood City Municipal Code, the proposed project would implement Mitigation Measure NOI-2 in accordance with Program PS-63 in the General Plan. The implementation of Mitigation Measure NOI-2 would ensure compliance with the City's construction noise standards, and therefore impacts would be less than significant.

Level of Significance Before Mitigation
Potentially Significant Impact.

Mitigation Measures

MM NOI-1: **Interior Traffic Noise – Office Building**. All facades of the office buildings which have exposure to the rail lines shall be constructed to meet the requirements of CalGreen, Section 5.507: Environmental Comfort. In particular, exterior wall assemblies exposed to the rail line shall meet a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30). Or the services of a qualified acoustical consultant may be obtained to conduct a detailed noise study to help design the exterior façade such that the interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq -1Hr) of 50 dBA in occupied areas during any hours of operations.

MM NOI-2: **Construction Noise Reduction**. Implementation of the following multi-part mitigation plan is required to reduce the potential construction period noise impacts.

- Limit construction to the hours of 8:00 AM to 5:00 PM on weekdays, and 9:00 AM to 5:00 PM on Saturdays, with no noise-generating construction on Sundays or holidays.
- Control noise from construction workers' radios to the point where they are not audible at existing residences that border the project site.
- Equip all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment.
- Utilize quiet models of air compressors and other stationary noise sources where technology exists.
- Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Prohibit unnecessary idling of internal combustion engines.
- Notify residents adjacent to the project site of the construction schedule in writing.

Level of Significance After Mitigation
Less Than Significant with Mitigation.

Excessive Groundborne Vibration

Impact NOI-2 **The proposed project would not result in the generation of excessive groundborne vibration or groundborne noise levels.**

Impact Analysis

Construction Vibration to Closest Off-Site Receptors

During construction of the proposed project, equipment such as bulldozers, drill rigs, and rollers may be used as close as 80 feet from the nearest sensitive residential receptors across Arguello Street. Loaded trucks may be used as close as 50 feet from the nearest sensitive receptors across Arguello Street for the off-site recycled waterline installation work. Equipment used during project construction could generate vibration levels between 0.0003 PPV and 0.0183 PPV at 127 feet, as shown below in Table 3.6-11. All estimated vibration levels would be below the FTA vibration threshold at which human annoyance could occur and below the threshold for potential building damage as defined in Table 3.6-4. Therefore, impacts from construction vibration would be less than significant.

Table 3.6-11. Estimated Vibration Levels for Construction Equipment

Type of Equipment	Distance to Closest Receptor, Feet	Calculated Peak Particle Velocity	Threshold at which Human Annoyance Could Occur, PPV	Potential for Proposed Project to Exceed Threshold
Large Bulldozer	80	0.0155	0.10	No
Loaded Trucks	50	0.0269	0.10	No
Small Bulldozer	80	0.0005	0.10	No
Vibratory Roller	80	0.0367	0.10	No
Caisson Drilling	80	0.0155	0.10	No

Source: FTA 2018

Construction Vibration on Historic Resources

The proposed project includes a public-serving childcare facility intended to provide 30 childcare slots. The project proposes to adaptively reuse the buildings located at 1219 and 1227 Arguello Street that are designated City Historic Landmarks for development of the childcare facility. Construction equipment may be used in very close proximity to the Historic Landmark buildings because the buildings are directly on the project site. Additionally, construction of the proposed recycled waterline would result in the use of construction equipment in close proximity to other historic resources located off-site along Arguello Street and Marshall Street. The updated Historic Resources Impact Analysis prepared by Page & Turnbull identified that there are 13 historic resource properties that have at least one property frontage along the alignment of the proposed recycled waterline installation along Arguello Street and Marshall Street. These historic resources include five properties that are located within the locally listed Mezesville Historic District (three of which are also individually listed local landmarks); the National Register-listed former San Mateo County Courthouse (also a local landmark); The National Register-listed Lathrop House (also

a local landmark); and six identified eligible or potentially eligible historic resources. The installation of the off-site recycled waterline would require a five feet wide and 15 feet deep trench which would be located entirely within the public right-of-way along Arguello Street and Marshall Street. Thus, none of the excavations required for the recycled waterline would occur within the property boundaries of any of the identified historical resources. Referring to Table 3.6-4, the guideline vibration level to limit damage to historic and some old buildings is 0.20 PPV for continuous/frequent sources. To stay below this limit, the following minimum distances between select equipment and the on-site Historic Landmark buildings and off-site historic resources are recommended:

Table 3.6-12. Recommended Distances to Limit Vibration to 0.20 PPV at Historic Homes

Type of Equipment	Historic Building Damage Limit, PPV	Recommended Minimum Distance between Equipment and Historic Homes to Stay Below the Building Damage Limit Level, ft
Large Bulldozer	0.20	15 feet
Loaded Trucks	0.20	14 feet
Small Bulldozer	0.20	2 feet
Vibratory Roller	0.20	26 feet
Caisson Drilling	0.20	15 feet

Source: FTA 2018

If it is not possible to limit the distance of the equipment noted in Table 3.6-12 from the two on-site Historic Landmark buildings and off-site historic resources located along the proposed recycled waterline, the FTA offers construction vibration mitigation measures listed in Step 5 within Section 7, Noise and Vibration During Construction, in the Transit Noise and Vibration Impact Assessment Manual document. The applicable measures in the FTA document are included in Mitigation Measure NOI-3. The former San Mateo County Courthouse is located over 80 feet from the public right-of-way along Marshall Street and other identified off-site historical resources are located closer to the sidewalk and public right-of-way but are not at substantial risk for adverse impacts due to vibration from the excavation for the installation of the recycled waterline. The implementation of Mitigation Measure NOI-3 would follow the recommendations provided by the FTA; therefore, impacts would be less than significant with mitigation incorporated.

Caltrain Vibration Impacts

The closest edge of the proposed project (the western edge of the proposed residential building) would be approximately 36 feet from the centerline of the Caltrain tracks. The distance between the vibration-sensitive residential building and the Caltrain tracks would therefore require a site-specific vibration study as dictated by Program PS-67, Railroad Vibration, in the General Plan. Program PS-67 is restated in Mitigation Measure NOI-4. The implementation of Mitigation Measure NOI-4 would follow the requirements of the General Plan and impacts would be less than significant with mitigation incorporated.

Level of Significance Before Mitigation
Potentially Significant Impact.

Mitigation Measures

MM NOI-3: **Construction Vibration to Historic Resources.** The Applicant shall follow the applicable vibration mitigation plan recommendations listed in Step 5 of Section 7, Noise and Vibration During Construction, in the FTA Transit Noise and Vibration Impact Assessment Manual document with respect to the historic structures at 1219 and 1227 Arguello as follows:

Design Considerations and Project Layout

- Operate earth-moving equipment on the construction lot as far away from the historic structures as possible.

Sequence of Operations

- Phase demolition, earth-moving, and ground-impacting operations so as not to occur in the same time period. Unlike noise, the total vibration level produced could be substantially less when each vibration source operates separately.

Alternate Construction Methods

- Avoid vibratory rollers and packers near the historic structures.

Vibration Mitigation Plan

- Employ the services of a qualified vibration consultant to help describe and commit to a mitigation plan that shall be developed and implemented during the engineering and construction phase. The objective of the plan shall be to minimize construction vibration damage using all reasonable and feasible means available. The plan shall include the following components:
    - A procedure for establishing threshold and limiting vibration values for potentially affected structures, based on an assessment of each structure's ability to withstand the loads and displacements due to construction vibrations.
    - A commitment to develop a vibration monitoring plan during the engineering phase and to implement a compliance monitoring program during construction.

MM NOI-4: **Rail Line Vibration Impacts**. The Applicant shall employ the services of a qualified vibration consultant to help conduct a site-specific vibration study for the proposed project following the requirements listed in Program PS-67, Railroad Vibration, in the General Plan. The Applicant shall follow the recommendations in the vibration study.

- **Program PS-67: Railroad Vibration**. Require vibration-sensitive buildings (including but not limited to residential buildings) to be sited at least 100 feet from the centerline of railroad tracks, whenever feasible. Require the preparation of a site-specific

vibration study for any residential or vibration-sensitive development proposed within 100 feet of the centerline of railroad tracks in Redwood City. The study shall include recommended measures to reduce vibration to meet citywide vibration standards. Potential measures to reduce vibration include, but are not limited to, modifications in site planning or building construction. The City shall include the recommendation(s) of site-specific vibration studies as conditions of any subsequent project approvals involving potentially significant vibration impacts.

Level of Significance After Mitigation

Less Than Significant with Mitigation.

3.7 POPULATION AND HOUSING

This section describes the environmental and regulatory settings for population and housing. It also describes existing conditions and potential impacts related to population and housing that would result from implementation of the proposed project, and mitigation for potentially significant impacts, where feasible.

3.7.1 Environmental Setting

Population Trends

Historic Growth

Redwood City's population remained fairly constant over the last century until the years immediately following World War II. Since that time, except for the period from 1970 to 1980, the City's population has steadily increased. The City's greatest growth period occurred between 1950 and 1960 with an increase of approximately 74 percent. Population growth stabilized in the 1970s but increased again in the 1980s, with an increase of approximately 20 percent between 1980 and 1990. The City's population increased by approximately 14 percent between 1990 and 2000 and increased 2.5 percent between 2000 and 2008. The City's historic population growth between 1990 and 2021 is summarized in Table 3.7-1.

Table 3.7-1. Redwood City Historic Population Growth

Year	Population	Change from Previous (Percent)
1990	66,072	--
1995	69,376	5.0
2000	75,218	8.4
2005	74,621	-0.8
2010	76,766	2.9
2015	83,059	8.2
2020	86,444	4.1
2021	85,182	-1.5

Source: DOF 2007, 2012, 2021b

Current and Projected Population

As of January 1, 2021, the California Department of Finance estimates the population of Redwood City to be approximately 85,182 (DOF 2021a). The City's General Plan Housing Element includes projections related to the City's population from 2010 to 2030. The projected population estimates are based on the Association of Bay Area Government's housing projections, which account for local conditions, including existing conditions and allowable development as identified in local planning documents, such as the City's General Plan. As identified in the City's General Plan Housing Element, ABAG anticipates continued growth in Redwood City, with the City's population increasing to 91,900 by 2030 (City of Redwood City 2010a). This would represent an 8 percent increase from the City's current population of 85,182.

Housing Trends

Housing Units and Average Household Size

The reported number of housing units in the City in 1990 was 26,847 units. The City's housing growth increased at a rate of approximately 8.0 percent between 1900 and 2000 and significantly slowed down to less than 1.0 percent between 2000 and 2010. The rate of growth increased again to approximately 8.0 percent between 2010 and 2020. The City's housing growth between 1990 and 2021 is summarized in Table 3.7-2.

Table 3.7-2. Redwood City Historic Housing Units Growth

Year	Housing Units	Change from Previous (Percent)
1990	26,847	--
1995	27,286	1.6
2000	28,924	6.0
2005	29,129	0.7
2010	29,167	0.1
2015	30,072	3.1
2020	31,536	4.9
2021	31,569	0.1

Source: DOF 2007, 2012, 2021b

According to the California Department of Finance Population and Housing data, approximately 25,493 units were occupied in 1990, with an average of 2.5 persons per household and a 5.0 percent housing vacancy rate (DOF 2007). By 2000, there were approximately 28,047 occupied housing units, with an average of 2.6 persons per household and a 3.0 percent housing vacancy rate (DOF 2007).

The City's General Plan Housing Element estimates the average household size is 2.7 people per household (City of Redwood City 2014). As of January 1, 2021, the California Department of Finance estimates there are 31,561 units within the City with an average household size of 2.7 persons per household (DOF 2021b). Of these existing 31,561 units, approximately 30,289 units were occupied in 2021, resulting in a 4.0 percent vacancy rate (DOF 2021b).

Regional Housing Need Allocation

ABAG prepared the Regional Housing Needs Allocation (RHNA) Assessment Plan to allocate regional housing growth among different jurisdictions. The RHNA is the state-mandated process to identify the total number of housing units (by affordability level) that each jurisdiction must accommodate in its General Plan Housing Element for an eight year period. ABAG approved the Final 2023-2031 RHNA Plan for the San Francisco Bay Area in December 2021. This RHNA Plan requires the Bay Area to plan for and revise local zoning to accommodate 441,176 additional housing units during the 2023-2031 period. The 2023-2031 RHNA Plan requires Redwood City to provide 4,588 new housing units. Table 3.7-3 summarizes the City's housing need allocated for each income level.

Table 3.7-3. ABAG 2023-2031 Regional Housing Need Allocation

Jurisdiction	Very Low Income (<50% of Area Median Income)	Low Income (50-80% of Area Median Income)	Moderate Income (80-120% of Area Median Income)	Above Moderate Income (> 120% of Area Median Income)	Total
Redwood City	1,115	643	789	2,041	4,588

Source: ABAG 2021b

Based on the 2023-2031 RHNA Plan, approximately 61 percent of the City's housing need will be allocated to moderate to upper-income households, and 39 percent will be allocated to very low to low income households (ABAG 2021b).

Employment Trends

According to the City's General Plan EIR, the employment base of the City is relatively diversified, with no single employment sector comprising more than 21 percent of all jobs located in the City. The three biggest employment sectors in the City are information technology (21 percent of all jobs in the City); professional, scientific, and technical services (16 percent); and health care (12 percent). As of 2008, the City provided approximately 52,000 jobs with an additional 5,700 jobs located within the sphere of influence, outside of the City limits, for a total of 58,000 jobs in the General Plan area as a whole (City of Redwood City 2010b).

According to the City's General Plan Housing Element, ABAG determined that employment in Redwood City was estimated at 64,640 in 2013 and was anticipated to increase by over 24 percent to 80,430 by 2025 (City of Redwood City 2014). The City's active labor force increased by approximately 50 percent between 1990 and 2000 from 20,779 to 41,482 individuals. Unemployment remained relatively unchanged at a rate of about 3 to 4 percent between 1990 and 2000. Between 2000 to 2009, the active labor force showed only a 5.0 percent increase from 41,482 to 43,600 individuals, while the unemployment rate doubled from 3.3 percent to 5.9 percent. By the end of 2009, the unemployment rate had increased to 8.6 percent (City of Redwood City 2010b). In December 2021, the City's active labor force was 49,900 with 48,600 people employed and approximately 1,300 people unemployed, resulting in a 2.5 percent unemployment rate (EDD 2021).

The City's General Plan EIR includes ABAG's employment projections from 2010 through 2030. The City's General Plan EIR projected that the City's employment would increase 30 percent between 2010 and 2030 from 51,230 to 66,600 (City of Redwood City 2014).

3.7.2 Regulatory Setting

State

California Housing Element Law

The state law requires each city and county to adopt a general plan for future growth. This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, the Department of Housing

and Community Development (HCD) estimates the relative share of California's projected population growth that would occur in each county in the state, based on California Department of Finance population projections and historic growth trends. Where there is a regional council of governments, such as ABAG, HCD provides the regional housing need to the council. The council then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares provides cities and counties the opportunity to comment on the proposed allocations. HCD oversees the process to ensure that the council of governments distributes its share of the state's projected housing need.

Each city and county must update its general plan housing element on a regular basis (approximately every five years). Among other things, the housing element must incorporate policies and identify potential sites that would accommodate a county's share of the regional housing need. Before adopting an update to its housing element, a city or county must submit the draft to HCD for review. HCD will advise the local jurisdiction whether its housing element complies with the provisions of California Housing Element Law.

The councils of government are required to assign regional housing shares to the cities and counties within their region on a similar five-year schedule. At the beginning of each cycle, HCD provides population projections to the councils of government, which then allocate shares to their cities and counties. The shares of the regional need are allocated before the end of the cycle so that the cities and counties can amend their housing elements by mandated deadlines.

Local

Association of Bay Area Governments Projections

ABAG is the official comprehensive planning agency for the San Francisco Bay region, which is composed of the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma, and contains 101 cities. ABAG produces growth forecasts on four-year cycles so that other regional agencies, including the MTC and BAAQMD, can use the forecast to make project funding and regulatory decisions. ABAG projections are the basis for the RTP and the regional Ozone Attainment Plan. In this way, ABAG projections have practical consequences that shape growth and environmental quality. The General Plans, zoning regulations and growth management programs of local jurisdictions inform the ABAG projections. The ABAG projections are also developed to reflect the impact of "smart growth" policies and incentives that could be used to shift development patterns from historical trends toward a better jobs-housing balance, increased preservation of open space, and greater development and redevelopment in urban core and transit-accessible areas throughout the ABAG region.

Regional Housing Needs Allocation

The California Housing Element Law requires local jurisdictions to allow the construction of a share of the region's projected housing needs. This share is called the RHNA. The specific RHNA number for a jurisdiction is important because State law mandates that each jurisdiction provide sufficient land to accommodate a variety of housing opportunities for all economic segments of the community to meet or exceed this number of housing units. ABAG, as the regional planning agency, calculates the RHNA for individual jurisdictions within San Mateo County, including Redwood City.

City of Redwood City General Plan

The City of Redwood City's 2015 – 2023 Housing Element was adopted in 2014 and is part of the City's General Plan. The Housing Element contains a description of Redwood City's population trends, housing characteristics, and employment trends, an analysis of the City's housing needs in relation to RHNA, an overview of sites available for housing, an analysis of potential constraints to housing development, evaluation of the previous housing element, and housing goals and policies. The City's General Plan includes the following goals and policies related to population and housing:

Goal BE-2: Recognize, maintain, and celebrate the unique qualities of Redwood City's neighborhoods.

- **Policy BE-2.4:** Provide opportunities for housing development at a range of densities and housing types that provide various choices for current and future residents.

Goal H-1: Protect the existing supply of affordable housing, and continue to enhance the quality of our residential neighborhoods.

- **Policy H-1.1:** Through partnerships with stakeholders and neighborhood groups, promote increased awareness among property owners and residents of the importance of property maintenance to long-term affordable housing.

Goal H-2: Promote, encourage, and assist in the development of housing that meets the needs of all socio-economic segments of the community.

- **Policy H-2.1:** Pursue and maximize the use of State, federal, local, and private funding for the development, reservation, and rehabilitation of housing affordable to very low-, low-, and moderate-income households.
- **Policy H-2.2:** Support collaborative partnerships with nonprofit organizations, developers, neighborhoods, and State and federal agencies to develop, rehabilitate, preserve, and retain affordable housing,
- **Policy H-2.4:** Facilitate a variety of housing choices so that people can both live and work on Redwood City.
- **Policy H-2.5:** Consider various avenues to ensure the provision or construction of affordable housing and other community benefits.

Goal H-3: Encourage and provide opportunities for a variety of housing types.

- **Policy H-3.1:** Ensure adequate housing sites through appropriate land use, zoning, and precise plan designations to accommodate the city's share of regional housing needs,
- **Policy H-3.2:** Facilitate a variety of housing choices, offering diversity in types, ownership, and sizes, including options for mixed-use housing, transit-oriented developments, and live-work housing.
- **Policy H-3.3:** Encourage and provide opportunities for housing for special needs groups, including large families, single-parent headed households, the elderly, the disabled, and those in need of emergency shelter and supportive and transitional housing.

- **Policy H-3.4:** Consult with major employers within Redwood City and nonprofit organizations to support the development of workforce housing opportunities.
- **Policy H-3.5:** Promote the development of higher-density housing proximate to jobs, shopping, services, schools, transportation, and recreation opportunities.

3.7.3 Environmental Impacts

This section analyzes the project's potential to result in significant population and housing impacts. When an impact is determined to be significant, mitigation measures are identified that would reduce or avoid impacts.

Methodology for Analysis

The following evaluation of potential population, housing, and employment impacts associated with the proposed project was based on data obtained from the U.S. Census, the California Department of Finance, and applicable planning documents from the City. The following impact discussions consider the impacts of the proposed project related to employment, population, and housing in the City.

Thresholds of Significance

In accordance with the CEQA Guidelines' Appendix G Environmental Checklist, the following questions were analyzed and evaluated to determine whether population and housing impacts are significant:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Project Impact Analysis and Mitigation Measures

Unplanned Population Growth

Impact POP-1	**The proposed project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).**

Impact Analysis

This analysis assesses the proposed project's potential to induce substantial population growth. There are two types of population growth: direct and indirect. Direct population growth can occur from the development of new residential units. Indirect population growth can occur from the creation of new employment opportunities or the removal of a barrier to growth (e.g., the extension of urban infrastructure to an undeveloped area). The proposed project would not directly or indirectly induce substantial unplanned population growth, as explained below.

Direct Population Growth

The proposed project involves construction of a mixed-use development consisting of a 57,254 square foot multi-family residential building, approximately 300,000 square feet of office space, and a 4,132 square foot childcare facility on a site designated for MUT development by the General Plan. The project site is not currently occupied by any existing residences. The proposed multi-family residential building would include 33 affordable units that would directly induce population growth at the project site. According to the City's General Plan Housing Element, the average household size is 2.7 people (City of Redwood City 2014). Assuming there are 2.7 people per unit, the residential component is estimated to generate approximately 89 people.

In January 2021, the City's population was estimated at 85,182 (DOF 2021a). As discussed, buildout of the City's General Plan estimates the population to increase to 91,900 by 2030 (City of Redwood City 2010a). The addition of 89 residents from the proposed project would represent approximately 1.3 percent of the City's growth anticipated by 2030 in the General Plan. The addition of the 33 multi-family units would also contribute to the City's RHNA. As discussed, the City is required to provide 4,588 housing units between 2023 and 2031. The City would be required to allocate 1,115 units for very low income households, 643 units for low income households, 789 units for moderate income levels, and 2,041 units for above moderate income levels (ABAG 2021b). The Applicant is proposing a 100 percent for-sale affordable housing building with 33 multi-family units that consist of 6 units for very low income levels, 15 units for low income levels, and 12 units for moderate income levels. As such, the proposed project would be within the 2030 population projections anticipated in the City's General Plan and the City's RHNA. The proposed project would not directly induce substantial unplanned population growth and the impact would be less than significant impact.

Indirect Population Growth

The proposed project would develop approximately 300,000 square feet of office space and a 4,132 square foot childcare facility, which would increase the number of employees at the project site. Currently, there are eight existing employees at the project site associated with the property management business and automobile towing operation. The two proposed office buildings would accommodate approximately 1,350 employees, and the childcare facility would have approximately 16 employees. The residential building would be maintained by an HOA, which would hire a property management business to complete daily and monthly maintenance of the property. The property management company would staff the building as necessary; however, there would be no permanent residential maintenance staff on-site. Therefore, the proposed office buildings and childcare facility would generate approximately 1,366 employees at the project site, resulting in a net increase of 1,358 employees at the project site.

As discussed, the City's active labor force in December 2021 was 49,900 with 48,600 people employed and approximately 1,300 people unemployed, resulting in a 2.5 percent unemployment rate (EDD 2021). The City's General Plan EIR anticipates the City's employment would increase to 66,600 by 2030 (City of Redwood City 2014). The addition of 1,358 net employees at the project site would represent approximately 7.5 percent of the City's job growth projected by 2030. Therefore, the proposed project would be within the 2030 employment projections anticipated in the City's General Plan and would not indirectly induce substantial unplanned population growth. Additionally, the proposed project would construct approximately 3,862 linear feet of recycled water purple line to facilitate the extension of the

City's recycled water service to the vicinity of the project site. The construction and expansion of lines could indirectly induce unplanned population growth through extending development into new areas. However, the proposed project would construct and expand the recycled waterline through areas of the City that are already highly developed and therefore, would not indirectly induce substantial population growth. The impact would be less than significant.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

Displacement of People

Impact POP-2	**The proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.**

Impact Analysis

The project site is developed with seven existing structures that have previously been occupied by residential, commercial, and industrial uses. The existing buildings located at 1203 Arguello Street and 1219 Arguello Street are currently vacant. The existing buildings located at 1125 Arguello Street are also vacant; however, the yard space is rented by an automobile towing business. The existing building located at 1227 Arguello Street is also rented by a property management business. The project site is not occupied by any existing residences. There are eight employees that currently occupy the project site associated with the property management business and the automobile towing business. However, the leases associated with the existing businesses are short-term and would be terminated prior to construction of the proposed project. The proposed project would not displace a substantial amount of existing people or housing. The proposed project also involves development of 33 affordable multi-family units and would not need to construct replacement housing elsewhere. Therefore, the proposed project would result in a less than significant impact.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

3.8 TRANSPORTATION

This section describes the existing transportation setting and potential effects from proposed project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on information contained in the Local Transportation Analysis prepared in November 2021 by Kimley Horn and its Supplemental Memorandum prepared in November 2022 (Appendix E).

The City and C/CAG provide recommended standards, methodology, and thresholds for transportation impacts. The Local Transportation Analysis for the proposed project was prepared in accordance with the City and C/CAG's guidelines.

3.8.1 Environmental Setting

Roadway System

The project site is located at the southwest intersection of Arguello Street and Whipple Avenue. The following describes the local roadways that would serve the proposed project and surrounding area.

Freeways

U.S. 101 is a north-south highway that stretches from Washington to California. In California, U.S. 101 begins/ends in Los Angeles and connects major cities in California. It is one of the two major commuter routes between San Francisco and San Jose. Within the study area, the highway segment generally has six to eight lanes, a posted speed limit of 65 miles per hour and an HOV lane is present south of the Veterans Boulevard/Whipple Interchange.

Boulevards

El Camino Real, State Route 82 is a four to six lane north-south boulevard that runs parallel to U.S. 101. It connects multiple cities in the San Francisco Bay Area from Daly City in the north to Santa Clara in the south. Within the study area, the highway generally has four to six lanes with a posted speed limit of 35 miles per hour.

Veterans Boulevard is designated as a Boulevard in the City's General Plan (City of Redwood City 2010a). It is a major roadway that serves as a gateway for the City and generally has six lanes roadway, Class II bike lanes, and on-street parking. The posted speed limit on Veterans Boulevard is 35 miles per hour.

Collector and Local Streets

Whipple Avenue runs east-west and is designated as a Connector Street where cars, bicycles, pedestrians, and transit are all accommodated equally. It is generally a four lane roadway, with bicycle lanes or a shared bicycle-vehicle lane, and a posted speed limit of 25 miles per hour. Whipple Avenue serves commercial and retail land uses.

Arguello Street is designated as a Local Street. The roadway is generally two lanes with a two way left turn lane, on-street parking, Class II bike lanes, and a posted speed limit of 30 miles per hour. Arguello Street serves residential, commercial, and retail uses.

Industrial Way is designated as an Industrial Street north of Whipple Avenue and a Connector Street south of Whipple Avenue. The roadway is generally two-lanes with a two way left turn lane, on-street parking, and a posted speed limit of 30 miles per hour. It serves both commercial and residential land uses.

Active Transportation

Active transportation refers to non-motorized means of travel such as walking or biking. The City's built environment has infrastructure that help facilitates pedestrian and bicyclists' movement.

In order to allow pedestrians to access nearby transit stops, residential uses, and commercial uses, sidewalks and crosswalks are mostly present for the majority of the area surrounding the project site. There are marked crosswalks directly adjacent to the project site at the intersection of Arguello Street and Whipple Avenue.

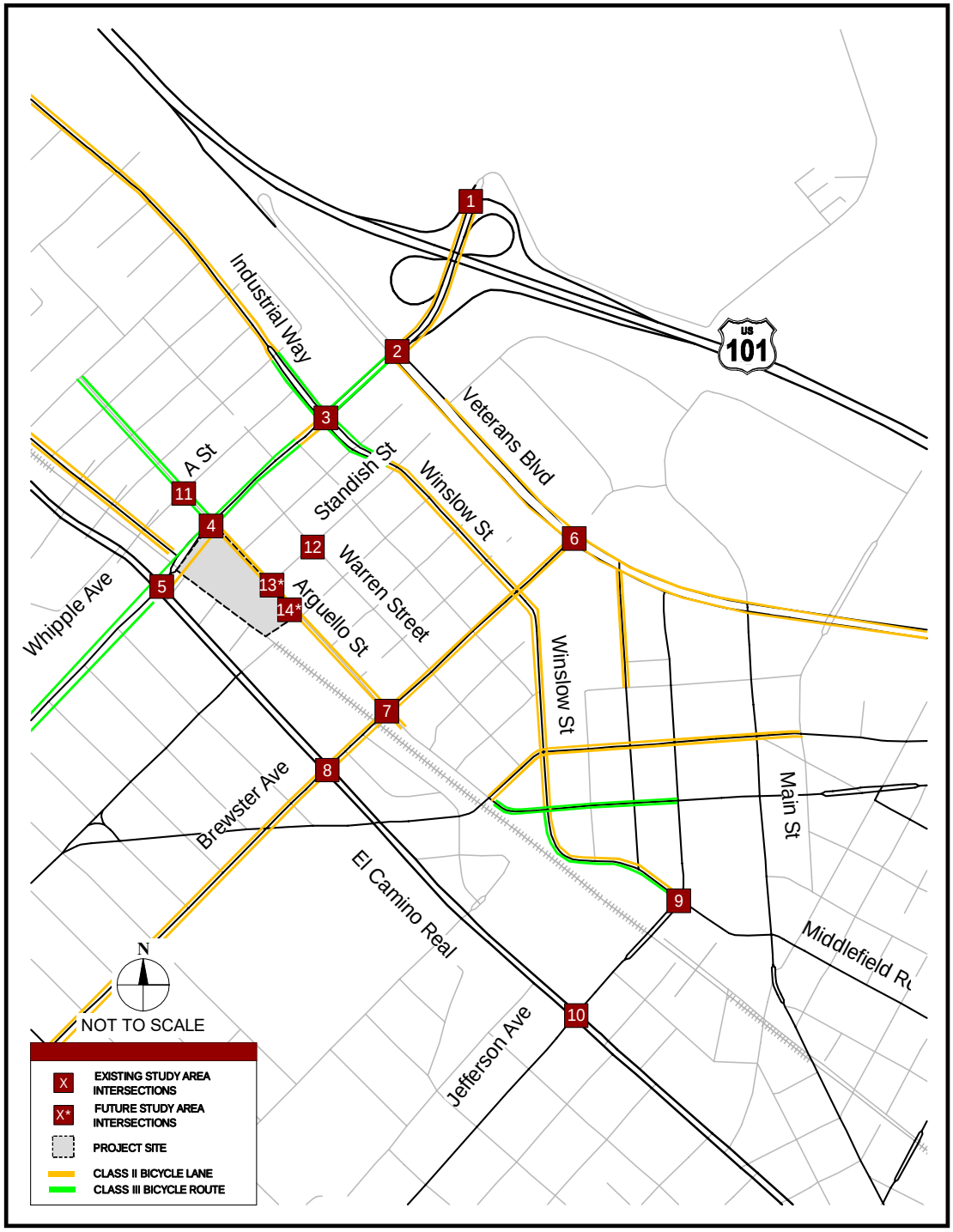
Per the City's General Plan, three classes of bicycle facilities currently exist within the City, Class I Bikeway (Bike Path), Class II Bikeway (Bike Lane) and Class III Bikeway (Bike Route). Figure 3-6 shows existing bicycle facilities within the study area.

The following is a list of the Class II bicycle lanes near the study area:

- Stafford Street between Whipple Avenue and F Street
- Whipple Avenue between El Camino Real and Arguello Street
- Whipple Avenue between Veterans Boulevard and U.S. 101 northbound off ramp
- Arguello Street between Whipple Avenue and Brewster Avenue
- Winslow Street between Standish Street and Jefferson Avenue
- Marshall Street between Arguello Street and Walnut Street
- Middlefield Road between Bradford Street and Veterans
- Veterans Boulevard between Whipple Avenue and Chestnut Street
- Walnut Street from Bradford Street to Veterans Boulevard
- Winslow Street from Broadway and Howland Street

The following is a list of the Class III bicycle routes near the study area:

- Whipple Avenue between Arch Street and Veterans Boulevard
- Industrial Way between B Street and Whipple Avenue
- Winslow Street between Whipple Avenue and Standish Street



Source: Kimley-Horn and Associates, Inc 2021

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Mixed-Use Development Project
Draft EIR

Figure No.
3-6

Existing Bike Facilities

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Transit Facilities

Transit services within Redwood City and other cities in San Mateo County is provided by SamTrans bus service and Caltrain. Figure 3-7 shows the existing transit services within the study area. SamTrans has multiple bus routes near the project site with the nearest SamTrans bus stop located approximately 0.2 mile northwest of the project site at El Camino Real and Whipple Avenue. Route 270, 278, 295, 296, 397, 398 and ECR service the nearby area of the proposed project. During weekdays, few bus routes operate as early as 4:20 AM with headways ranging from 15 minutes to 60 minutes, with the exception of Route 295 on a 120-minute headway. During weekends, the bus routes generally are on 60-minute headways.

Commuter-heavy rail services between San Francisco County and Santa Clara County is provided by Caltrain. Redwood City Caltrain station located on James Avenue, approximately 2,000 feet (0.3-mile) south of project site is the closest station to the project. The station is served by seven northbound limited-stop trains and seven southbound limited-stop trains during the weekday AM peak period (7:00-10:00 AM). The station is served by six northbound limited-stop trains and six southbound limited-stop train during the weekday PM peak period (4:00-7:00 PM). Those taking Caltrain may transfer to SamTrans bus routes ECR, 270, 274, 275, 276, 278, 296, 397, 398 and Pacific Shore Shuttle. They operate on a 30 minute headway during the weekday, and a 50-90 minute headway during the weekend.

3.8.2 Regulatory Setting

State

California Department of Transportation

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways. The state facilities providing regional access to and from the project site is U.S. 101, and State Route 82.

Senate Bill 743

On September 27, 2013, SB 743 was signed into law. The legislature found that with the adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the state had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled and thereby contribute to the reduction of GHG emissions, as required by the California Global Warming Solutions Act of 2006 (AB 32). Generally, SB 743 moves away from using delay-based level of service (LOS) as the metric for identifying a significant impact and instead uses VMT. The new criteria, “shall promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses” (PRC Section 21099(b)(1)). On January 20, 2016, the Governor’s OPR released revisions to its proposed Draft CEQA guidelines for the implementation of SB 743. In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the Guidelines section implementing SB 743 (Section 15064.3). OPR developed a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR’s technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.

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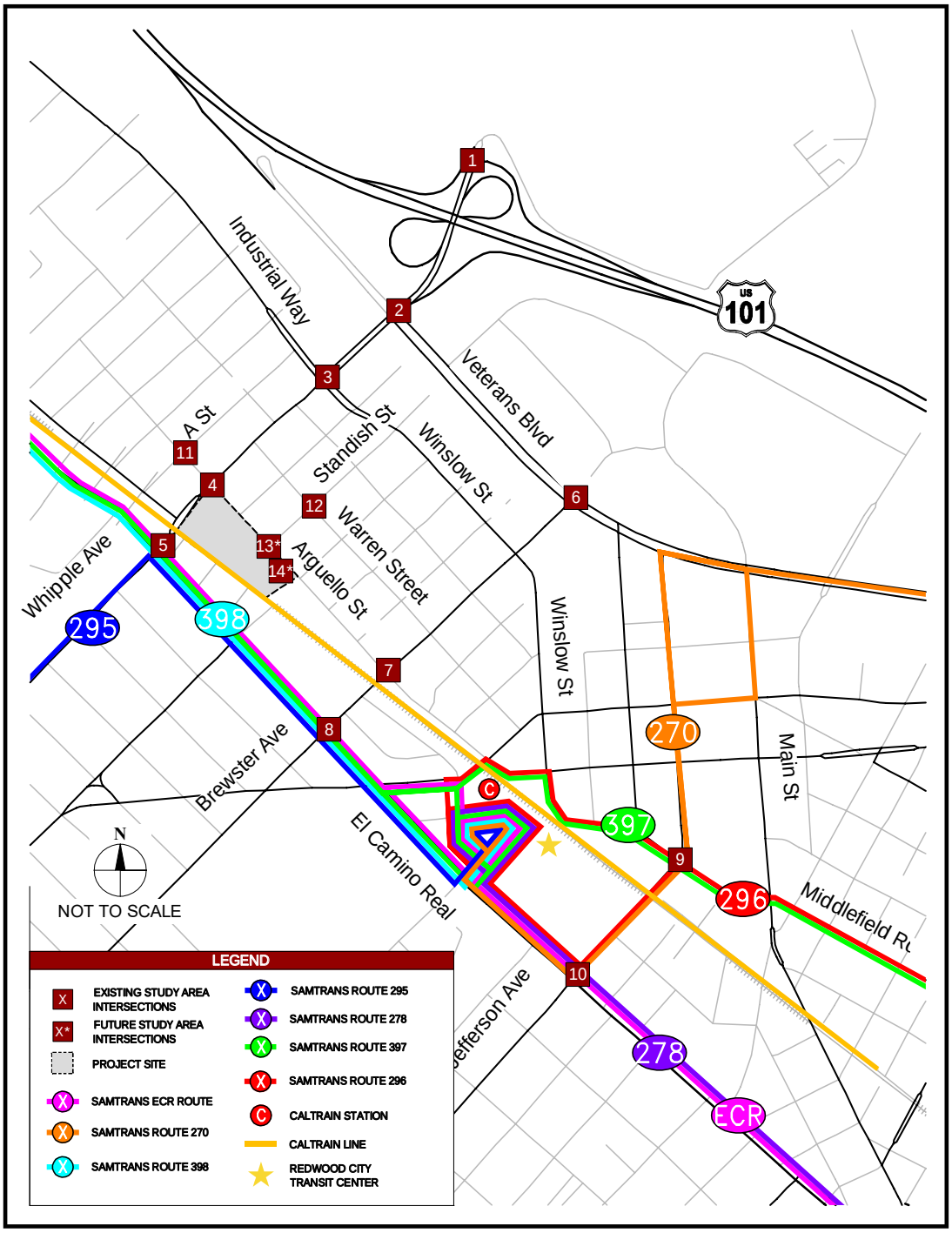

Source: Kimley-Horn and Associates, Inc 2021

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Mixed-Use Development Project
Draft EIR

Figure No.
3-7

Existing Transit Facilities

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The provisions of CEQA Guidelines Section 15064.3 shall apply prospectively as described in Section 15007. Lead agencies are to adopt local guidelines appropriate for their jurisdiction. Beginning on July 1, 2020, the provisions of this section shall apply statewide.

Local

City of Redwood City General Plan

The following lists goals and policies from the City of Redwood City General Plan pertaining to transportation that are applicable to the proposed project.

Goal BE-25: Maintain a local transportation system that balances the needs of bicyclists, pedestrians, and public transit with those of private cars.

- **Policy BE-25.4:** Consider impacts on overall mobility and various travel modes when evaluating transportation impacts of new developments or infrastructure projects.
- **Policy BE-25.6**: Ensure that the City's transportation impact fee program provides adequate funding for necessary transportation improvements that will benefit all travel modes, while also incentivizing development that is less dependent on expensive new transportation infrastructure.

Goal BE-26: Improve walking, bicycling, and electric bicycle/scooter facilities to be more convenient, comfortable, and safe, and therefore more common transportation modes in Redwood City.

- **Policy BE-26.6:** Require new development projects to provide pedestrian, bicycle, and electric bicycle/scooter facilities that connect to existing and planned pedestrian and bicycle facilities; and require large parking facilities to accommodate pedestrian, bicycle, and electric bicycle/scooter circulation.

Goal BE-27: Create conditions to improve utilization of existing public transportation serves to increase ridership.

- **Policy BE-27.5:** Require that new development and projects improve access to and accommodations for public transit.
- **Implementation Program BE-38: Transportation Impact Fee.** Review and, if necessary, update the City's transportation impact fee program to ensure that funding is provided for necessary transportation improvements that will benefit all travel modes.

Redwood City Moves

In 2016, the City recognized substantial changes within Redwood City that would affect transportation and began developing a citywide transportation plan, Redwood City Moves (RWCMoves). The plan presents existing transportation trends and data for the City as well as serving as a guiding document by identifying and prioritizing transportation projects and programs. RWCMoves was adopted on August 23, 2018.

The vision of the RWCMoves is to "Promote the best experience possible for everyone in Redwood City by creating and maintaining a safe, multimodal, and accessible transportation network." The plan also consists of the following six goals:

1. Eliminate traffic fatalities and severe injuries for all modes by 2030.
2. Create a walking and bicycling-friendly community that provides a safe, balanced, and convenient transportation system.
3. Provide seamless connection and improve street access to all areas within the City, but especially along mixed-use corridors designated in the General Plan and Citywide Transportation Plan
4. Embrace innovation in all forms of emerging technologies especially in ways to creatively manage congestion and the transportation system.
5. Reach over 50 percent of all trips being by non-driving modes by 2040, remaining automobile trips should be zero emission trips.
6. Invest in projects that support a resilient, equitable and sustainable transportation system.

El Camino Real Corridor Plan

The El Camino Real Corridor Plan is a policy document that was adopted by City Council on December 4, 2017. The plan includes visions, goals, and strategies for street improvements along the El Camino Real within Redwood City to make the corridor more pedestrian-, bicycle-, and transit-friendly and support uses along the corridor. The plan focuses on four main topics: 1) Mobility, 2) Economic Vitality, 3) Housing, and 4) Place-Making.

3.8.3 Environmental Impacts

Vehicle Miles Traveled

Updated CEQA guidelines have gone into effect statewide that include sections created by Senate Bill 743. The amended CEQA guidelines (Section 15064.3) recommends the use of VMT as the primary metric to identify a transportation impact for land use and transportation projects. Generally, SB 743 moves away from using delay-based LOS as the primary metric for identifying a project's significant impact within CEQA, to instead use VMT.

SB 743 required OPR to establish recommendations for identifying and mitigating transportation impacts within CEQA. In December 2018, OPR released the Final Technical Advisory (OPR's Technical Advisory) that provides guidance and recommendations for local agencies (OPR 2018). While OPR's Technical Advisory provides recommendations on VMT thresholds and methodologies, OPR's Technical Advisory allows for public agencies to establish VMT thresholds and methodologies for their jurisdiction. The Redwood City Transportation Analysis Manual provides a VMT screening criteria that is used to identify if a project is expected to have a less than significant impact without conducting a full VMT analysis. If a project meets one of the five screening categories, then the project is presumed to have a less than significant impact on transportation.

The screening criteria is generally consistent with OPR's Technical Advisory recommendations and is based on factors such as project location, project size, and project type. More specifically, categories include transit priority areas screening, affordable housing screening, small project screening, locally serving public facility, and neighborhood serving retail as shown in Table 3.8-1.

Since the proposed project is mixed-use and consists of multiple components, each component of the proposed project was evaluated separately.

Table 3.8-1. Project Screening and Threshold

Category	Criteria/Screening	Threshold
Transit Priority Areas Screening	Projects located within 0.5-mile walkshed around major transit stop or within 0.25-mile walkshed around high-quality transit corridors generally reduce VMT and therefore can be screened out from completing a full VMT analysis.	If the project is within 0.5-mile walkshed around major transit stop or within 0.25-mile walkshed around high-quality transit corridors, the project is assumed to have a less than significant impact. The project should generally also meet the following criteria: • FAR >= 0.75 • Total square footage <= 500,000 • Not provide more parking than required by zoning code • Be consistent with the applicable Sustainable Communities Strategy • Maintain or increase existing affordable units • Less than significant levels of VMT due to project specific or location specific information
Affordable Housing Screening	Affordable housing in infill locations can be screened out from completing a full VMT analysis.	If the project is comprised of 100% restricted affordable residential units and is located in an infill location, and within half a mile of transit stop then the project is assumed to have a less than significant impact.
Small Project Screening	Small non-retail projects can be screened out from completing a full VMT analysis.	If the project generates less than 150 trips per day, which allows up to 15 single family units, 20 multi-family units, 15,000 square feet of office, or 20,000 square feet of industrial, is assumed to have a less than significant impact.
Locally Serving Public Facility Screening	Locally serving public facilities can be screened out from completing a full VMT analysis.	If the project includes locally serving public facilities, then it is assumed to have a less than significant impact.
Neighborhood-Serving Retail Project Screening	Retail projects that are neighborhood serving can be screened out from completing a full VMT analysis.	A retail project that serves immediate neighborhoods that are 30,000 square feet or less and have a similar use within 3 miles is assumed to have a less than significant impact. For Day care centers of 15,000 square feet or less is assumed to have a less than significant impact.

Transit Priority Areas Screening: A project can be screened out as having a less than significant impact if the project is located within a transit priority area (within 0.5-mile of a major transit stop or within 0.25-mile of a high-quality transit corridor that provides service at least every 15 minutes during peak commute periods). The project must also meet additional criteria:

- Floor Area Ratio (FAR) is 0.75 or more
- Total square footage of 500,000 square feet or less
- Proposed parking does not exceed minimum required by the Zoning Code or applicable plans
- Project is consistent with Redwood City General Plan, applicable Specific Plan, or applicable Sustainable Communities Strategy
- Existing on-site affordable residential units are maintained or increased
- Less than significant levels of VMT are expected due to project-specific or location-specific information.

The project site is within 0.5-mile of Redwood Caltrain Station and within a 0.25-mile of El Camino Real bus stops. Therefore, the proposed project would be eligible to be screened out. The proposed project also meets the additional criteria. The total proposed square footage for the site is 355,762 square feet with a proposed FAR of 1.99. The proposed parking provided by the project would not exceed minimum required by the Redwood City Municipal Code. There are currently no existing on-site affordable residential units, and the proposed project would construct 33 affordable housing units. The proposed project is consistent with the City's General Plan. Therefore, the proposed project meets the transit priority screening category.

Affordable Housing Screening: A project can be screened out as having a less than significant impact on VMT if the project consists of 100 percent affordable housing and is located in infill locations or within a 0.5-mile of a transit stop.

The residential component of the proposed project consists of 33 affordable housing units and is within 0.5-mile from the Redwood Caltrain Station. Therefore, the residential portion of the proposed project meets the affordable housing screening criteria.

Small Project Screening: A project can be screened out as having a less than significant impact on VMT if the project generates less than 150 average daily trips, which allows up to:

- 15 single family units,
- 20 multi-family units,
- 15,000 square feet of office, or
- 20,000 square feet of industrial

The proposed project components generate more than 150 average daily trips. Therefore, the proposed project does not qualify as a small project.

Locally Serving Public Facility Screening: Locally serving public facilities include government, civic, cultural, health, and infrastructure uses like police stations, fire stations, libraries, community centers, and public schools which contribute to and support community needs.

The proposed project components do not include locally serving public facilities. Therefore, the proposed project does not meet the locally serving public facility screening criteria.

Neighborhood-Serving Retail Project Screening: A retail project that serves immediate neighborhoods that are 30,000 square feet or less and have a similar use within 3 miles is assumed to have a less than significant impact. However, for daycare centers, 15,000 square feet or less is assumed to have a less than significant impact.

The proposed project includes a neighborhood serving retail component (childcare facility) that is less than 15,000 square feet, would serve the immediate neighborhoods, and has a similar use within 3 miles. Therefore, the retail component (childcare facility) of the project would be eligible to be screened out.

Thresholds of Significance

In accordance with the CEQA Guidelines' Appendix G Environmental Checklist, the following questions were analyzed and evaluated to determine whether transportation impacts are significant:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
- Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The following issues were determined to have no impact or a less than significant impact during the NOP Scoping. These issues are summarized in Section 7.0, Effects Found Not to Be Significant, and are not discussed further in this section.

- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?

Project Impact Analysis and Mitigation Measures

Conflict with Program, Plan, Ordinance, or Policy

Impact TRANS-1	**The proposed project would not conflict with program plan, ordinance or policy addressing the circulation system, including transit roadway, bicycle and pedestrian facilities.**

Impact Analysis

The proposed project would not conflict with the General Plan Circulation Element, any program plan, ordinance, or policy addressing the circulation system. The project does not propose to amend or adjust roadway classifications, the roadway network, transit routes, or bicycle network as identified in the General Plan.

The project site is located within walking distance to the Redwood City Caltrain Station. Caltrain riders may walk or bike to the proposed project. The station is served by seven northbound limited-stop trains and seven southbound limited-stop trains during the weekday AM peak period (7:00-10:00 AM). It is served by six northbound limited-stop trains and six southbound limited-stop train during the weekday PM peak period (4:00-7:00 PM). Multiple SamTrans bus routes operate within the vicinity of the proposed project. The nearest bus stops are located at the intersection of El Camino Real and Whipple Avenue.

Marked crosswalks are present at the intersection of Arguello Street and Marshall Street, as well as Arguello Street and Brewster Street. Pedestrians would utilize sidewalks along Arguello Street to travel to and from the Redwood City Caltrain station. Pedestrian movement would be enhanced by providing a new crosswalk with flashing beacon at Arguello Street and Standish Street, improving streetscape along the Arguello frontage that includes installing landscape to improve the pedestrian experience. This would facilitate better connections to nearby amenities and public transit. Pedestrian amenities to be constructed by the proposed project within the site include pathways for pedestrians to walk between the buildings.

Class II bicycle lanes and Class III bicycle routes are the existing bicycle facilities located in the vicinity of the project site. However, there are gaps in the existing bicycle network. The proposed project would provide on-site bicycle facilities at the office and residential buildings. The proposed office buildings would include shower/changing rooms and long-term bicycle storage within the building and short-term bicycle parking spaces located at the rear of the buildings. The proposed residential building would have bicycle storage for long-term use and temporary bicycle spaces located near the utility/storage area on the first floor.

Site access improvements would not cause any conflicts with other improvements planned for the area. As mentioned above, operation of the proposed project would include amenities and site improvements for bicyclists and pedestrians such as sidewalks along internal streets that connect to existing facilities. As a result, the proposed project would not create hazards or barriers for pedestrians, bicyclists, or local transit service.

Additionally, the proposed project includes the construction of approximately 2,553 linear feet of recycled waterline along Arguello Street from Whipple Avenue to Marshall Street and approximately 1,309 linear feet of recycled waterline from Marshall Street to Jefferson Street. The construction of the recycled waterline would require excavation and construction within the public right-of-way. Truck routes to the recycled waterline construction area were identified based on the City's General Plan Circulation Element and it is expected that construction traffic would use US-101 for regional access and use Whipple Road to access Arguello Street and the project site. The number of open travel lanes along Arguello Street during construction of the recycled waterline would remain the same as existing conditions and the existing travel lanes would be shifted to the outside edges of Arguello Street where on on-street parking is located. It is anticipated that on-street parking would be removed during construction and Arguello Street would remain as one travel lane in each direction and a bicycled lane in each direction. Disturbed roadways would be regraded to existing conditions and the construction of the recycled waterline would not result in changes to the existing roadways.

Therefore, the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. This impact would be less than significant.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

Vehicle Miles Traveled

Impact TRANS-2 The proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision(b).

Impact Analysis

According to CEQA Guidelines §15064.3 Subdivision (b)(1), VMT exceeding an applicable threshold of significance may indicate a significant impact. Projects that decrease VMT in the project area compared to existing conditions should be considered to have a less than significant transportation impact. However, as previously discussed, VMT guidelines provide screening criteria that is used to identify if a project is expected to have a less than significant impact without conducting a full VMT analysis. The proposed project meets the following screening criteria:

- The proposed project is in a transit priority area.
- The residential component of the project consists of 100 percent affordable housing within 0.5-mile of a major transit stop.
- Retail component of the project (childcare facility) would be considered a neighborhood-serving retail since it is less than 15,000 square feet, would serve the immediate neighborhood and have a similar use within 3 miles.

Therefore, the proposed project would have a less than significant VMT impact.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

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3.9 TRIBAL CULTURAL RESOURCES

This section discusses impacts to cultural resources directly related to Native American tribal cultures that populated the area where the project is located. The distinction for tribal cultural resources is that they are described as a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. Cultural resources are generally considered as archaeological or paleontological resources that are typically beneath the surface of the ground and are discovered or uncovered through disturbance of the site. The potential tribal cultural resources impacts associated with the proposed project are identified and discussed herein.

3.9.1 Environmental Setting

Project Setting

The 3.5 acre project site is within a highly urbanized area located north of the City's Downtown and 0.5-mile from the Redwood City Caltrain Station. As discussed in Section 3.3, Cultural Resources, a portion of the project site is located within the City's Mezesville Historic District which contains a mix of early 20th century and mid-century homes that are one- or two-story, wood frame buildings in a variety of architectural styles (City of Redwood City 2010a). The project site is fully developed with seven structures that are a mix of commercial, industrial, and residential uses. The on-site residential buildings have mostly been converted to office use, except for the residential building with garage at 1203 Arguello Street that is currently vacant.

Ethnographic Setting

The project area is within the traditional tribal territory of the Ramaytush Costanoan (Kroeber 1925; Levy 1978). Ancestors of the Costanoan, who today refer to themselves as Ohlone, have likely inhabited the San Francisco and Monterrey Bay areas for around 1,500 years. Their territory stretched from the San Francisco Bay to just south of Carmel and extended as far as 60 miles inland from the Pacific Coast, including most of present-day Alameda County (Levy 1978).

The terms Ohlone and Costanoan do not denote a single ethnic or political entity, but rather a linguistically defined group that, together with Miwok, forms the Utian family of the Penutian language stock (Levy 1978). The Ohlone language family consists of eight separate and distinct languages used by approximately 50 autonomous "tribelets," each consisting of 200-500 people organized into several villages whose locations were largely determined by geographic features (Kroeber 1925; Milliken 1995). A headman or chief controlled each local tribe. While the position was usually inherited patrilineally, it could be held by a man or woman (Levy 1978). Chiefs' duties included providing for visitors, directing ceremonial activities, and leading fishing, hunting, and gathering expeditions. The chief also served as the leader of a council of elders, which functioned primarily in an advisory capacity (Levy 1978; Bean 1978).

Though they differed linguistically, tribelets shared similar hunting and gathering strategies relying heavily on acorns and locally obtained maritime and estuarine resources. They also exploited a wide range of other foods, including various seeds, buckeye, berries, roots, land and sea mammals, waterfowl, reptiles, and insects. The Ohlone used tule balsas in the production of watercraft. They also made and used bows

and arrows, cordage, bone tools, and twined basketry to procure and process their foodstuffs (Levy 1978). Within tribal groups, extended families lived in domed structures thatched with grass, tule, wild alfalfa, ferns, or carrizo (Levy 1978), and they built semi-subterranean sweat houses in pits excavated into stream banks (Kroeber 1925).

Native American Consultation

As the lead agency under CEQA, the City is responsible for complying with the requirements of PRC Section 5097.94. The City oversees consultation with Native American tribes for this project. On November 18, 2021, the City mailed AB 52 consultation letters to the Muwekma Ohlone Indian Tribe of the SF Bay Area, the Costanoan Rumsen Carmel Tribe, the Ohlone Indian Tribe, the Indian Canyoon Mutsun Band of Costanoan, the Indian Canyon Mutsun Band of Costanoan, and the Amah Mutsun Tribal Band of Mission San Juan Bautista. The letters contained a description of the proposed project and project location, a map of the project area, and an invitation to consult on the proposed project.

Pursuant to PRC Section 21080.3.1(b), Native American tribes contacted have 30 days from receipt of the AB 52 consultation letters to request AB 52 consultation for the project with the City. The City has not received any responses or requests for AB 52 consultation related to the proposed project to date. The project description and a map depicting the project area were also sent to the NAHC requesting a review of the Sacred Lands File for Native American cultural resources that might be affected by the proposed project. A search of the NAHC Sacred Lands File performed did not result in the identification of known tribal cultural resources within or near the project site.

3.9.2 Regulatory Setting

Refer to Section 3.3, Cultural Resources, for additional federal and state regulations and local policies applicable to tribal cultural resources.

State

Assembly Bill 52 (PRC Section 21084.2)

AB 52 establishes a formal consultation process for California tribes as part of CEQA and equates significant impacts on “tribal cultural resources” with significant environmental impacts (PRC Section 21084.2). AB 52 defines a “California Native American tribe” as a Native American tribe located in California that is on the contact list maintained by NAHC. AB 52 requires formal consultation with California Native American tribes prior to determining the level of environmental documentation if a tribe has requested to be informed of proposed projects by the lead agency. AB 52 also requires that consultation address project alternatives and mitigation measures for significant effects, if requested by the California Native American tribe, and that consultation be considered concluded when either of the parties agrees to measures to mitigate or avoid a significant effect, or the agency concludes that mutual agreement cannot be reached. Under AB 52, such mitigation or avoidance measures must be recommended for inclusion in the environmental document and adopted mitigation monitoring program if determined to avoid or lessen a significant impact on a tribal cultural resource.

California Health and Safety Code and Public Resources Code

Broad provisions for the protection of Native American cultural resources are contained in the HSC, Division 7, Part 2, Chapter 5 (Sections 8010 through 8030). Several provisions of the PRC also govern archaeological finds of human remains and associated objects. Procedures are detailed under PRC Section 5097.98 through 5097.996 for actions to be taken whenever Native American remains are discovered.

Section 7050.5 of the HSC states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the PRC. Any person removing human remains without authority of law or written permission of the person or persons having the right to control the remains under PRC Section 7100 has committed a public offense that is punishable by imprisonment. PRC Chapter 1.7, Section 5097.5/5097.9 (Stats. 1965, c. 1136, p. 2792), entitled Archaeological and Historical Sites, defines any unauthorized disturbance or removal of remains on public land as a misdemeanor.

3.9.3 Environmental Impacts

This section analyzes the project's potential to result in significant tribal cultural resources impacts. When an impact is determined to be significant, mitigation measures are identified that would reduce or avoid that impact.

Methodology for Analysis

The following impact analysis is based on outreach to the NWIC, literature review, and search of the Sacred Lands File from NAHC. In addition, the City conducted AB 52 Native American consultations. No survey was conducted due to the built/paved nature of the project area.

Thresholds of Significance

In accordance with the CEQA Guidelines' Appendix G Environmental Checklist, the following questions were analyzed and evaluated to determine whether impacts to tribal cultural resources are significant:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined by PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    i) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k), or

    ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1? In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Project Impact Analysis and Mitigation Measures

Tribal Cultural Resources

Impact TRIB-1 **Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to California Native American tribe, and that is:**

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Impact Analysis

A search of the NAHC Sacred Lands File performed did not result in the identification of known tribal cultural resources within or near the project site. Furthermore, consultation with NAHC and local tribes did not identify known tribal cultural resources within the project site. Therefore, the proposed project is not anticipated to impact any known or potential tribal cultural resources.

However, subsurface project construction activities such as excavating and grading could potentially damage or destroy previously undiscovered unique tribal cultural resources. To reduce potential impacts to previously undiscovered tribal cultural resources, the proposed project would be required to implement Mitigation Measures CUL-1 and CUL-2. Implementation of Mitigation Measure CUL-1 would require cultural resource awareness training. If an inadvertent discovery were to occur, the proposed project would be required to implement Mitigation Measure CUL-2 and stop all ground-disturbing activities within 50 feet of the find until it is evaluated by a qualified archaeologist. As such, impacts related to undiscovered tribal cultural resources would be less than significant with implementation of Mitigation Measures CUL-1 and CUL-2.

Level of Significance Before Mitigation
Potentially Significant Impact.

Mitigation Measures
Mitigation Measures CUL-1 and CUL-2 are required.

Level of Significance After Mitigation
Less Than Significant Impact with Mitigation.

3.10 UTILITIES AND SERVICE SYSTEMS

This section describes the environmental and regulatory setting for utilities and service systems. It also describes existing conditions and potential impacts related to utilities and service systems that would result from implementation of the proposed project, and mitigation for potentially significant impacts, where feasible.

3.10.1 Environmental Setting

Water Supply

Potable Water Supply

Redwood City receives 100 percent of its potable water supply from the San Francisco Regional Water System operated by the San Francisco Public Utilities Commission (SFPUC). Approximately 85 percent of the water supply to the SFPUC Regional Water System (RWS) comes from the Hetch Hetchy watershed, located in Yosemite National Park, and flows down the Tuolumne River into the Hetch Hetchy Reservoir. The remaining 15 percent of the water supply to the SFPUC RWS originated locally in the Alameda and Peninsula watersheds and is store in sic different reservoirs in Alameda and San Mateo Counties. Water from the Hetch Hetchy Reservoir is treated at the Tesla Treatment Facility, which is an ultraviolet (UV) treatment facility that was constructed in 2011. The Tesla Treatment Facility has a capacity of 315 mgd. All water derived from sources other than the Hetch Hetchy Reservoir is treated at one of two treatment plants, the Sunol Valley Water Treatment Plant (SVWTP) or the Harry Tracy Water Treatment Plant (HTWTP). The SVWTP primarily treats water from the Alameda System reservoirs and has both a peak capacity and sustainable capacity of 160 mgd. The HTWTP treats water from the Peninsula System reservoirs and has a peak capacity of 180 mgd and sustainable capacity of 140 mgd.

The water is delivered to Redwood City through regional system pipelines and from the pipelines, the water is dispersed through Redwood City's storage and distribution system to local users (City of Redwood City 2010a). The SFPUC delivers about 260 million gallons per day (mgd) to all water customers within its system. San Francisco has a perpetual commitment (Supply Assurance) to deliver 185 mgd to the 24 permanent Wholesale Customers collectively. The Supply Assurance is allocated along the 24 permanent Wholesale Customers through Individual Supply Guarantees (ISG), which represent each Wholesale Customer's allocation of the 185 mgd Supply Assurance. The City's ISF is 10.93 mgd, or approximately 12,243 acre-feet/year (afy). Between 2016 and 2020, the City purchased between 67 percent and 80 percent of its ISG (City of Redwood City 2021).

According to the City's 2020 Urban Water Management Plan (UWMP), the City's total water demand was 10,708 afy with potable water demand of 9,852 afy and recycled water demand of 856 afy. The 2020 UWMP estimates that total water demand for the City would increase to approximately 11,923 afy in 2045.

Table 3.10-1 below shows a summary of current and planned water supplies and a comparison of the projected supply and demand in a normal year scenario. Redwood City's water supply and demand is balanced with some room for unplanned growth through 2045.

Table 3.10-1. Projected Supply vs. Demand for Normal Year Scenario

	Year				
	2025	**2030**	**2035**	**2040**	**2045**
Potable Water Supply	12,243	12,243	12,243	12,243	12,243
Potable Water Demand	9,520	9,623	9,880	9,995	10,207
Surplus or (Deficit)	*2,723*	*2,620*	*2,363*	*2,248*	*2,036*
Recycled Water Supply	3,238	3,238	3,238	3,238	3,238
Recycled Water Demand	1,286	1,426	1,686	1,701	1,716
Surplus or (Deficit)	*1,952*	*1,812*	*1,552*	*1,537*	*1,522*
Total Water Supply	**15,481**	**15,481**	**15,481**	**15,481**	**15,481**
Total Water Demand	**10,806**	**11,049**	**11,566**	**11,969**	**11,923**

Recycled Water

The Redwood City Council approved a recycled water project in 2003 with the goal of reducing demand on the Hetch Hetchy system. Silicon Valley Clean Water (SVCW) and Redwood City entered into agreements for the production and distribution of recycled water that is treated to the California State Title 22 standards for non-potable unrestricted use. The recycled water can be used for landscape irrigation, industrial applications, and other approved indoor uses such as toilet flushing in new commercial, and some multi-family buildings. The recycled water system has been designed to deliver up to 3,238 afy. According to the 2020 UWMP, approximately 856 afy of recycled water was used in Redwood City in 2020. In 2008, the City Council of Redwood City adopted a Recycled Water Use Ordinance and established a Recycled Water Service Area. Specific uses of recycled water including landscape irrigation and toilet/urinal flushing are required within the Recycled Water Service Aera for new developments. However, for properties outside of the Recycled Water Service Area, recycled water use is voluntary. Recycled water system demand by City customers if estimated to be 1,716 afy by 2045 (City of Redwood City 2021).

Groundwater

Groundwater is not a source of potable water supply for Redwood City due to water quality, reliability, and long-term production capacity concerns. Local groundwater is currently used by a limited number of private well owners for domestic and irrigation uses. The City does not include groundwater as a source of supply in its 2020 UWMP. However, a preliminary assessment of groundwater production potential for the City conducted during the preparation of the 2020 UWMP found that sufficient groundwater supply may be available for the City to use as a source of back-up supply for emergency conditions.

3.10.2 Regulatory Setting

State

Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610–10656). The Urban Water Management Planning Act requires that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 afy shall prepare and adopt an UWMP. Water suppliers are required to prepare a UWMP within a year of becoming an urban water supplier and update the plan at least once every five years. The Urban Water Management Planning Act also specifies the content that is to be included in an UWMP. It is the intention of the legislature to permit levels of water management planning commensurate with the number of customers served and the volume of water supplied. The Urban Water Management Planning Act states that urban water suppliers should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple-dry years. The Urban Water Management Planning Act also states that the management of urban water demands, and the efficient use of water shall be actively pursued to protect both the people of the state and their water resources. The latest Redwood City UWMP is the 2015 UWMP which was adopted in June 2016. However, the City is currently preparing an updated 2020 UWMP. The Draft 2020 UWMP was released in May 2021.

California State Senate Bills 610 and 221

The purpose and legislative intent of SB 610 and SB 221 is to preclude projects from being approved without specific evaluations being performed and documented by the local water provider proving that water is available to serve the project.

SB 610 (codified at Section 10910 – 10915 of the California Water Code) requires the preparation of a Water Supply Assessment (WSA) for large-scale development projects, typically defined as any project involving a water demand increase equivalent to that associated with 500 or more dwelling units or other types of developments (e.g., hotels and motels, commercial buildings, industrial parks, etc.) using a comparable amount of water. The WSA evaluates the water supply available for new development based on anticipated demand. For the broad range of projects that are subject to this law, the statutory WSA must be requested by the lead agency from the local water provider at the time the lead agency determines that an EIR is required for the project under CEQA.

SB 221 (codified at California Government Code Section 66473.7) requires verification from applicable public water systems that a sufficient long-term water supply is available to meet projected demand associated with a proposed subdivision comprising water demand equivalent to 500 or more dwelling units.

The WSA required by SB 610 is to be prepared sufficiently early in the development review process that it can be incorporated in the CEQA evaluation and documentation of the proposed project. SB 221, by contrast, becomes operative at the point that the City is considering approval of a tentative subdivision map. In Redwood City, the Community Development & Transportation Department is responsible for requesting the preparation of the WSA, including sufficient information about the project. The Public

Works Services Department is responsible for preparing the WSA. The City Council is responsible for approving the WSA. The Community Development Department then directs the inclusion of the WSA in the environmental documentation of the proposed project. Based on the City's review of the proposed project development application, the City has determined that the 1125 Arguello Street Mixed Use Project is subject to CEQA, and it is considered a "project" as defined by Water Code §10912. Therefore, the City, as both Lead Agency and Water Supplier, is required to prepare an SB 610 WSA. The proposed project was not specifically listed in the 2020 UWMP, but its demands are factored into the growth projections in the 2020 UWMP based on its consistency with the City's 2010 General Plan.

Local

City of Redwood City General Plan

The City of Redwood City General Plan contains the following goals and policies applicable to the proposed project:

Goal NR-2: Reduce water consumption through aggressive implementation of conservation policies and programs.

- **Policy NR-2.1:** Encourage, facilitate, and/or require the use of water conserving appliances and fixtures in new development.
- **Policy NR-2.2:** Encourage the use of drought-tolerant, low-water consuming landscaping as a means of reducing overall and per capita water demand.

Goal NR-3: Coordinate land use and water supply planning processes so that adequate water supplies are available for proposed development.

- **Policy NR-3.1:** Require new development to demonstrate that adequate water is available before project approval and to fund its fair-share costs associated with the provisions of water service.

Redwood City Urban Water Management Plan

The California Legislature enacted the Urban Water Management Planning Act (Water Code Section 10610 – 10656) in 1983. The UWMP Act requires urban water suppliers to prepare an UWMP every five years and submit this plan to the DWR, the California State Library, and any city or county within which the supplier provides water supplies. All urban water suppliers, either publicly or privately owned, providing water for municipal purposes wither directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet annually are required to prepare an UWMP (City of Redwood City 2021).

Redwood City adopted its most recent UWMP in 2021. The UWMP is a foundational document and source of information about the City's historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs. The UWMP describes existing and planned sources of water available in the water system service area over the next 20 years in 5 year increments. The UWMP also describes ongoing and programmed water conservation and augmentation efforts, and measures to be taken in times of water shortage. The UWMP takes into account growth projections associated with the General Plan.

Redwood City Water System Regulations

Chapter 38 of the Redwood City Code sets forth regulations regarding the water system serving the City of Redwood City and other areas outside City limits. The chapter establishes water service areas and limits allowable connections that cross service area boundaries. This chapter also established fees for water service and for new connections, including a facilities fee to provide for the use and construction of existing and future water system capital facilities (Section 38.14) (City of Redwood City 2010b).

Redwood City Recycled Water Ordinance

Chapter 38, Article VIII of the Redwood City Code outlines local regulations regarding the use of recycled water. Section 38.52 sets forth required usage of recycled water within the defined "Recycled Water Service Area" shown in Figure 4.15-1 of the City's General Plan EIR. As per Section 38.52, the extent of the Recycled Water Service Area is subject to periodic update by resolution of the City Council of Redwood City.

The ordinance requires use of recycled water in a variety of existing and new land uses/developments. Within he recycled water service area, existing and remodeled commercial and industrial buildings must use recycled water for exterior landscaping. Further, new commercial, industrial, and institutional and multifamily residential projects must use recycled water for landscaping and must also install a dual plumbing system so that recycled water can be utilized for restroom facilities. Such new buildings must incorporate recycled water into internal cooling towers and/or evaporative coolers. In addition to these mandatory uses, Section 38.53 sets forth a number of voluntary uses inside and outside of the Recycled Water Service Area for commercial, residential, institutional, and governmental uses (City of Redwood City 2010b).

3.10.3 Environmental Impacts

This section analyzes the project's potential to result in significant utilities and service systems impacts. When an impact is determined to be significant, mitigation measures are identified that would reduce or avoid impacts.

Methodology for Analysis

The following analysis is based on a review of documents pertaining to the project site, including the General Plan, the General Plan EIR, 2020 UWMP, the WSA (Appendix F), and Section 2.0, Project Description, of this EIR. The following impact discussions consider the impacts of the proposed project related to utilities and service systems in the City.

Thresholds of Significance

In accordance with the CEQA Guidelines' Appendix G Environmental Checklist, the following questions were analyzed and evaluated to determine whether utilities and service system impacts are significant:

- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The following issues were determined to have no impact or a less than significant impact during the NOP Scoping. These issues are summarized in Section 7.0, Effects Found Not to Be Significant, and are not discussed further in this section.

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or other impair the attainment of solid waste reduction goals?
- Comply with federal, state and local management and reduction statues and regulations related to solid waste?

Project Impact Analysis and Mitigation Measures

Water Supply

Impact UTIL-1 **Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

Impact Analysis

The Preliminary Engineering Study prepared by BFK Engineers determined that the proposed project would have an anticipated project water demand of 54,045 gallons per day. The City of Redwood City Public Works Services Department prepared a WSA for the proposed project on December 5, 2022 (Appendix F). The WSA analyzed whether the City has sufficient water supplies to serve the proposed project during normal, dry, and multiple dry years. The WSA analyzed the water supply and demand through 2045 under two scenarios: (1) with full implementation of the Bay-Delta Plan Amendment in 2023 and (2) without implementation of the Bay-Delta Plan Amendment. In December 2018, the State Water Resources Control Board (SWRCB) adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) to establish water quality objectives to maintain the health of the Bay-Delta ecosystem. However, all negotiations for implementation of the Bay-Delta Plan Amendment are ongoing and whether and when the Bay-Delta Plan Amendment will be implemented and how those amendments if implemented would affect the SFPUC's, and thereby Redwood City's, water supply is uncertain and possibly speculative. Therefore, the WSA analyzed two different scenarios to account for the uncertainty (City of Redwood City 2022).

Under scenario 1, the WSA determined that the City would have sufficient water supplies to serve the proposed project and all other existing and planned future demands, in normal years. With scenario 1, the City would require implementation of its Water Shortage Contingency Plan (WCSP) to meet future demand, including the demands of the proposed project. However, shortfalls represent a significant challenge for the community, and in a single dry year or first dry year the anticipated supply shortfall would be between 36 percent and 47 percent. In prolonged dry conditions with up to five multiple dry

years, the shortfall would increase to 55 percent. However, because the proposed project's water demands were included in the 2020 UWMP, the proposed project would not change the water shortage that would need to be declared during shortfalls and the proposed project would not result in additional curtailments from existing or planned customers beyond the curtailments that would be required without the proposed project. Therefore, the proposed project would not result in an increase in water supply shortage.

Under scenario 2, the WSA determined that that City would have sufficient water supplied to meet all of its expected future water demands, including the demands of the proposed project, in normal years and dry years through 2040. In the year 2045, the City would have sufficient supply in all years with the exception of the fourth and fifth consecutive dry years in a multiple dry year scenario. When supplies do not meet demand, the City would implement its WSCP to curtail demands and ensure that its supplies remain sufficient to serve all users, including the proposed project.

Both conclusions for scenario 1 and scenario 2 assume that the proposed project includes the use of recycled water which would require an extension of the City's Recycled Water pipeline to the vicinity of project site. The WSA assumed recycled water would provide for 30 percent of the proposed residential use demand and 20 percent of the proposed office use demand. The proposed childcare use was allocated 100 percent potable water and would not require use of recycled water. The recycled waterline for the City has not been extended to the vicinity of the project site. However, since the WSA determined that the proposed project would require the use of recycled water to ensure that there are sufficient water supplies available to serve the proposed project and all users, the proposed project is required to extend the recycled waterline to the project site. The proposed project would include the extension of recycled waterline to the project site and would construct approximately 2,553 linear feet of 16-inch diameter recycled waterline along Arguello Street from Whipple Avenue to Marshall Street and approximately 1,309 linear feet of 30-inch diameter recycled waterline from Marshall Street to Jefferson Avenue. Additionally, the proposed project would install recycled water laterals throughout the site to connect to the new extended recycled waterline. The City's existing recycled waterline terminates at the intersection of Walnut Street and Marshall Street, approximately 845 linear feet from the terminus of proposed project's proposed recycled waterline installation. The section of recycled waterline that would be required to connect the proposed project's recycled waterline at the intersection of Jefferson Street and Marshall Street to the existing recycled waterline located at the intersection of Walnut Street and Marshall Street is already funded and planned for construction by the City. Because recycled water would be available at the site through the extension of existing recycled waterline to the vicinity of the site and as the WSA determined that the City would have sufficient water supplies to serve the proposed project with the use of recycled water, the proposed project would result in a less than significant impact to water supplies.

Level of Significance Before Mitigation
Less Than Significant Impact.

Mitigation Measures
No mitigation is necessary.

Level of Significance After Mitigation
Less Than Significant Impact.

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4.0 CUMULATIVE EFFECTS

4.1 INTRODUCTION

Section 15130(a) of the State CEQA Guidelines requires a discussion of the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Cumulatively considerable, as defined in CEQA Guidelines Section 15065(a)(3), means that the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." The State CEQA Guidelines Section 15355 defines a cumulative impact as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

According to the CEQA Guidelines:

> *Cumulative impacts refer to two or more individual effects that, when considered together, are considerable and that compound or increase other environmental impacts.*
>
> *a) The individual effects may be changes resulting from a single project or multiple separate projects.*
>
> *b) "The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probably future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CCR, Title 14, Division 6, Chapter 3, Section 15355)*

In addition, as stated in the CEQA Guidelines:

> *The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable (CCR, Title 14, Division 6, Chapter 3, Section 15064[T][5]).*

4.2 CUMULATIVE IMPACT SETTING

Cumulative impact discussions for each environmental issue area are provided for each environmental resource topic analyzed in the Draft EIR. As established in the CEQA Guidelines, related projects consist of "closely related past, present, and reasonably foreseeable probable future projects that would likely result in similar impacts and are located in the same geographic area" (CCR, Title 14, Division 6, Chapter 3, Section 15355).

The State CEQA Guidelines define a cumulative impact as two or more individual impacts that, when considered together, are significant or that compound or increase other significant environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over time (State CEQA Guidelines Section 15355). The incremental impact of a project, although less than significant on its own, may be considerable when viewed in the cumulative context of other closely related

past, present, and reasonably foreseeable projects. A considerable contribution is considered significant from the point of view of cumulative impact analysis.

CEQA Guidelines Section 15130 identifies two basic methods for establishing the cumulative environment in which a project is considered: the use of a list of past, present, and probable future projects or the use of adopted projections from a general plan, other regional planning document, or a certified EIR for such a planning document. This cumulative analysis uses a combination of the "list" approach and the "projections" approach to identify the cumulative setting. The plan and projections approach relies on an adopted plan or reliable projection that describes the significant cumulative impact. This Draft EIR combines both the project list and projection approaches to generate the most reliable future projections possible.

4.3 GEOGRAPHIC SCOPE

The geographic area analyzed for cumulative impacts is dependent on the resource being analyzed. The geographic area associated with the proposed project's environmental impacts defines the boundaries of the area used for compiling the list of past, present, and reasonably foreseeable projects considered in the cumulative impact analysis.

Each environmental resource topic analyzed in this Draft EIR considers a specific geographic area that is directly related to the individual topic. For example, the analysis of air quality is based on a regional level because air quality impacts are regional in nature, whereas analysis of aesthetic impacts only considers related projects in the vicinity of the project site because of the localized nature of the impact.

The geographic area that could be affected by implementation of the proposed project in combination with other projects varies depending on the type of environmental resource being considered. Table 4.3-1 provides the geographic area and the method of evaluation utilized in the cumulative analysis for each resource area.

Table 4.3-1. Geographic Scope of Cumulative Impact and Method of Evaluation

Resource Topic	Geographic Area	Method of Evaluation
Aesthetics	Immediate project vicinity	Projects
Air Quality	Local (toxic air contaminants) air basin (construction-related and mobile sources)	Projects and Projections
Cultural Resources	Project site and Mezesville Historic District	Projects
Greenhouse Gas Emissions	State	Projections
Land Use and Planning	Immediate project vicinity	Projects
Noise	Immediate project vicinity (effects are highly localized)	Projects
Population and Housing	Region	Projects and Projections
Transportation	Region	Projects and Projections
Tribal Cultural Resources	Project site only (does not contribute to cumulative impacts)	Projects

Resource Topic	Geographic Area	Method of Evaluation
Utilities and Service Systems	Local	Projects

Notes:
Projects = the use of a list of past, present, and reasonably foreseeable projects
Projections = the use of projections contained in relevant planning documents

For those environmental resources that were evaluated based on the projections approach, the projections take into consideration future projects that are not included in the below list of related plans and projects.

4.4 LIST OF RELATED PROJECTS

The list of past, present, and probable future projects used for this cumulative analysis is restricted to those projects that have occurred or are planned to occur (i.e., pending applications at the time of the NOP release). For the purposes of this discussion, these projects that may have a cumulative effect on the resources of the project area will be referred to as the "related projects." These related projects are described in Table 4.4-1 and shown in Figure 4-1. As discussed above under Section 4.3, Geographic Scope, the geographic area analyzed for cumulative impacts is dependent on the resources being analyzed. The geographic area associated with the proposed project's environmental impacts defines the boundaries of the area used for compiling the list of past, present, and reasonably foreseeable projects considered in the cumulative impact analysis. The list of related projects identified for the proposed project does not include all projects currently pending citywide. The list of related projects was determined based on the resource topics analyzed in this EIR and the specific geographic area that is directly related to the individual topics analyzed. For example, cumulative analysis of aesthetic impacts only considers related projects in the vicinity of the project site because of the localized nature of the impact. As identified above in Table 4.3-1, the geographic scope of majority of resource topics analyzed in this EIR is identified as the project site or the immediate project vicinity. Therefore, the list of related projects only includes projects that have occurred or are planned to occur within the vicinity of the project site. Resource topics identified in Table 4.3-1 that have a geographic scope outside of the immediate project vicinity use projections as the method of evaluation which take into consideration of future projects that are not included in the related projects list identified in Table 4.4-1.

CEQA defines "probable future projects" as those with an active application at the time the NOP was released for a project (in this case, October 19, 2021). The list of projects in Table 4.4-1 was used in the development and analysis of the cumulative settings and impacts for each resource topic. Past and current projects in the project vicinity were also considered as part of the cumulative setting as they contribute to the existing conditions upon which the project and each probable future project's environmental effects are compared.

Unless otherwise specified, significance criteria are the same for cumulative impacts as they are for project impacts for each environmental topic area. When considered in relation to other reasonably foreseeable projects, cumulative impacts to some resources would be significant and more severe than those caused by the project alone.

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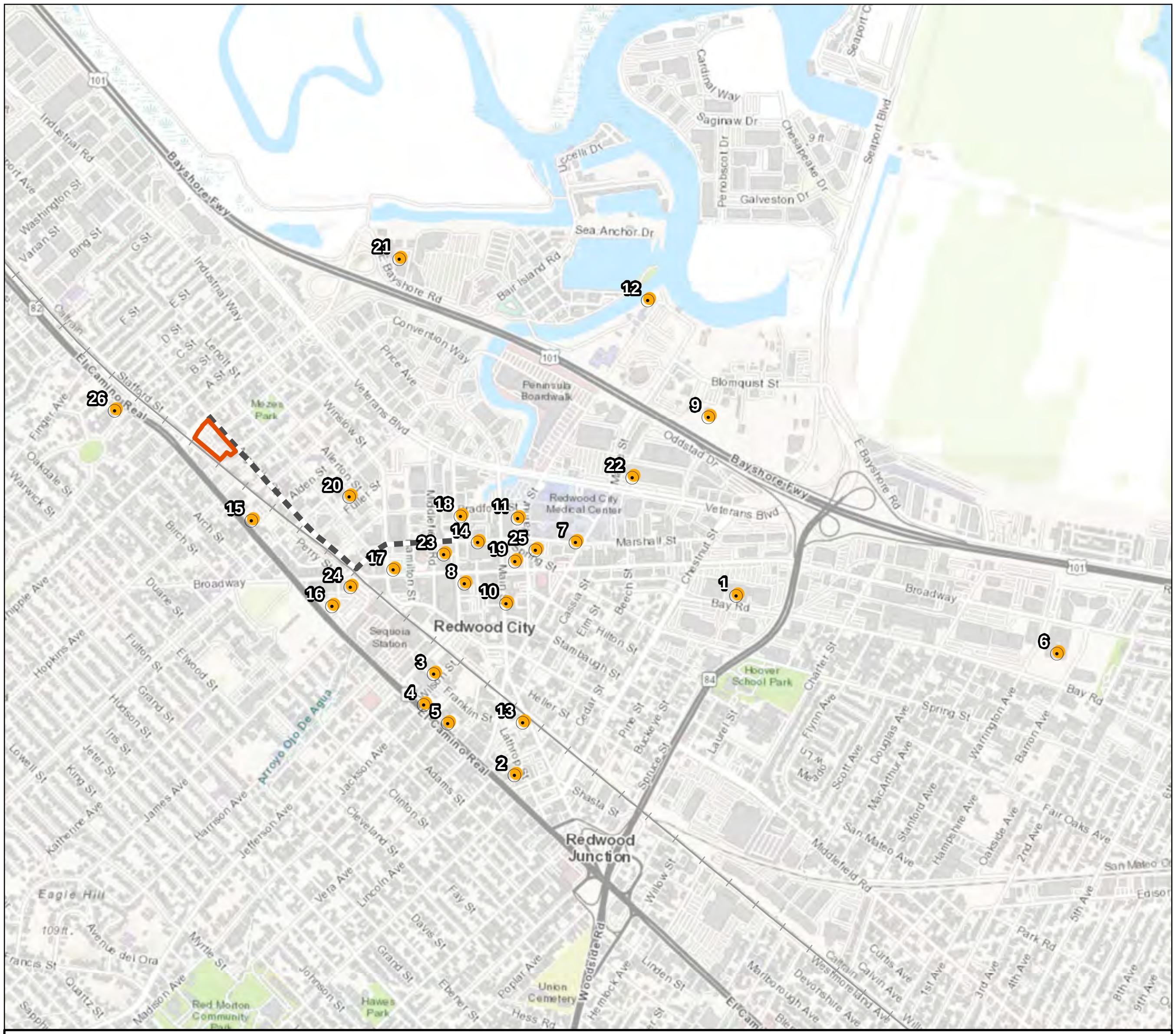
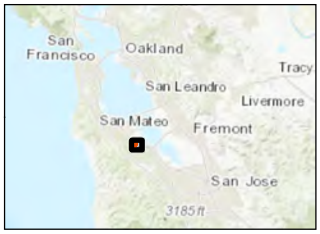
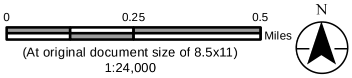


Related Projects

1. Broadway Plaza
2. South Main Mixed-Use
3. Greystar II
4. Greystar III
5. Greystar IV
6. Stanford in Redwood City
7. Kaiser Medical Office Building 2
8. Broadway Station RWC
9. Harbor View
10. 851 Main Street
11. 610 Walnut Street
12. Strada - 1548 Maple Street
13. 1180 Main Street
14. City Recycled Waterline Extension - 2.C.1
15. Gatekeeper - American Legion
16. Gatekeeper - 901 El Camino Real
17. Gatekeeper - 2300 Broadway
18. Gatekeeper - Bradford/RCSD
19. Gatekeeper - 1900 Broadway
20. Gatekeeper - 601 Allerton Street
21. Gatekeeper - Townhomes at 505 E. Bayshore
22. Gatekeeper - 1205 Veterans Boulevard
23. GPHE Update Opportunity Site - 700 Jefferson Street
24. GPHE Update Opporunity Site - Caltrain Lot (APN 052-354-030)
25. GPHE Update Opporunity Site - 910 Marshall Street
26. GPHE Update Opportunity Site - 234 El Camino Real



● Related Project Sites
▬ ▬ Off-Site Recycled Waterline
—+— Caltrain
▭ Project Site



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Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Data Sources:
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
4. General Plan Housing Element Update (GPHE Update)

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed-Use Development Project
Draft EIR

Figure No.
4-1

Title
Related Projects

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Table 4.4-1. List of Related Projects

Number	Project Name	Project Address	Description	Status
1	Broadway Plaza	1401 Broadway and 2201 Bay Road	520 residential units; 420,000 square feet office; 26,000 square feet retail; 6,860 square feet commercial/flex	Approved
2	South Main Mixed-Use	1601 El Camino Real	540 residential unit; 420,000 square feet R&D; 110,000 square feet office; 28,841 square feet retail	Under Construction
3	Greystar II	103 Wilson Street	175 multi-family residential units; 202 parking spaces	Built
4	Greystar III	1305 El Camino Real	137 residential units	Built
5	Greystar IV	1409 El Camino Real	350 residential units	Built
6	Stanford in Redwood City	405, 425, 475, 500-585 Broadway and 1228 Douglas Avenue	570,000 square feet office; 31,159 square feet recreation; 14,000 square feet childcare; 5,053 square feet storage	Built
7	Kaiser Medical Office Building 2 (MOB2)	1175 Marshall Street	Kaiser Hospital Phase II: 196,000 square feet medical; 441 parking spaces	Built
8	Broadway Station RWC	2075 Broadway	67,000 square feet office; 26,000 square feet retail	Built
9	Harbor View	320-350 Blomquist Street	765,150 square feet high-tech office campus	Proposed
10	851 Main Street	851 Main Street	87,000 square feet office; 6,910 square feet retail	Built
11	610 Walnut Street	610 Walnut Street	63,835 square feet office	Built
12	Strada – 1548 Maple Street	1548 Maple Street	131 residential units	Under Construction
13	1180 Main Street Office	1180 Main Street	109,375 square feet office	Built
14	City Recycled Waterline Extension – 2.C.1	Along Marshall Street between Jefferson Avenue and Walnut Street	Recycled waterline extension	Proposed
Downtown Precise Plan (DPP)*				

Number	Project Name	Project Address	Description	Status
15	Gatekeeper – American Legion	651 El Camino Real	300 unit residential units; 12,000 square foot meeting hall (American Legion)	Proposed under DPP
16	Gatekeeper – 901 El Camino Real	901-999 El Camino Real/Caltrain Property	267,958 square feet office; 6,599 square feet teen center; 1,203 square feet retail; 100 residential units	Proposed under DPP
17	Gatekeeper – 2300 Broadway	2300 Broadway	83 residential units; 213,000 square feet office; 13,000 square feet retail	Proposed under DPP
18	Gatekeeper – Bradford/RCSD	603 Jefferson Avenue/750 Bradford Street	122 residential units; 162,031 square feet office	Proposed under DPP
19	Gatekeeper - 1900 Broadway	1900 Broadway	71 residential units; 228,260 square feet office; 10,100 square feet retail; 12,085 square foot plaza	Proposed under DPP
20	Gatekeeper – 601 Allerton Street	601 Allerton Street	80,579 square feet office; 15,741 square feet recreation; 635 square feet retail	Proposed under DPP
Gatekeeper Projects				
21	Gatekeeper – Townhomes at 505 E. Bayshore	505 E. Bayshore Road	56 residential units; 34,148 square feet open space	Proposed
22	Gatekeeper – 1205 Veterans Boulevard	1205 Veterans Boulevard	409 residential units; 5,600 square feet retail; 5,300 square feet daycare	Proposed
General Plan Housing Element Update**				
23	General Plan Housing Element Update - Opportunity Site - 700 Jefferson Street	700 Jefferson Street	Up to 117 residential units	Proposed under GPHE
24	General Plan Housing Element Update – Opportunity Site - Caltrain Lot (APN 052-354-030)	Caltrain Lot (APN 052-354-030)	Up to 92 residential units	Proposed under GPHE

Number	Project Name	Project Address	Description	Status
25	General Plan Housing Element Update – Opportunity Site - 910 Marshall Street	910 Marshall "Kaiser Trapezoid"/1000 Marshall/1800 Broadway	Up to 291 residential units	Proposed under GPHE
26	General Plan Housing Element Update – Opportunity Site - 234 El Camino Real	234 El Camino Real	Up to 12 residential units	Proposed under GPHE

* The Downtown Precise Plan EIR is a programmatic evaluation of potential future actions at specific locations within the Downtown. The DPP EIR evaluates the project-related impacts and mitigation measures that can be identified at the time of the EIR (2010), CEQA-required environmental review of subsequent individual actions will be undertaken at the time a development application is submitted. As such, a programmatic evaluation of the Gatekeeper Projects was considered.

** The General Plan Housing Element Update Opportunity Sites are speculative until applications are submitted for development of the identified site. It is assumed that projects would need to be consistent with the General Plan and EIR prepared. Future development under the Housing Element would be consistent with the General Plan and/or would not require CEQA and/or would be exempt.

4.5 CUMULATIVE IMPACT ANALYSIS

For purposes of this Draft EIR, the proposed project would result in a significant cumulative effect if:

- The cumulative effects of related projects (past, current, and probable future projects) are not significant, and the incremental impact of implementing the proposed project is substantial enough when added to the cumulative effects of related projects to result in a new cumulatively significant impact; or
- The cumulative effects of related projects (past, current, and probable future projects) are already significant, and implementation of the proposed project makes a considerable contribution to the effect. The standards used herein to determine a considerable contribution are that either the impact must be substantial or must exceed an established threshold of significance.

This cumulative analysis assumes that all mitigation measures identified in Sections 3.1 through 3.10 to mitigate project impacts are adopted. The analysis herein analyzes whether, after adoption of project-specific mitigation, the residual impacts of the project would cause a cumulatively significant impact or would contribute considerably to existing and anticipated (without the project) cumulatively significant effects. Where the project would so contribute, additional mitigation is recommended where feasible.

4.5.1 Aesthetics

The geographic scope of the cumulative aesthetics analysis is the area surrounding the project site. This is the area within view of the project; therefore, the area most likely to experience changes in visual character or experience light and glare impacts. The project site is in a highly urbanized area that is

characterized in visual terms by a variety of uses. The project site is developed with multiple one- to two-story buildings and is paved throughout the site. The area immediately surrounding the project site and off-site recycled waterline improvements area consists of a mix of residential, commercial, and office uses. Mature vegetation is present throughout the streetscape and buildings adjacent to the project site range from one to three stories in height.

Although the proposed buildings would be taller than the original on-site structures, they would be within the maximum building heights allowed by zoning regulations and height concessions requested under the City's Community Benefits Program. The proposed project would increase the number of and intensity of lighting at the project site with the development of the two office buildings, residential building, and childcare facility. Exterior façade lighting would be placed on the proposed office and residential buildings, which could spill over onto adjacent properties as these buildings would be approximately 60 feet and 46 feet in height, respectively. However, the proposed project would be subject to the lighting standards for the MUT Zoning District, which requires lighting to be low mounted, and downward casting to reduce light trespass onto adjacent properties. Architectural elements and the existing mature landscaping located across the project site on Arguello Street would also minimize daytime glare and spillover of nighttime lighting.

The nearest proposed related projects are the Gatekeeper – American Legion and Gatekeeper – 601 Allerton Street, located approximately 0.2-mile south and 0.3-mile southeast of the project site located at 1125 Arguello Street, respectively. The nearest related projects that are currently built or under construction are the 851 Main Street, Greystar II, Greystar III, Greystar IV, and 610 Walnut Street Projects which are located approximately 0.7 to 0.8-mile south and southeast of the project site located at 1125 Arguello Street. Additionally, while all identified Housing Element opportunity sites listed in Table 4.4-1 are located within one mile of the project site located at 1125 Arguello Street, given the speculative nature of construction and operational activities that could occur for development of the related projects, it is not possible at this time to accurately assess the aesthetics impacts that would be generated by future development of the opportunity sites. Other related projects listed in Table 4.4-1 that are currently built or under construction are located more than one mile away from the project site located at 1125 Arguello Street. Based on the distance of these related projects from the project site, they would not be associated with the visual character of the project area. Furthermore, similar to the proposed project, the related projects would be required to comply with the development standards of the Redwood City Municipal Code and would be subject to review by the City's AAC to ensure proposed buildings are compatible with surrounding development and to mitigate potential aesthetic impacts. **Therefore, the proposed project would not have a cumulatively considerable impact on aesthetics**.

4.5.2 Air Quality

The cumulative setting for air quality is the SFBAAB, which is under the jurisdiction of the BAAQMD. Air pollution is largely a cumulative impact by its very nature. No single project is sufficient in its overall emission, in isolation, to result in nonattainment of ambient air quality standards. A project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Related projects in the vicinity of the proposed project and throughout the SFBAAB would also generate emissions that could contribute to air quality impacts. Generally, if a project is proposed in a city or county with a General Plan that is consistent with the Clean Air Plan, and the project is consistent with that General Plan (i.e., it does

not require a general plan amendment), then the project would not have a significant cumulative impact (provided, of course, that the project does not individually have any significant impacts).

The BAAQMD significance thresholds are intended to analyze whether a project's contribution to the cumulative impact is considerable. If a project exceeds the identified significance thresholds, its emissions would also be considered cumulatively considerable, resulting in a significant adverse air quality impact to the region's existing air quality conditions. As discussed in Section 3.2, Air Quality, the proposed project would be consistent with the Clean Air Plan with implementation of Mitigation Measure AIR-1, which would require all construction contractors to implement the basic construction mitigation measures recommended by the BAAQMD to reduce fugitive dust emissions; and Mitigation Measure AIR-2, which would require Tier 4 emission standards for the off road construction equipment. The project's "unmitigated" construction emissions would not exceed BAAQMD's regional thresholds of significance and do not require mitigation. However, to reduce the potential cancer risk associated with construction of the project equipment exhaust, Mitigation Measure AIR-2 would be implemented. The implementation of Mitigation Measure AIR-2 would further reduce project construction emissions and would not impede attainment. Project operational emissions would also be below the BAAQMD daily and annual significance thresholds. Related projects currently built or under construction are located more than 0.7-mile away from the project site located at 1125 Arguello Street. However, some related projects currently proposed are located along the installation of the off-site proposed recycled waterline. There are no related projects located near the project site or the proposed recycled waterline that would result in construction activities during the same construction period as the proposed project. Related projects would be required to implement similar mitigation measures as the proposed project to reduce construction related emissions and ensure that construction related air quality impacts are less than significant. Given the speculative nature of construction and operational activities that could occur for development of the related projects that are opportunity sites under the Housing Element, it is not possible at this time to accurately assess the level of emission that would be generated by future development of the opportunity sites. Additionally, related project proposed under the DPP would require project-specific air quality analysis be conducted at the time of individual project review using project-specific information on construction schedule, phasing, and equipment use and therefore, it is not possible at this time to accurately assess the level of emission that would be generated by development of the related projects under the DPP. Therefore impacts would not result in a cumulatively considerable impact.

Additionally, the air quality analysis determined the proposed project would not contribute to an existing or projected CO hotspot. Furthermore, operation of the proposed project would not expose future residents of the project site to substantial pollutant concentrations that may cause harmful effects as the risk would be below the thresholds of significance. **As such, with the implementation of Mitigation Measures AIR-1 and AIR-2, the proposed project would not result in significant impacts to air quality and would not result in cumulatively considerable air quality impacts.**

4.5.3 Cultural Resources

The geographic scope of the cumulative cultural resources analysis is the project site and the Mezesville Historic District. As discussed in Section 3.3, Cultural Resources, the project site does not contain any recorded archaeological resources. However, the proposed project would excavate the project site approximately 33.5 feet bgs for the underground parking garage, which could encounter previously

undiscovered resources. The proposed project would implement Mitigation Measures CUL-1 and CUL-2 to ensure undiscovered cultural resources are not adversely affected by project-related construction activities. Other related projects would similarly implement standard construction mitigation measures to protect undiscovered cultural resources during construction, and therefore the proposed project would not have a cumulatively considerable impact on cultural resources.

The proposed project would reuse the two buildings located at 1219 and 1227 Arguello Street that are designated City Historic Landmarks for development of the childcare facility. As discussed in Section 3.3, Cultural Resources, the proposed project would not result in direct or indirect impacts on historic resources or the Mezesville Historic District. Additionally, the construction of the proposed off-site recycled waterline would not result in impacts to any adjacent historical resources or historic districts located along the proposed off-site recycled waterline as all construction activities required for installation of the recycled waterline would occur entirely in the public right-of-way along Arguello Street and Marshall Street. The nearest proposed related projects are the Gatekeeper – American Legion and Gatekeeper – 601 Allerton Street Projects, located approximately 0.2-mile south and 0.3-mile southeast of the project site located at 1125 Arguello Street, respectively. The nearest related projects that are currently built or under construction are the 851 Main Street, Greystar II, Greystar III, Greystar IV, and 610 Walnut Street Projects which are located approximately 0.7 to 0.8-mile south and southeast of the project site located at 1125 Arguello Street and are not within or adjacent to the Mezesville Historic District. None of the proposed related projects are located within the Mezesville Historic District and all other related projects listed in Table 4.4-1 are located more than one mile away from the project site located at 1125 Arguello Street. **Accordingly, the proposed project would not have a cumulatively considerable impact on historic resources.**

4.5.4 Greenhouse Gas Emissions

GHG impacts are a cumulative impact. On their own, GHG emissions from one project cannot result in changes in climatic conditions; therefore, the emissions from one project must be considered in the context of their contribution to cumulative global emissions, which is a significant cumulative impact. As discussed in Section 3.4, Greenhouse Gases, GHG emissions resulting from operation of the proposed project would be approximately 1.62 $MTCO_2e$ per service population per year. However, the significance of the proposed project's effects are based on the project's consistency with plans to meet the state reduction goals set in SB 32. As identified in Section 3.4. Greenhouse Gases, the proposed project would not have a significant impact with regard to GHG emissions and would be consistent with the Redwood City CAP and State plans for achieving GHG reductions and meeting established targets. Additionally, the proposed project would be consistent with best practices for reducing GHGs through the incorporation of greater energy efficiency, higher densities, and locating development near transit. Other projects in the region and the State would also have to show consistency with local and State GHG reduction plans and comply with the Title 24 and CalGreen requirements. **Therefore, the proposed project would not have a considerable contribution to a significant cumulative GHG impact.**

4.5.5 Land Use and Planning

The geographic scope of the cumulative land use analysis is the immediate project vicinity. The land use analysis in Section 3.5, Land Use and Planning, found the proposed project to be consistent with the applicable goals and policies of the City's General Plan. The proposed project would be consistent with

the requirements of the MUT land use designation and Zoning District and Subdivision Ordinance with the approval of a Use Permit and other required land use permits, and the concessions and waivers through the City's Community Benefits Program and the State Density Bonus Law. Additionally, the proposed project is located within the El Camino Real Priority Development Area, which has been identified by the City as an area to concentrate future growth, including affordable housing, high-density mixed-use development, and employment centers that are in proximity to transit and accessible to existing city services and infrastructure. Other development in the project vicinity would be required to demonstrate consistency with the City's General Plan and development standards through the project design or the implementation of mitigation measures. **Therefore, the proposed project in conjunction with other related projects would not have a cumulatively considerable impact on land use.**

4.5.6 Noise and Vibration

The geographic scope of the cumulative noise analysis is the immediate project vicinity. Construction activities associated with the proposed project would be temporary (e.g., approximately 26 months) and would not include blasting or pile driving. As described in Impact NOI-1 in Section 3.6, Noise, construction noise and vibration from the proposed project would increase noise levels. However, noise levels from construction activities would be temporary and limited to the restrictions set by the Redwood City Municipal Code as required by Mitigation Measures NOI-2 and NOI-3. Operation of the proposed project would also implement Mitigation Measure NOI-1 to ensure that all building facades that have exposure to the Caltrain tracks would be constructed in accordance with the applicable CalGreen requirements. Typical commercial buildings would involve new rooftop mechanical equipment which would generate noise that would radiate to the neighboring properties. The proposed project would be required to comply with General Plan Policy PS-13.6 which requires the use of available noise suppression devices and techniques to bring exterior noise down to acceptable levels that are compatible with adjacent uses. When actual on-site equipment for the proposed project is selected, the equipment would be designed to incorporate measure as needed, such as shielding, barriers, and/or attenuators, to reduce operational noise levels that may affect nearby properties. Cumulative impacts from construction-generated noise could result if other future planned construction activities were to take place near the project site and/or along the off-site recycled waterline and cumulatively combine with construction noise from the project. Construction of the related projects that are currently proposed and listed in Table 4.4-1 is not anticipated to take place within the same timeframe as the construction of the proposed project. All related projects currently under construction listed in Table 4.4-1 are located more than one mile south of the project site located at 1125 Arguello Street. Given the distance between the related construction projects and the project site, short-term construction noise and vibration generated by the proposed project would not combine with any other related construction project. Furthermore, the construction and operation of the other related projects would be required to comply with the same City and CalGreen noise requirements and implement mitigation to reduce noise levels and vibration. **Therefore, construction and operation noise generated by the proposed project would not have a cumulatively considerable impact.**

4.5.7 Population and Housing

The geographic area for cumulative population and housing impacts is the City boundaries and can be extended further to San Mateo County and the San Francisco Bay region. The proposed project, in conjunction with the future development in the City, is within the planned growth projections provided by

the City's General Plan and the associated Housing Element. The proposed project would not have a significant impact on housing and jobs balance and would help the City meet its RHNA. Other related projects would be required to demonstrate consistency with the growth projections identified in the City's General Plan and Housing Element. **Therefore, the proposed project, in conjunction with other planned projects, would not have a cumulatively considerable impact on population and housing.**

4.5.8 Transportation

According to OPR's Technical Advisory on *Evaluating Transportation Impacts in CEQA*: "A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less than significant project impact would imply a less than significant cumulative impact, and vice versa." The related projects listed in Table 4.4-1 would not have a bearing on the VMT analysis since the cumulative condition VMT data would come from the regional traffic model's 2040 horizon. As discussed in Section 3.8, Transportation, the Redwood City Transportation Analysis Manual provides a VMT screening criteria that is used to identify if a project is expected to have a less than significant impact without conducting a full VMT analysis. If a project meets one of the five screening categories, then the project is presumed to have a less than significant impact on transportation. The proposed project would meet three of the five screening categories (e.g., transit priority area, affordable housing, and neighborhood-serving retail project), and therefore, would result in a less than significant impact. As the proposed project would result in a less than significant impact using the three screening categories, the proposed project would not have a cumulatively considerable impact on transportation.

As discussed in Section 3.8, Transportation, the proposed project would not conflict with the General Plan Circulation Element, any program plan, ordinance, or policy addressing the circulation system. Other related projects that propose to amend or adjust the roadway network would be required to demonstrate consistency with applicable plans, programs, and ordinances related to traffic improvements. Construction of the proposed project's off-site recycled waterline would take place within the public right-of-way and would temporarily impact traffic along the installation of the proposed recycled waterline. The construction of the related project identified as the City recycled waterline extension 2.C.1 could result in cumulatively considerable impact if construction were to take place during the same construction period as the proposed project as it would result in further temporary traffic impacts along Marshall Street. However, the construction of the City recycled waterline extension 2.C.1 is anticipated to be completed by end of fiscal year 2023-2024. Therefore, construction of the City recycled waterline extension 2.C.1 is anticipated to be completed prior to the start of the construction of the proposed project's recycled waterline extension and would not result in temporary cumulatively considerable traffic impacts. Other related projects identified in Table 4.4-1 are not proposed to be constructed during the same construction timeframe as the proposed project. **Therefore, the proposed project would not result in a cumulatively considerable traffic impact.**

4.5.9 Tribal Cultural Resources

The geographic scope of the cumulative cultural resources analysis is the project site. According to CEQA, the importance of tribal cultural resources is the value of the resource to California Native American Tribes culturally affiliated with the project area. Therefore, the issue that must be explored in a cumulative analysis is the loss of tribal cultural resources. For tribal cultural resources that are avoided or

preserved through dedication within open space, no impacts would occur. However, if avoidance or dedication of open space to preserve tribal cultural resources is infeasible, those impacts must be considered in combination with tribal cultural resources that would be impacted for other projects included in the related project list.

Related projects located in the region would have the potential to result in a cumulative impact associated with the loss of tribal resources through development activities that could cause a substantial adverse change in the significance of a tribal cultural resource. Any related projects that involve ground-disturbing activities would have the potential to result in significant impacts to tribal cultural resources. All projects would be regulated by applicable federal, state, and local regulations to avoid the destruction of tribal cultural resources. As discussed in Section 3.9, Tribal Cultural Resources, no tribal cultural resources have been identified during the cultural evaluation or through consultation. In the event that tribal cultural resources are inadvertently discovered during construction, mitigation measures would be implemented to reduce impacts to a less than significant level. **Therefore, the proposed project would not have a cumulatively considerable impact on tribal cultural resources.**

4.5.10 Utilities and Service Systems

The geographic area for cumulative utilities and service systems impacts is the service area of the utility and service systems providers. Therefore, the geographic area for cumulative water supply impacts is the service area of the SFPUC and the City's Public Works Department which provide potable and recycled water to the City, respectively. As discussed in Section 3.10, Utilities and Service Systems, the WSA prepared for the proposed project determined that the City would have adequate water supplies available to serve the proposed project and all other users with the use of recycled water and the proposed project would not result in an increase in water supply shortage. The proposed project would extend the City's recycled waterline to the project site located at 1125 Arguello Street and would utilize recycled water to meet its projected operational demands and therefore, the proposed project would result in a less than significant impact related to available water supplies. Additionally, the proposed project includes water efficiency measures to reduce anticipated demand during operation of the proposed project. Related projects in the City would have the potential to result in a cumulative impact associated with available water supplies if the related project would substantially increase demand in the City. Other related projects in the City would be required to prepare a WSA and demonstrate that the City would have sufficient water supplies available to serve the proposed related project in addition to the City's existing users. Related projects would also be required to implement water conservation measures to reduce water consumption in accordance with the City's General Plan and connect to the City's recycled water system. If related projects determine that the project would substantially increase demands and the City would not have sufficient water supplies available to serve the related project, the related project would be required to implement measures to reduce water demand. **Therefore, the proposed project would not have a cumulatively considerable impact on utilities and service systems.**

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5.0 ALTERNATIVES TO THE PROPOSED PROJECT

5.1 INTRODUCTION

The purpose of an alternatives analysis pursuant to CEQA is to identify feasible options that would attain most of the basic objectives of a proposed project while reducing its significant effects. Provisions of CEQA Guidelines (Section 15126.6) that address the number of project alternatives required in an EIR state the following:

> *The range of alternatives required in an EIR is governed by a "rule of reason;" the EIR must evaluate only those alternatives necessary to permit a reasonable choice. The alternatives shall be limited to those that would avoid or substantially lessen any of the significant effects of a proposed project while meeting most of the underlying project objectives.*

5.2 REQUIREMENTS FOR THE CONSIDERATION OF ALTERNATIVES

An important aspect of EIR preparation is the identification and assessment of alternatives to the proposed project that have the potential to avoid or substantially lessen potentially significant impacts. In addition to mandating consideration of the no project alternative, CEQA Guidelines (Section 15126.6(e)) emphasize the selection of a reasonable range of feasible alternatives and adequate assessment, which allows decision-makers to use a comparative analysis. CEQA Guidelines (Section 15126.6(a)) states:

> *An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.*

In accordance with CEQA Guidelines 15126.6, this EIR contains a comparative impact assessment of alternatives to the proposed project. The primary purpose of this assessment is to provide decision-makers and the public with a reasonable number of feasible project alternatives that could attain most of the basic project objectives while avoiding or reducing any of the project's significant adverse environmental effects. Important considerations for these alternatives' analyses are provided below:

- An EIR need not consider every conceivable alternative to a project;
- An EIR should identify alternatives that were considered by the lead agency, but rejected as infeasible during the scoping process;
- Reasons for rejecting an alternative include:
    - Failure to meet most of the basic project objectives
    - Infeasibility

- Inability to avoid significant environmental effects

5.2.1 No Project Alternative

CEQA Guidelines require that the alternatives be compared to the project's environmental impacts and that the "no project" alternative be considered (CEQA Guidelines Section 15126.6(d)(e)). Section 15126.6(d)(e)(1) states:

> *The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline.*

The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

5.2.2 Consistency with Project Objectives

A project's statement of objectives describes the purpose of the project and the reasons for undertaking the project. To be considered for detailed analysis in the EIR, an alternative must meet most of the project objectives. Among the suite of project objectives identified by the applicants, the City as lead agency has identified the following as the basic objectives for purposes of screening potential alternatives to the proposed project:

- Redevelop the project site consistent with the land use policies and strategies provided in the Plan Bay Area 2050, El Camino Real Priority Development Area.
- Redevelop the project site consistent with the MUT General Plan and Zoning designations, including policies that guide the growth and development of the City; establish the basis for zoning regulations and guidance; economic development; transportation improvements; sustainability; City services; parks; and cultural and historic preservation.
- Redevelop an existing industrial area with attractive and desirable amenities close to Downtown, including housing, Class A office space, and childcare available to all City residents.
- Meet and exceed the City's Affordable Housing Ordinance and Inclusionary Zoning requirements through construction of 100 percent affordable ownership housing.
- Provide childcare to address the City's existing shortage of childcare spaces for infants/toddlers and preschool-age children.
- Support the City's Historic Preservation Ordinance through adaptive reuse of structures identified as Historic Landmark by the City.
- Develop a project that would meet strict sustainability, conservation, and reach code goals intended to reduce greenhouse gas emissions and address climate change and energy conservation goals.

- Deliver an economically feasible development, balancing market conditions, city objectives, and community benefits.
- Create a mixed-use environment that increases vibrancy of the existing area, encourages use of multimodal transportation, activates frontages along public streets, and provides employment and housing opportunities near transit.

5.2.3 Feasibility

According to CEQA Guidelines (Section 15126.6(f)(1):

> *Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.*

Based on CEQA Guidelines, "feasible" is defined as, "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" (CEQA Guidelines Section 15364). CEQA does not require that an EIR determine the ultimate feasibility of a selected alternative, but rather that an alternative be potentially feasible.

For the screening analysis, the potential feasibility of potential alternatives was assessed using the following considerations:

Technological Feasibility: Is the alternative feasible from a technical perspective, considering available technology? Are there any construction, operation, or maintenance constraints that cannot be overcome?

Legal Feasibility: For example, do legal protections on lands or financing strategies preclude or substantially limit the feasibility of constructing the alternative?

Economic Feasibility: Is the alternative so costly that its costs would prohibit its implementation?

In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, an EIR must contain a discussion of "potentially feasible" alternatives, the ultimate determination whether an alternative is feasible or infeasible is made by the lead agency's decision-making body (PRC Section 21081[a][3]).

5.3 METHODOLOGY AND SCREENING CRITERIA

A range of potential alternatives was developed and subjected to the screening criteria. Several representative alternatives were considered. There was no attempt to include every conceivable alternative. The following criteria were used to screen potential alternatives:

- Does the alternative meet most of the project objectives?
- Is the alternative potentially feasible?
- Would the alternative substantially reduce one or more of the significant impacts associated with the project?

5.4 ALTERNATIVES CONSIDERED AND REJECTED FROM FURTHER CONSIDERATION

As described above, State CEQA Guidelines Section 15126.6(c) provides that the range of potential alternatives for the project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. Alternatives that fail to meet the fundamental project purpose need not be addressed in detail in an EIR. (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings (2008) 43 Cal.4th 1143, 1165-1167.)*

In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by lead agency decision-makers. (See PRC, § 21081[a][3]). At the time of action on the project, the decision-makers may consider evidence beyond that found in this EIR in addressing such determinations. The decision-makers, for example, may conclude that a particular alternative is infeasible (i.e., undesirable) from a policy standpoint, and may reject an alternative on that basis provided that the decision-makers adopt a finding, supported by substantial evidence, to that effect, and provided that such a finding reflects a reasonable balancing of the relevant economic, environmental, social, and other considerations supported by substantial evidence. (*City of Del Mar v. City of San Diego [1982] 133 Cal.App.3d 401, 417; California Native Plant Society v. City of Santa Cruz [2009] 177 Cal.App.4th 957, 998.)*

The EIR should also identify any alternatives that were considered by the lead agency but were rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency's determination. The following alternatives were considered by the City but are not evaluated further in this Draft EIR for the reasons discussed below.

5.4.1 Only Housing Alternative

Under this alternative, the project site would be developed with only affordable housing which would provide the maximum density or number of dwelling units allowed under the MUT Zoning District. The

MUT Zoning District development standards allows for a density of 20 dwelling units per acre. However, if a project is to provide community benefits, such as affordable housing, the allowed density is 40 dwelling units per acre. This alternative would provide only affordable housing units, and therefore, would meet the City's Community Benefits Program and develop a maximum of 140 units on the 3.5 acre site. The development of 140 multi-family units would not reuse the existing Historic Landmark buildings or provide mixed-use development, including a childcare facility, as intended by the General Plan land use and zoning designation. Therefore, this alternative would result in greater impacts to historic resources (significant unavoidable due to demolition) and land use. This alternative would not meet most of the project objectives, such as provide a mix of uses consistent with the MUT land use designation and MUT Zoning District, housing and employment opportunities near transit, a childcare facility to address the City's needs, and adaptive reuse of the existing structures located at 1219 and 1227 Arguello Street that are designated City Historic Landmarks. For these reasons, this alternative was not further analyzed in this Draft EIR. The inclusion of an only market rate housing alternative or mixed rate housing alternative in the EIR was also considered. Any alternatives proposing only development of residential uses on-site would all result in similar impacts regardless of whether affordable housing is provided. Providing market rate housing as part of the residential development would result in increased VMT impacts than compared to an alternative providing only affordable housing. The Only Housing Alternative analyzed impacts resulting from providing only affordable housing as it better aligned with the proposed project's objectives.

5.4.2 Switch Office Space to Retail Alternative

Under this alternative, the project site would be developed with approximately 300,000 square feet of retail instead of office space. The development of more than 5,000 square feet of general retail sales use is conditionally allowed in the MUT Zoning District with the approval of a Use Permit. The proposed project would also require the approval of a Use Permit for the construction of more than 10,000 square feet of office space. Impacts would be similar to the proposed project by switching the office space to general retail sales use. However, the general retail sales use would generate more vehicle trips compared to the proposed project, which would result in greater impacts related to GHG emissions, air quality, and noise. The development of general retail sales use would also meet most of the project objectives, except for delivering an economically feasible development that balances market conditions, city objectives, and community benefits. Therefore, this alternative was not further analyzed in the Draft EIR.

5.4.3 Decrease Height of Proposed Buildings

Under this alternative, the height of the proposed office and residential buildings would be consistent with the base-level development standards of the MUT Zoning District. The MUT Zoning District development standards allow residential, commercial and mixed-use buildings to have a maximum of 40 feet in height when no community benefits are proposed. By reducing the height of the proposed office buildings to 40 feet and the residential building to 40 feet, this alternative would be consistent with the base-level development standards of the MUT Zoning District and would reduce building height and massing compared to the proposed project. However, all other impacts would remain less than significant or less than significant with mitigation as identified for the proposed project. By decreasing the height of the proposed buildings, this would also reduce the overall square footage of office space and the number of

affordable housing units. Projects that provide affordable housing meet the City's Community Benefits Program, and the reduction in affordable housing units would not be consistent with the project's objective of meeting and exceeding the City's Affordable Housing Ordinance and Inclusionary Zoning requirements. Therefore, this alternative was not further analyzed in the Draft EIR.

5.4.4 Alternative Site Location

Off-site alternatives are generally considered in EIRs when one of the means to avoid or eliminate the significant impacts of a project is to develop it in a different available location. Such alternatives are especially appropriate where a project would put a site to uses different than those contemplated in the governing general plan or zoning district, which presumably reflect land use policies reached after much deliberation and public involvement, and also in instances where there is an ample supply of similarly situated land that could be developed for a project. An off-site alternative must also consider a site that would feasibly attain most of the basic objectives of the proposed project, and avoid or substantially lessen any of the environmental effects of the proposed project (CEQA Guidelines Section 15126.6[f]).

The project site consists of six contiguous parcels totaling 3.5 acres in Redwood City. The project site is within the El Camino Real Priority Development area, which is an area that local city or county governments have identified and approved for future housing and job growth. These areas are within 0.5-mile of frequent transit services; and are often near established job centers, shopping districts, and other community amenities. The project site is within 0.5-mile of the City's Downtown, and the Redwood City Caltrain Station and Redwood City Transit Center located on El Camino Real and James Avenue. The Applicant does not have access to or control of any other similarly located property or group of properties in the project vicinity that would be within 0.5-mile of a major transit stop, and that could support the same type and density of mixed-use development in Redwood City or nearby jurisdictions.

Additionally, an off-site alternative would not meet all of the project's objectives, several of which are specific to the project site and vicinity (e.g., encourage multimodal transportation, provide employment and housing opportunities near transit, reuse historic structures, and develop mixed-uses consistent with the MUT General Plan and Zoning designations). If an alternative location was identified that would meet most of the project objectives, impacts would be similar to the proposed project and remain less than significant or less than significant with mitigation. Furthermore, the environmental setting would be similar to the existing urbanized environment that the proposed project is located in. The resulting development would also be of a similar type and intensity as the proposed project. Therefore, this alternative would not reduce or avoid any of the other impacts identified for the proposed project. This alternative was not further analyzed in the Draft EIR.

5.5 ALTERNATIVES CONSIDERED

Section 15126 of CEQA Guidelines requires an EIR to identify and discuss a no project alternative, as well as a reasonable range of alternatives to the proposed project that would feasibly attain most of the basic objectives of the proposed project and would avoid or substantially lessen any of the significant environmental impacts.

Alternatives to the proposed project considered for analysis in this Draft EIR are:

- No Project Alternative
- Base-level Zoning Alternative
- Increased Housing Alternative

5.5.1 No Project Alternative

The No Project Alternative assumes that no additional development would occur on the project site. Under this alternative, the project site would remain developed with the seven existing structures for residential, commercial, and industrial uses. The existing structures located at 1203 Arguello Street and 1219 Arguello Street would remain vacant. The yard space at 1125 Arguello Street would continue to be rented by the automobile towing business, and the building at 1227 Arguello Street would be rented by the property management business.

Impact Analysis

Aesthetics

Under the No Project Alternative, the existing structures would remain and there would be no change to the project site's visual character. Therefore, the No Project Alternative would have no impact related to aesthetics.

Air Quality

Under the No Project Alternative, the existing uses would continue to operate on the project site, and there would be no change in air emissions. As discussed in Section 3.2, Air Quality, construction of the proposed project would result in emissions of regulated criteria pollutants and associated human health risks, primarily from particulate matter emissions from construction equipment exhaust, worker travel, and fugitive dust. However, with implementation of mitigation measures, no significant air quality impacts would occur during construction of the proposed project, including criteria pollutant emissions and health risks impacts. The No Project Alternative would not involve construction or demolition activities. Therefore, no impacts related to air quality due to construction or increased operational emissions would occur. This would be similar to the proposed project, which would not result in any significant air quality impacts with mitigation incorporated.

Cultural Resources

Under the No Project Alternative, there would be no subsurface ground disturbance that could impact undiscovered cultural resources, and there would be no demolition. Accordingly, impacts to historical resources as defined in Section 15064.5 would not occur. The No Project Alternative would not have an impact on cultural resources.

Greenhouse Gas Emissions

Under the No Project Alternative, the existing automobile towing business and property management business would continue to operate on the project site, and there would be no change in GHG emissions.

However, the No Project Alternative would not develop affordable housing and mixed-use employment services near transit, would not construct more energy efficient structures, or construct pedestrian and bicycle improvements and therefore, would not help to reduce future GHG emissions. Accordingly, long-term impacts to GHG emissions may be greater than the proposed project.

Land Use and Planning

Under the No Project Alternative, there would be no change to the existing land uses on the project site. However, the transition from light industrial uses to higher density mixed-use development as envisioned for the MUT General Plan land use designation would not occur. Additionally, the No Project Alternative would not further the goals and policies identified in the Built Environment Element of the General Plan that promote higher residential densities at locations that are near employment centers and transit. Land use and planning impacts would be greater under the No Project Alternative.

Noise

Under the No Project Alternative, the existing uses would continue to operate on the project site and the off-site recycled waterline would not be constructed, and there would be no change to the existing noise or vibration levels from construction or operation. While the proposed project would have some increase in noise and vibration during construction, the increases would be temporary and addressed through mitigation. Operationally, the proposed project would shield the noise through building construction and mitigation by incorporating CalGreen building design requirements. The construction of the proposed project would also provide a physical barrier and shielding between the Caltrain tracks and nearby sensitive receptors by placing taller buildings on the project site at 1125 Arguello Street adjacent to the Caltrain tracks which would reduce existing noise levels for nearby sensitive receptors. This shielding and upgraded building design would not occur under the No Project Alternative, and noise impacts would be greater compared to the proposed project.

Population and Housing

Under the No Project Alternative, the eight employees associated with the existing automobile towing business and property management business would continue to occupy the project site. The No Project Alternative would not generate additional residents or employees at the project site. However, the No Project Alternative would not help promote development of affordable housing and employment services near transit and would not develop affordable housing units that would contribute toward the City's RHNA. Though impacts related to population and housing would be less under the No Project Alternative as it would not generate new residents or employees, the No Project Alternative would not meet any of the proposed project objectives or help the City meet its RHNA requirements or its General Plan goals.

Transportation

Under the No Project Alternative, the existing uses would continue to operate on the project site. Under the No Project Alternative, traffic conditions at the site and in the vicinity would not change from existing conditions and would not generate additional traffic and therefore, impacts related to transportation would be less under the No Project Alternative. However, the No Project Alternative would not help promote the development of affordable housing and mixed-use employment services near transit that would serve to reduce VMT from future growth and development and would not meet the proposed project objectives.

Tribal Cultural Resources

Under the No Project Alternative, there would be no subsurface ground disturbance that could impact undiscovered tribal cultural resources. The No Project Alternative would not have an impact on tribal cultural resources.

Utilities and Service Systems

Under the No Project Alternative, there would be no construction of new utilities and service systems and the City's recycled waterline would not be extended to the vicinity of the project site. The City requires the use of recycled water to meet the City's water demands to ensure that there are sufficient water supplies available to serve the City's existing users. The extension of recycled waterline would add capacity to serve other properties in the City, thereby reducing demand for potable water at those properties. However, under the No Project Alternative, the increased water demand at the project site would not occur and would not require the recycled waterline to provide adequate water to the site as the project site is already adequately served by the City's existing system. Therefore, though the proposed recycled waterline would not be constructed under the No Project Alternative, it would have no effect on water demand at the project site as the existing on-site uses that are currently adequately served by the City's system would continue to operate at the site and there would be no increase in water demand. Therefore, impacts related to utilities and service systems would be equivalent to the proposed project under the No Project Alternative.

Conclusion and Relationship to Project Objectives

The No Project Alternative would result in greater impacts to GHGs, land use and planning, and noise. The No Project Alternative would not achieve any of the project objectives, promote economic vitality, or assist the City in meeting is affordable housing and childcare facility needs.

5.5.2 Base-level Zoning Alternative

The Base-level Zoning Alternative would construct the proposed office building, residential building, and childcare facility consistent with the development standards for the MUT Zoning District. Article 55 of the Redwood City Municipal Code outlines the permitted uses and development standards for the MUT Zoning District. According to Section 55.2 of the Redwood City Municipal Code, office uses that are less than 10,000 square feet are permitted uses within the MUT Zoning District. The MUT Zoning District also allows the development of multi-family dwelling units with a density of 20 dwelling units per acre without meeting the City's Community Benefits Program, such as providing affordable housing on-site. Childcare facilities with up to 60 children are permitted in the MUT Zoning District and are not limited to a certain size in non-residential zoning districts. This alternative assumes a 10,000 square foot office building, 70 multi-family residential units (without providing community benefits at 20 dwelling units per acre), and a childcare facility of 4,132 gross square feet (same as the proposed project). The City requires the payment of affordable housing impact fees for nonresidential developments under the City's Affordable Housing Ordinance. Additionally, the Affordable Housing Ordinance requires residential developments with 20 units or more to construct affordable housing units onsite; however, developers of residential and nonresidential development projects may propose to mitigate the affordable housing impacts of such development through an alternative mitigation program, such as the provision of off-site affordable units, donation of land for construction of affordable units, or purchase of existing units for conversion to

affordable units. As this alternative would not provide affordable housing, the project would be required to pay applicable fees or mitigate affordable housing impacts through an alternative mitigation program. The proposed buildings would be consistent with the height and setback requirements for the MUT Zoning District. The height of the office building would be 40 feet, the height of the residential building would be 40 feet, and the height of the childcare facility would be 30 feet. Under this alternative there would not be a need for the proposed community benefits included in the proposed project.

Impact Analysis

Aesthetics

Under the Base-level Zoning Alternative, the height of the buildings would be consistent with the height requirements allowed in the MUT Zoning District. The height of the buildings would be lower than the proposed project and would reduce aesthetic impacts. Therefore, aesthetic impacts would be less than the proposed project.

Air Quality

The Base-level Zoning Alternative would construct less office space compared to the proposed project, which would reduce the construction phasing and equipment usage compared to the proposed project. This alternative would construct more residential units than the proposed project; however, the reduction in office space to 10,000 square feet would substantially reduce construction and operation emissions compared to the proposed project. Air quality impacts would be less compared to the proposed project.

Cultural Resources

Under the Base-level Zoning Alternative, there would still be subsurface ground disturbance which could result in the inadvertent discovery of unknown archeological resources at the project site. However, the depth of ground disturbance would be less than the proposed project as this alternative would reduce the amount of office space, thereby reducing the amount of underground parking. Additionally, this alternative would reuse the designated City Historic Landmark buildings for development of the childcare facility, similar to the proposed project. Therefore, as with the proposed project, no impacts to historical resources as defined in Section 15064.5 would occur. As the Base-level Zoning Alternative would result in less ground disturbance at the project site, impacts on cultural resources would be less than the proposed project.

Greenhouse Gas Emissions

If the Base-level Zoning Alternative is implemented, there would still be the provision of higher density housing units near transit, more energy efficient buildings, and reduced VMT. This alternative would result in less office development at the project site, which would reduce construction and operational GHG emissions. Therefore, the Base-level Zoning Alternative would result in less GHG impacts compared to the proposed project.

Land Use and Planning

Similar to the proposed project, the Base-level Zoning Alternative would provide mixed-use development consistent with the MUT land use designation and MUT Zoning District, housing and employment opportunities near transit, a childcare facility to address the City's needs, and adaptive reuse of the

existing structures located at 1219 and 1227 Arguello Street that are designated City Historic Landmark. Under the Base-level Zoning Alternative, the project would not provide affordable housing to meet the City's Community Benefits Program. As the Base-level Zoning Alternative would not require the approval of Use Permits or concessions and waivers on development standards, the Base-level Zoning Alternative would be consistent with the City's General Plan and Zoning Ordinance and would result in less land use and planning impacts compared to the proposed project. However, the Base-level Zoning Alternative would not meet the proposed project objectives to provide affordable housing.

Noise

The Base-level Zoning Alternative would develop less office space, which would result in a shorter construction duration compared to the proposed project and generate less construction noise and vibration at the project site. As with the proposed project, the proposed buildings would shield noise through building construction and mitigation by incorporating CalGreen building design requirements. However, the Base-level Zoning Alternative would result in a smaller office building, and public gathering areas and outdoor spaces associated with the childcare facility and other existing sensitive receptors in the area may not be as shielded as the proposed project from noise generated by Caltrain. Therefore, noise impacts under the Base-level Zoning Alternative may be greater than the proposed project.

Population and Housing

The Base-level Zoning Alternative would develop less office space compared to the proposed project, which would reduce the number of employees at the project site. However, the Base-level Zoning Alternative would develop more residential units that the proposed project, which would directly increase the residential population at the project site. This alternative would be consistent with the MUT land use designation and the development standards for the MUT Zoning District. Therefore, the number of employees and residents would be within the population projections anticipated in the General Plan. The Base-level Zoning Alternative would not provide affordable housing units, which would not meet the City's Community Benefits Program. The development of 70 multi-family units would provide more housing compared to the proposed project but would not include affordable housing units that would contribute toward the City's RHNA. Though the Base-level Zoning Alternative would decrease proposed office space and increase proposed residential units, the increase in residential units would not result in a larger population growth compared to the number of employees generated by the proposed project's office development and therefore, the Base-level Zoning Alternative would result in less population and housing impacts than the proposed project. However, the Base-level Zoning Alternative would not meet the proposed project objectives to provide affordable housing.

Transportation

Under the Base-level Zoning Alternative, there would be less office space, which would reduce the project's vehicle trip generation compared to the proposed project. The increase in the number of residential units would increase vehicle trip generation compared to the proposed project for the residential development component. However, the increase in vehicle trip generation for the residential component would not result in greater vehicle trip generation than the proposed project. As with the proposed project, the Base-level Zoning Alternative would help promote higher density uses near transit that would serve to reduce VMT from future growth and development, but not to the same extent as the proposed project as it would reduce office space provided. The decrease in office space proposed under

the Base-level Zoning Alternative would reduce potential VMT impacts as it would reduce the number of vehicle trip generation in the vicinity of the project site. However, the Base-level Zoning Alternative would continue to increase vehicle trip generation from existing conditions and therefore, impacts related to transportation would be equivalent.

Tribal Cultural Resources

Like the proposed project, the Base-level Zoning Alternative would still involve subsurface ground disturbance that could potentially impact previously undiscovered tribal cultural resources; however, the extent of subsurface disturbance would be reduced. Accordingly, the Base-level Zoning Alternative would have less impacts to tribal cultural resources compared to the proposed project.

Utilities and Service Systems

The Base-level Zoning Alternative would continue to increase water demand at the site from existing conditions. However, since the Base-level Zoning Alternative would result in significantly less office space compared to the proposed project, operational water demand for the Base-level Zoning Alternative would be less than the operational water demand for the proposed project. The Base-level Zoning Alternative would continue to construct the extension of the recycled waterline to the project site as the Base-level Zoning Alternative would require the use of recycled water to meet its demands. As the Base-level Zoning Alternative would result in increased water demands at the site from existing conditions but would continue to construct the extension of the recycled waterline, the impacts to utilities and service systems would be equivalent to the proposed project.

Conclusion and Relationship to Project Objectives

The Base-level Zoning Alternative would result in less impacts compared to the proposed project on aesthetics, air quality, cultural resources, GHG emissions, land use and planning, population and housing, and tribal cultural resources. This alternative would have greater impacts than the proposed project on noise compared to the proposed project. Transportation and utilities and service system impacts would be equivalent to the proposed project. The Base-level Zoning Alternative would decrease the overall square footage of the office space and the increase the amount of multi-family residential units. The multi-family residential units would be consistent with the development standards for the MUT Zoning District and would not include affordable housing or meet the City's Community Benefits Program. Therefore, this alternative would not meet the following project objectives:

- Redevelop an existing industrial area with attractive and desirable amenities close to Downtown, including housing, Class A office space, and childcare available to all City residents.
- Meet and exceed the City's Affordable Housing Ordinance and Inclusionary Zoning requirements through construction of 100 percent affordable ownership housing.
- Deliver an economically feasible development, balancing market conditions, city objectives, and community benefits.

5.5.3 Increased Housing Alternative

The Increased Housing Alternative would construct the proposed office building, residential building, and childcare facility. The office building would be approximately 10,000 square feet and consistent with the development standards for the MUT Zoning District. As discussed, childcare facilities with up to 60 children are permitted in the MUT Zoning District and are not limited to a certain size in non-residential zoning districts. This alternative assumes a childcare facility of 4,132 gross square feet, which would be the same as the proposed project. This alternative also assumes that the residential building would provide affordable housing and meet the City's Community Benefits Program. Multi-family uses in the MUT Zoning District that meet the City's Community Benefits Program are allowed at a maximum density of 40 dwelling units per acre. Therefore, this alternative would provide a maximum of 140 affordable multi-family units at the project site. The height of the proposed office building would be 40 feet and the height of the childcare facility would be 30 feet, consistent with the height requirements for the MUT Zoning District. This alternative would provide 140 multi-family affordable housing units, and therefore the building height could be a maximum of 60 feet.

Impact Analysis

Aesthetics

Under the Increased Housing Alternative, the height of the office building and childcare facility would be consistent with the height requirements allowed in the MUT Zoning District. The height of the residential building would provide affordable housing and could be constructed to a maximum height of 60 feet. The height of the residential building would be taller than the proposed project, which would be constructed at 46 feet. However, the height of the residential building would be the same height as the office building for the proposed project. Therefore, the impacts on aesthetics would be equivalent to the proposed project.

Air Quality

The Increased Housing Alternative would construct less office space compared to the proposed project but would construct more affordable housing units at the project site. The Increased Housing Alternative would not substantially increase short-term construction or long-term operational emissions. Air quality impacts would be equivalent to the proposed project.

Cultural Resources

The Increased Housing Alternative would still involve subsurface ground disturbance which could result in the inadvertent discovery of unknown archeological resources at the project site. The amount of ground disturbance would be similar to the proposed project as this alternative would involve the construction of more residential units. Those impacts would be reduced to a less than significant level with the incorporation of mitigation measures included for the proposed project to address the unanticipated discovery of cultural resources. Like the proposed project, this alternative would reuse the designated City Historic Landmark buildings for development of the childcare facility and other buildings on-site would be demolished. Therefore, as with the proposed project, no impacts to historical resources as defined in Section 15064.5 would occur. Impacts on cultural resources would be equivalent to the proposed project.

Greenhouse Gas Emissions

If the Increased Housing Alternative is implemented, there would still be the provision of higher density housing units near transit, more energy efficient buildings, and reduced VMT. This alternative would result in less office development but would construct more multi-family residential units compared to the proposed project. Therefore, the construction and operational GHG emissions would be equivalent to the proposed project.

Land Use and Planning

The Increased Housing Alternative would be similar to the proposed project and would provide mixed-use development consistent with the MUT land use designation and MUT Zoning District, housing and employment opportunities near transit, a childcare facility to address the City's needs, and adaptive reuse of the existing structures located at 1219 and 1227 Arguello Street that are designated City historic landmarks. The Increased Housing Alternative would also meet the City's Community Benefits Program and exceed the City's Affordable Housing Ordinance and Inclusionary Zoning requirements through construction of 100 percent affordable ownership housing. The Increased Housing Alternative would continue to utilize the City's Community Benefit Program to provide a residential density of 40 dwelling units per acre to provide 140 multi-family affordable housing units and have a maximum building height of 60 feet. Since the Increased Housing Alternative would continue to utilize the Community Benefits Program similar to the proposed project to provide increased residential density and building height, impacts related to land use and planning would be equivalent to the proposed project.

Noise

The Increased Housing Alternative would develop less office space but would result in more residential units at the project site. The construction duration and equipment would be similar to the proposed project; therefore, construction noise and vibration levels would be similar to the proposed project. As with the proposed project, the proposed buildings would shield noise through building construction and mitigation by incorporating CalGreen building design requirements. However, the Increased Housing Alternative would result in a smaller office building and therefore, public gathering areas and outdoor spaces associated with the childcare facility and existing sensitive receptors in the area may not be as shielded as the proposed project from noise generated by Caltrain. Therefore, noise impacts under the Increased Housing Alternative may be greater than the proposed project.

Population and Housing

The Increased Housing Alternative would develop less office space compared to the proposed project, which would reduce the number of employees at the project site. However, the Increased Housing Alternative would develop more residential units than the proposed project, which would result in a greater residential population at the project site. This alternative would be consistent with the MUT land use designation and the development standards for the MUT Zoning District through the City's Community Benefits Program. Therefore, the number of employees and residents would be within the population projections anticipated in the General Plan. The development of 140 multi-family units would provide more housing compared to the proposed project and would contribute toward the City's RHNA. Therefore, the impacts on population and housing would be equivalent to the proposed project.

Transportation

Under the Increased Housing Alternative, the residential component would generate more vehicle trips than the proposed project because there would be additional units. However, the decrease in office space would help to reduce the overall vehicle trips. As with the proposed project, the Increased Housing Alternative would help promote higher density uses near transit that would serve to reduce VMT from future growth and development. As such, transportation impacts would be equivalent to the proposed project.

Tribal Cultural Resources

This alternative would involve a similar level of ground disturbance as the proposed project, as it would provide less office space but more residential units. Those impacts would be reduced to a less than significant level with the incorporation of mitigation measures included for the proposed project to address the unanticipated discovery of tribal cultural resources. Impacts to tribal cultural resources would be equivalent to the proposed project.

Utilities and Service Systems

The Increased Housing Alternative would continue to increase water demand at the site from existing conditions. The Increased Housing Alternative would result in significantly less office space compared to the proposed project and operational water demand would be less than the operational water demand for the proposed project. The increase in residential units provided under the Increased Housing Alternative would increase operational demand above the demand identified for the residential component of proposed project; however, overall water demand under the Increased Housing Alternative would be less than the overall demand under the proposed project. The Increased Housing Alternative would continue to construct the extension of the recycled waterline to the project site as it would require the use of recycled water to meet its demands. As the Increased Housing Alternative would result in increased water demands at the site from existing conditions but would continue to construct the extension of the recycled waterline, the impacts to utilities and service systems would be equivalent to the proposed project.

Conclusion and Relationship to Project Objectives

The Increased Housing Alternative would have equivalent impacts as the proposed project, except for noise, which would have slightly greater impacts than the proposed project. Additionally, the Increased Housing Alternative would meet most of the project's objectives except for the following:

- Redevelop an existing industrial area with attractive and desirable amenities close to Downtown, including housing, Class A office space, and childcare available to all City residents.
- Deliver an economically feasible development, balancing market conditions, city objectives, and community benefits.

5.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(2) requires an EIR to identify an "environmentally superior alternative." The qualitative environmental effects of each alternative in relation to the proposed project are summarized in Table 5.6-1. To quantitatively identify an environmentally superior alternative a value

has been applied to each environmental effect. Additionally, Table 5.6-2 provides a comparison of the alternatives with the project objectives. Accordingly, the alternative with the fewest amounts of impacts and the ability to achieve the most project objectives is the environmentally superior alternative.

Table 5.6-1. Project Alternative Impact Comparison

Environmental Resource Topic	Proposed Project	No Project Alternative	Base-level Zoning Alternative	Increased Housing Alternative
Aesthetics	Less Than Significant Impact	Less Impact than the proposed project	Less Impact than the proposed project	Equivalent to the proposed project
Air Quality	Less Than Significant with Mitigation	Less Impact than the proposed project	Less Impact than the proposed project	Equivalent to the proposed project
Cultural Resources	Less Than Significant with Mitigation	Less Impact than the proposed project	Less Impact than the proposed project	Equivalent to the proposed project
Greenhouse Gases	Less Than Significant Impact	Greater Impact than the proposed project	Less Impact than the proposed project	Equivalent to the proposed project
Land Use and Planning	Less Than Significant Impact	Greater Impact than the proposed project	Less Impact than the proposed project	Equivalent Impact to the proposed project
Noise	Less Than Significant with Mitigation	Greater Impact than the proposed project	Greater Impact than the proposed project	Greater Impact than the proposed project
Population and Housing	Less Than Significant	Less Impact than the proposed project	Less Impact than the proposed project	Equivalent to the proposed project
Transportation	Less Than Significant Impact	Less Impact than the proposed project	Equivalent Impact to the proposed project	Equivalent Impact to the proposed project
Tribal Cultural Resources	Less Than Significant with Mitigation	Less Impact than the proposed project	Less Impact than the proposed project	Equivalent Impact to the proposed project
Utilities and Service Systems	Less Than Significant Impact	Equivalent Impact to the proposed project	Equivalent Impact to the proposed project	Equivalent Impact to the proposed project

Table 5.6-2. Project Alternatives Comparison to Project Objectives

Project Objective	Proposed Project	No Project Alternative	Base-level Zoning Alternative	Increased Housing Alternative
Redevelop the project site consistent with the land use policies and strategies provided in the Plan Bay Area 2040, El Camino Real Priority Development Area.	X		X	X
Redevelop the project site consistent with the MUT General Plan and Zoning designations, including policies that guide the growth and development of the City; establish the basis for zoning regulations and guidance; economic development; transportation improvements; sustainability;	X		X	X

Project Objective	Proposed Project	No Project Alternative	Base-level Zoning Alternative	Increased Housing Alternative
City services; parks; and cultural and historic preservation.				
Redevelop an existing industrial area with attractive and desirable amenities close to Downtown, including housing, Class A office space, and childcare available to all City residents.	X			
Meet and exceed the City's Affordable Housing Ordinance and Inclusionary Zoning requirements through construction of 100 percent affordable ownership housing.	X			X
Provide childcare to address the City's existing shortage of childcare spaces for infants/toddlers and preschool-age children.	X		X	X
Support the City's Historic Preservation Ordinance through adaptive reuse of structures identified as historic buildings by the City.	X		X	X
Develop a project that would meet strict sustainability, conservation, and reach code goals intended to reduce greenhouse gas emissions and address climate change and energy conservation goals.	X		X	X
Deliver an economically feasible development, balancing market conditions, city objectives, and community benefits.	X			
Create a mixed-use environment that increases vibrancy of the existing area, encourages use of multimodal transportation, activates frontages along public streets, and provides employment and housing opportunities near transit.	X		X	X

As shown above, the Base-level Zoning Alternative would be the environmentally superior alternative because impacts on aesthetics, air quality, cultural resources, greenhouse gas, land use and planning, population and housing, and tribal cultural resources would be less compared to the proposed project. The Base-level Zoning Alternative would also meet most of the project objectives.

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6.0 OTHER CEQA CONSIDERATIONS

This section describes the other statutorily required topics including growth inducing impacts, significant and unavoidable impacts, significant irreversible environmental changes, and mandatory findings of significance.

6.1 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action:

> *Discuss the way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

The State CEQA Guidelines do not distinguish between planned and unplanned growth for purposes of considering whether a project would foster additional growth. Therefore, for purposes of this EIR, to reach the conclusion that a project is growth-inducing as defined by CEQA, the EIR must find that it would foster (i.e., promote, encourage, or allow) additional growth in economic activity, population, or housing, regardless of whether the growth is already approved by and consistent with local plans. The conclusion does not determine that induced growth is beneficial or detrimental, consistent with Section 15126.2(d) of the State CEQA Guidelines. If the analysis conducted for the EIR results in a determination that a project is growth-inducing, the next question is whether that growth may cause adverse effects on the environment. Environmental effects resulting from induced growth (i.e., growth-induced effects) fit the CEQA definition of “indirect” effects in Section 15358(a)(2) of the State CEQA Guidelines. These indirect or secondary effects of growth may result in significant environmental impacts. CEQA does not require that the EIR speculate unduly about the precise location and site-specific characteristics of significant, indirect effects caused by induced growth, but a good-faith effort is required to disclose what is feasible to assess. Growth-inducing impacts can occur when development of a project imposes new burdens on a community by directly inducing population growth, or by leading to the construction of additional development in the project area.

Also included in this category are projects that would remove physical obstacles to population growth, such as the construction of a new roadway into an undeveloped area or a wastewater treatment plant with excess capacity to serve additional new development. Construction of these types of infrastructure projects cannot be considered isolated from the immediate development that they facilitate and serve. Projects that physically remove obstacles to growth or projects that indirectly induce growth are those that may provide a catalyst for future unrelated development in the area (such as a new residential community that requires additional commercial uses to support residents). The growth-inducing potential of a project

could also be considered significant if it fosters growth in excess of what is assumed in the local master plans and land use plans, or in projections made by regional planning agencies.

6.1.1 Population Growth

The decision to allow/approve projects that result from induced growth (e.g., new commercial areas, new housing) is the subject of separate discretionary processes by individual lead agency (or agencies) responsible for considering such projects, in this case, the City Planning Commission or, on appeal, the City Council. Projects resulting from induced growth would themselves be discretionary and subject to CEQA. Therefore, the following discussion is intended to disclose the potential for environmental effects that could occur more generally because of the project rather than the site-specific impacts of induced growth. Its purpose is to inform the City decision-making body that additional environmental effects may be a possibility if growth-inducing projects are approved. However, the decision of whether projects are approved, and the impacts associated with them still rests with the City decision-making body at such times as complete applications for development are submitted.

As discussed in Section 3.7, Population and Housing, the project site is not currently occupied by any existing residents. The proposed project would include the construction of a multi-family residential building with 33 affordable units that would increase the population at the project site. According to the City's General Plan Housing Element, the average household size is 2.7 people (City of Redwood City 2014). Assuming there are 2.7 people per unit, the residential component is estimated to generate approximately 89 people at the project site. In January 2021, the City's population was estimated at 85,182 (DOF 2021a). Buildout of the City's General Plan estimates the population to increase to 91,900 by 2030 (City of Redwood City 2010a). The addition of 89 residents from the proposed project would represent approximately 1.3 percent of the City's growth anticipated by 2030 in the General Plan. The proposed project would also contribute to the City's RHNA by providing 33 affordable units consisting of 6 units for very low income levels, 15 units for low income levels, and 12 units for moderate income levels.

Additionally, the proposed project would develop approximately 300,000 square feet of office space and a 4,132 square foot childcare facility, which would increase the number of employees at the project site. Currently, there are eight existing employees at the project site associated with the property management business and automobile towing operation. The two proposed office buildings would accommodate approximately 1,350 employees, and the childcare facility would generate approximately 16 employees. The residential building would be maintained by an HOA, which would hire a property management business to complete daily and monthly maintenance of the property. The property management company would staff the building as necessary; however, there would be no permanent residential maintenance staff on-site. Therefore, the proposed office buildings and childcare facility would generate approximately 1,366 employees, resulting in a net increase of 1,358 employees at the project site. The City's General Plan EIR anticipates the City's employment would increase to 66,600 by 2030 (City of Redwood City 2014). The addition of 1,358 net employees at the project site would represent approximately 7.5 percent of the City's job growth projected by 2030. Therefore, while the proposed project would increase the City's population, affordable housing supply, and employment, the proposed project would be consistent with the MUT General Plan land use designation and would not exceed the City's planned growth as identified in the General Plan.

6.1.2 Removal of Barrier to Growth

The proposed project involves the construction of a mixed-use development on an urban infill site. The project site is located within the El Camino Real Priority Development Area, which is an area that has been identified for future housing and employment growth. These priority development areas are also within 0.5-mile of transit centers, employment job centers, shopping districts, and other community amenities. As discussed in Section 3.8, Transportation, the project site is within a transit priority area as it is within 0.5-mile from the Redwood Caltrain Station and within 0.25-mile of El Camino Real bus stops. Based on the project's proximity to the Redwood City Caltrain Station, Downtown area, and high-quality transit nearby on El Camino Real, implementation of the proposed project would shift transportation modes away from single occupancy vehicles and toward other modes, such as transit, walking, and biking. As the proposed project would also involve the development of an urban infill site, the proposed project would not induce sprawl or dispersed land use development. As discussed in Section 3.5, Land Use and Planning, the proposed project would be consistent with the City's MUT General Plan land use designation and promote the City's housing development goals by providing affordable housing and neighborhood service uses, such as the childcare facility and office use.

Additionally, the proposed project would be served by existing water, sewer, and stormwater infrastructure. The proposed project would upsize the existing 6-inch water main and 6-inch VCP sanitary sewer main in Arguello Street to accommodate project-related demand. Additionally, in order to facilitate the extension of the City's recycled waterline to the vicinity of the project site, the proposed project would construct approximately 2,553 linear feet of recycled waterline along Arguello Street from Whipple Avenue to Marshall Street and approximately 1,309 linear feet of recycled waterline from Marshall Street to Jefferson Avenue. The proposed recycled waterline extension would be constructed in areas that are already highly developed with existing uses and the extension of the recycled waterline to the project vicinity would not result in indirect growth inducing impacts. The proposed utility improvements, other than the recycled waterline, would not be intended to serve development on lands other than the project site. Therefore, the proposed project would not result in the extension of urban infrastructure to an area that is currently not serviced. The proposed project would not result in significant indirect growth-inducing impacts.

6.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126(b) requires an EIR to "describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described."

Section 3.0, Environmental Impact Analysis, provides a description of the potential environmental impacts of the proposed project and recommends mitigation measures to reduce impacts to a less than significant level, where possible. Section 4.0, Cumulative Effects, determines whether the incremental effects of this project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

6.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

As mandated by the CEQA Guidelines, the EIR must address any significant irreversible environmental change that would result from implementation of the proposed project. Specifically, pursuant to the CEQA Guidelines (Section 15126.2[c]), such an impact would occur if:

- The project would involve a large commitment of nonrenewable resources;
- Land area committed to new project facilities;
- Irreversible damage can result from environmental accidents associated with the project; and
- The proposed consumption of resources is not justified (e.g., the project results in the wasteful use of energy).

The proposed project involves the construction of a mixed-use development on a 3.5 acre site that is currently developed with seven structures that total approximately 28,201 square feet for residential, commercial, and industrial uses. The proposed project would reuse and demolish the existing structures to construct a 57,254 square foot multi-family residential building with 33 affordable units, approximately 300,000 square feet of office space, and a 4,132 square foot childcare facility for approximately 30 children. The proposed project would be consistent with the MUT General Plan land use designation by providing a mix of residential and commercial uses. The project site is also already developed with a mix of uses, and redevelopment of the site with affordable housing, office space, and a childcare facility would not represent a substantial land use change.

As discussed in Section 3.6, Energy, of the Initial Study (Appendix A), project construction would require electricity, gasoline, and diesel fuels primarily for on-road and off-road equipment. However, equipment operation would comply with BAAQMD basic construction measures recommended for all projects that are aimed at reducing air pollution, such as minimizing idling of construction off-road equipment and maintaining all equipment in accordance with manufacturer standards. Such measures would also minimize the wasteful consumption of energy resources during construction.

Operation of the proposed project would be required to comply with energy efficiency standards set forth by Title 24 of the California Administrative Code and the Applicable Efficiency Regulations. Title 24 requires that the proposed project meet a number of conservation standards, including installation of water-efficient fixtures and energy-efficient appliances. Title 24 also regulates energy consumption for the heating, cooling, ventilation, and lighting of residential and nonresidential buildings, and is enforced by the City. Compliance with Title 24 would ensure reduction in the use of fuel, water, and energy by the proposed project. Additionally, the proposed project would comply with CalGreen and the City's Municipal Code requirements related to energy and water conservation. The two office buildings would be designed to meet LEED Gold and WELL Certification and would be 100 percent electric to align with the Peninsula Clean Energy's Reach Code. The proposed residential building would also be 100 percent electric and target a Green-Point Rating. Therefore, the proposed project would not result in wasteful or unnecessary consumption of energy.

The proposed project would not result in irreversible damage from environmental accidents, such as an accidental spill of a hazardous material. As further discussed in Section 3.9, Hazards and Hazardous

Materials, in the Initial Study (Appendix A), the proposed project would involve demolition and construction activities that could potentially release hazardous materials into the environment. As part of the City's SDR and NPDES Construction General Permit, the proposed project would be required to prepare and implement a SWPPP that would include BMPs to prevent accidental spills of hazardous materials during construction. The proposed project would also implement Mitigation Measures HAZ-1 and HAZ-2, which would require hazardous building materials (if present) be properly removed and disposed of by a certified contractor prior to demolition or renovation activities, and preparation of a Soil and Groundwater Management Plan. The Soil and Groundwater Management Plan would document specific dust mitigation, soil management, and waste characterization activities for excess soil generated during site development and, if applicable, presumptive measures to manage and treat groundwater generated during construction dewatering. The proposed project would comply with all applicable federal, state, and local laws related to the transport, use, or disposal of hazardous materials, as overseen by the California Environmental Protection Agency and Department of Toxic Substances Control.

During operation of the proposed project, the use of hazardous materials would be limited to those commonly found at residential, office, and commercial facilities such as solvents, cleaners, paints, and pesticides for landscape maintenance activities. These common household hazardous materials would be used in limited quantities and would not create a substantial hazard to the public or the environment. As such, the proposed project would not have the potential to cause serious environmental accidents.

6.4 MANDATORY FINDINGS OF SIGNIFICANCE

PRC Section 21083 requires lead agencies to make a finding of a "significant effect on the environment" if one or more of the following conditions exist:

1. A proposed project has the potential to degrade the quality of environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife species to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare, or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

2. The possible effects of a project are individually limited but cumulatively considerable.

3. The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.

Finding No. 1: The proposed project would not have the potential to significantly affect biological resources or cultural resources.

The proposed project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. As discussed in Section 3.4, Biological Resources, in the Initial Study (Appendix A), the proposed project is within an urbanized area and developed with existing residential, commercial, and industrial uses. The project site is surrounded on all sides by existing development, which would preclude the presence of habitat for any special-status species. As required by the City's

COAs, the proposed project would conduct surveys for nesting birds prior to the start of construction activities and any tree removal activities would occur outside of the breeding season for nesting birds. Therefore, impacts on special-status species would be less than significant.

As discussed in Section 3.3, Cultural Resources, and Section 3.9, Tribal Cultural Resources, of the Draft EIR, the proposed project would be required to implement Mitigation Measures CUL-1 and CUL-2 to reduce impacts on cultural and tribal cultural resources to a less than significant level.

Finding No. 2: The proposed project would have cumulatively considerable impacts.

As discussed in Section 4.0, Cumulative Effects, of this EIR, the proposed project, in conjunction with related projects, would not have a cumulatively considerable impacts on any resource topics analyzed in this EIR. Cumulative impacts resulting from resource topics analyzed in this EIR would be less than significant or the proposed project would result in a less than cumulatively considerable contribution to cumulative impacts.

Finding No. 3: The proposed project would not cause substantial adverse effects on human beings.

The proposed project would not directly or indirectly cause substantial adverse effects on human beings. As identified in Tables ES-1 and ES-2, impacts related to air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, and noise would be reduced to a less than significant level with the implementation of applicable mitigation.

7.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

Pursuant to CEQA and the CEQA Guidelines, the discussion of the potential effects on the physical environment is focused on those impacts that may be significant or potentially significant. CEQA allows a lead agency to limit the details of discussion of the environmental effects that are not considered potentially significant (CEQA Guidelines Section 15126.2[a] and 15128). CEQA requires that the discussion of any significant effects on the environment be limited to substantial or potentially substantial adverse changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (Statutory definition of "environment").

Effects determined to be insignificant or unlikely to occur need not be discussed further in the Draft EIR unless the lead agency subsequently receives information inconsistent with the finding (CEQA Guidelines Section 15143).

The NOP was circulated for public review between October 19, 2021 and November 18, 2021 and is contained in Appendix A of this Draft EIR. The Public Scoping Meeting on the Draft EIR for the proposed project was held on November 9, 2021. During the Public Scoping Meeting, information regarding the number of jobs the proposed project would create was raised by community members and the potential to increase the City's population and result in displacement. Therefore, the following potential impacts have been determined to require further analysis in this Draft EIR:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

For the remainder of the NOP, it was determined that implementation of the proposed project would result in no impact or less than significant environmental impacts with or without mitigation related to the resource topics listed below. Analyses supporting the conclusions for these resource topics is included in Appendix A as part of the NOP. The following resource thresholds are not discussed at further length in this Draft EIR.

Aesthetics

Scenic Vistas

Scenic vistas in the City are not visible from the project site and there are no scenic vistas in the project vicinity. Due to the distance from any scenic resources and the nature of the development of the project area, the proposed project's construction and operation would not disrupt views of scenic resources located in the City. The proposed project would have no impacts on scenic vistas.

Scenic Resources within a State Scenic Highway

There are no state designated or eligible scenic highways located along or near the project site. The proposed project would result in removal of tress within the boundaries of the Mezesville Historic District

and would require a Tree Removal Permit. The proposed project would comply with all conditions of the Tree Removal Permit. The proposed project would not substantially damage scenic resources within a state scenic highway and there would be a less than significant impact.

Agriculture and Forestry Resources

Conversion of Farmland

There are no areas of Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance within the City and the project site is classified as "Urban and Built-Up Land" by the Department of Conservation's Farmland Mapping and Monitoring Program (DOC 2021). Therefore, development of the proposed project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses and there would be no impact.

Agricultural Zoning

The project site is zoned MUT. The zoning designation does not allow for agricultural uses and there are no lands under the Williamson Act contract within the City (City of Redwood City 2010b). Therefore, the proposed project would not conflict with existing zoning for agricultural use or with a Williamson Act contact, and there would be no impact.

Forest Land and Timberland Zoning

The City does not contain any lands zoned as forest land or timberland (City of Redwood City 2010b). Therefore, the proposed project would not conflict with existing zoning for, or cause rezoning of forest land or timberland. There would be no impact.

Loss or Conversion of Forest Land

There are no forest lands in the City and development of the proposed project would not result in the loss of forest land or convert forest land to non-forest uses (City of Redwood City 2010b). There would be no impact.

Change to Existing Environment

The project site and surrounding areas are not used for agricultural or forest land uses. The proposed project would not involve changes to the existing environment that could cause the conversion of farmland to non-agricultural uses or forest land to non-forest uses. There would be no impact.

Air Quality

Odor

The proposed project would not include development of uses that are typically considered associated with emitting odors. Construction of the proposed project would require activities that would generate odors; however, all construction-related odor emissions would be temporary and intermittent. Operation of the proposed project would emit odors typically associated with residential, office, and childcare facilities and would not include uses that would emit odors that would adversely affect a substantial number of people. Therefore, the proposed project would not result in other emissions such as those leading to odors, that would adversely affect a substantial number of people and impacts would be less than significant.

Biological Resources

Special-Status Species

The proposed project site is currently developed with urban uses and is surrounded by development on all sides. The off-site recycled waterline would be constructed in right-of-ways previously disturbed. The City's General Plan EIR identified areas that have the potential for sensitive species as being located further away from the project site (City of Redwood City 2010b). Considering its location next to urban uses and busy roadways, it is reasonable to assume that sensitive species and wildlife habitats are not present on-site. The proposed project would be required to conduct nesting bird surveys as a COA required by the City prior to any tree removal activities, and all tree removal and trimming activities would be required to take place outside of the breeding season. Compliance with the COA would ensure the proposed project would have no impacts on species identified as a candidate, sensitive, or special-status species and impacts would be less than significant.

Riparian Habitat or Natural Community

The project site is located in a highly urbanized area and there are no riparian habitats or any other sensitive natural community within or in the vicinity of the project site. Therefore, the proposed project would not have a substantial adverse effect on any riparian habitat or any other sensitive natural community and there would be no impact.

Protected Wetlands

The project site does not contain any state or federally protected wetlands. Wetland areas identified by the City's General Plan are located along the San Francisco Bay shoreline, east of the project site (City of Redwood City 2010a). Therefore, the proposed project would not have a substantial adverse effect on state or federally protected wetlands and there would be no impact.

Wildlife Movement

The urban setting of the project site and surrounding areas minimize the opportunity for wildlife movement or nursery sites at the project site. Additionally, the project site does not represent a corridor that links areas of open space lands. As such, the project site is not considered to support wildlife movement or native wildlife nursery sites, and there would be no impact from construction and operation of the proposed project.

Local Policies or Ordinances

The proposed project would include the removal of approximately 110 existing trees. However, the proposed project would plant new trees throughout the project site and street frontages at 1125 Arguello Street as part of the landscaping plan. The proposed project would be required to comply with the City's Tree Preservation Ordinance under Chapter 35 of the Redwood City Municipal Code (City of Redwood City 2010b). The proposed project would also be required to obtain a permit from the City's Parks and Recreation Director before removing any trees on-site and comply with the requirements under the ordinance. Compliance with the City's Tree Preservation Ordinance would ensure the proposed project does not conflict with any local policies or ordinances protecting biological resources and the impact would be less than significant.

Habitat Conservation Plan

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plan covering the project site. Therefore, the proposed project would not conflict with the provisions of an adopted plan, and no impact would occur.

Cultural Resources

Burial Sites

The potential for human remains at the project site and along the off-site recycled waterline is low due to subsurface disturbance from past development. However, due to the proposed project requiring excavation at the project site to provide for three levels of underground parking and excavation for the trenching of the off-site recycled waterline, and the proximity of the project site to the oldest part of the City, there is some potential for discovery of human remains or other cultural resources that are currently undiscovered. If human remains are discovered, the proposed project would be required to take proper steps in accordance with California Health and Safety Code Section 7050.5(b) to preserve the remains. With the incorporation of procedures outlined in California Health and Safety Code 7050.5(b), impacts from inadvertent discovery of human remains would be less than significant.

Energy

Wasteful, Inefficient, or Unnecessary Use of Energy

During project construction, equipment operation would be required to comply with BAAQMD's basic construction measures recommended for all projects that are aimed at reducing air pollution, such as minimizing idling of construction equipment and maintaining all equipment in accordance with manufacturer standards. Incorporation of these measures would minimize wasteful consumption of energy during construction. The proposed project would also be required to comply with energy efficiency standards set for by Title 24 of the California Administrative Code and the Applicable Efficiency Regulation as well as CalGreen and the Redwood City Municipal Code requirements related to energy and water conservation. Additionally, the proposed office buildings would be designed to adhere to existing regulatory standards and LEED Gold and WELL Certification which would result in the conservation of energy. The proposed office buildings and residential building would be 100 percent electric in order to align with the Peninsula Clean Energy's Reach Code recommendation. Therefore, with the incorporation and adherence to applicable energy standards and requirements, the proposed project would not result in inefficient, wasteful, and unnecessary consumption of energy, and the impact would be less than significant.

Conflict with Renewable Energy/Energy Efficiency Plan

The proposed project would be consistent with the City's 2020 Climate Action Plan as it would achieve the latest CalGreen standards, comply with the City's Energy Conservation Ordinance, and would implement other energy efficiency measures in accordance with the City's CAP. Therefore, the proposed project would not conflict with any plans for renewable energy or energy efficiency, and impacts would be less than significant.

Geology and Soils

Seismic Hazard

The project site is not located within an Alquist-Priolo Fault Zone and no major active faults runs through the project site. Therefore, potential impacts from fault rupture of an earthquake fault are low and impacts would be less than significant.

The topography of the project site is relatively flat and is not located in an area classified as being in a landslide area. Therefore, there would be no impact related to seismically induced landslides.

The potential for strong seismic ground shaking at the project site is high due to the City being located within a seismically active region. Strong ground shaking during an earthquake can result in ground failure such as soil liquefaction and lateral spreading. As part of the City's SDRs and as required by the City's General Plan Program PS-23 and PS-24, the proposed project would require a site-specific geotechnical report which would include recommendations and measures to reduce potentially significant geologic hazards and would be required to comply with the most current California Building Code standards. Therefore, the proposed project would be required to implement recommendations included in the preliminary geotechnical evaluation prepared by Langan in November 2020 to reduce potential seismic impacts. Additionally, Langan prepared a supplemental geotechnical conclusions and recommendations memo in November 2022 for the proposed project's recycled waterline. The supplemental memo concluded that geotechnical conclusions and recommendations presented in the previous geotechnical evaluation prepared by Langan would be applicable for the construction of the proposed recycled waterline. Additionally, the proposed project would be required to comply with the City's General Plan policies and programs related to seismic hazards. Implementation and compliance with the City's requirements, current building codes, and implementation of the geotechnical reports recommendations into the project design would ensure that impacts from strong seismic ground shaking and seismic related ground failure are less than significant.

Erosion

Construction activities associated with the proposed project would involve demolition, grading, and excavation activities which would expose soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the project site. The proposed project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit and would be required to prepare and implement a SWPPP which would implement standard construction BMPs to minimize erosion and loss of topsoil. With the implementation of BMPs and a SWPPP under the NPDES Permit, the proposed project would not result in substantial soil erosion or loss of topsoil and impacts would be less than significant.

Unstable Geologic Unit or Soil

The project site is not located within an area with potential for landslides and the preliminary geotechnical investigation conducted by Langan in November 2020 identified that the potential for lateral spreading at the site was low. However, the project site is located in an area with potential for liquefaction. The construction of the proposed off-site recycled waterline would also occur in an area with the potential for liquefaction. Additionally, the proposed project would require three levels of excavation adjacent to Caltrain tracks and could potentially expose the tracks to unstable soils due to vertical movement and

settlement. The proposed project would be required to implement the City's SDR, comply with the most current California Building Code standards, and implement General Plan programs relating to geologic hazards, as well as prepare a design-level geotechnical report. The City would be required to coordinate with Caltrain to determine if the design-level geotechnical report would need to incorporate Caltrain's most recent Engineering Standards. If determined by the City, the project contractor would be required to submit the design-level geotechnical report to Caltrain for review prior to the start of construction activities. The proposed project would be required to implement recommendations included in the preliminary geotechnical evaluation prepared by Langan in November 2020 to reduce potential geologic impacts. Additionally, Langan prepared a supplemental geotechnical conclusions and recommendations memo in November 2022 for the proposed project's recycled waterline. The supplemental memo concluded that geotechnical conclusions and recommendations presented in the previous geotechnical evaluation prepared by Langan would be applicable for the construction of the proposed recycled waterline. The supplemental memo also identified that areas where the proposed recycled waterline would be installed are underlain by potentially corrosive soils and recommends that the recycled waterline be properly protected again corrosion. With implementation of City requirements and recommendations included in the geotechnical reports, the proposed project would not be located on unstable soils and impacts would be less than significant.

Expansive Soil

The preliminary geotechnical evaluation conducted for the proposed project revealed that moderately to highly expansive surface soils are present at the project site and therefore, the proposed project would be required to comply with the City's SDR, California Building Code standards, and General Plan policies and programs relating to geological hazards. Compliance with City requirements and current California Building Code standards would ensure all impacts related to expansive soils are less than significant.

Septic Tanks

The proposed project would connect to and be served by the City's existing sanitary sewer system and would not require the installation and use of a septic tank or other alternative wastewater disposal systems. Therefore, no impact would occur.

Paleontological Resource or Geologic Feature

No records of known paleontological resources exists within the City; however, there is a potential for discovery of unknown paleontological resources during excavation activities during project construction. The proposed project would implement Mitigation Measure GEO-1 identified in the Initial Study which outlines procedures for inadvertent discovery of paleontological resources. Additionally, the proposed project would be assessed for potential to destroy unique paleontological resources by the City's Community Development Department as part of the City's COA for the proposed project. With implementation of Mitigation Measure GEO-1 and compliance with the City's COA, potential impacts to unique paleontological and geologic resources would be less than significant.

Hazards and Hazardous Materials

Routine Transport, Use, or Disposal of Hazardous Materials

During the construction phase, limited amounts of hazardous materials would be used, including standard construction materials such as concrete, paints, solvents, and heavy construction equipment which would contain diesel fuels and oils. Additionally, the proposed project could expose construction workers and the public to hazardous conditions through the disturbance of hazardous materials such as asbestos containing materials (ACMs), lead-based paints (LBP), and contaminated soil and groundwater. Site grading activities could potentially expose construction workers and the public to hazardous conditions through transportation and disposal of contaminated soils or groundwater due to the confirmed presence of metal affected groundwater at the site. The proposed project's construction would be required to adhere to all applicable federal, state, and local regulations relating to the transport, use, and disposal of hazardous materials. The proposed project would also be required to implement Mitigation Measure HAZ-1 identified in the Initial Study. Mitigation Measure HAZ-1 would ensure that if hazardous building materials are present on-site, such materials would be properly removed and disposed of by a certified contractor. Additionally, the proposed project would implement Mitigation Measure HAZ-2, which would document specific dust mitigation, soil management, and waste characterization activities for excess soil generated during site development and if applicable and identify presumptive measures to manage and treat groundwater generated during construction dewatering. With implementation of Mitigation Measures HAZ-1 and HAZ-2, and compliance with all applicable federal, state, and local regulations relating to transport, use and disposal of hazardous materials, impacts during construction would be less than significant.

The use of hazardous materials during operation of the proposed project would be limited to those commonly found at residential, office, and commercial facilities such as solvents, cleaners, paints, and pesticides for landscape maintenance activities. These common household hazardous materials would be used in limited quantities and would not create a significant hazard to the environment or the public. Therefore, the routine transport, use, or disposal of hazardous materials during project operation would result in a less than significant impact.

Accidental Release of Hazardous Materials

During the construction phase, limited amounts of hazardous materials would be used, including standard construction materials such as concrete, paints, solvents, and heavy construction equipment which would contain diesel fuels and oils. Construction activities could potentially cause accidental spills or release of hazardous materials. As part of the City's SDR and the NPDES Construction General Permit, the proposed project would be required to prepare and implement a SWPPP that includes BMPs to prevent accidental spills of hazardous materials during construction. Project construction activities may result in the release of hazardous materials such as ACMs, LBPs, and contaminated soil and groundwater into the environment due the presence of such materials on-site. Project construction would be required to adhere to all applicable federal, state, and local regulations relating to the transport, use, and disposal of hazardous materials. As described above, the proposed project would also be required to implement Mitigation Measures HAZ-1 and HAZ-2, which would ensure that hazardous materials present on-site are not accidentally released into the environment. With the implementation of a SWPPP and Mitigation Measures HAZ-1 and HAZ-2, the proposed project would not result in the accidental release of hazardous materials into the environment and impacts would be less than significant.

Operation of the proposed project would not include any uses of hazardous materials outside of common household hazardous materials such as paints, solvents, and pesticides for landscaping uses. These hazardous materials would be used in limited quantities and would not result in the accidental release of hazardous materials into the environment. Impacts related to operation of the proposed project would be less than significant.

Emission of Hazardous Materials near a School

The closest school to the project site is Orion Elementary School, which is located approximately 0.2-mile southeast of the site. As discussed above, project construction would include the use of limited quantities of hazardous materials such as fuels, paints, and solvents. Construction of the project may also require the handling of hazardous materials such as ACMs, LBPs, and contaminated soil and groundwater which could expose students to hazardous emission through fugitive dust containing LBP, dust, or other contaminants, or through the release of asbestos fibers into the air. The proposed project would implement Mitigation Measures HAZ-1 and HAZ-2 described above to protect the public from hazardous materials that may be present on-site such as ACMs, LBPs, and contaminated soil and groundwater. With implementation of m Mitigation Measures HAZ-1 and HAZ-2, impacts from emissions or handling of hazardous materials within 0.25-mile of a school would be less than significant.

Hazardous Materials Sites

The project site is listed on the SWRCB GeoTracker site and the Department of Toxic Substances Control's (DTSC) EnviroStor site as a leaking underground storage cleanup site (SWRCB 2021, DTSC 2021). Though the project site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, this listing does not present a significant hazard to the public or the environment as the case has been closed for several years. To ensure that there are no significant impacts, the proposed project would be required to implement Post Closure Site Management Requirements identified by the SWRCB. Compliance with these requirements would reduce impacts to a less than significant level. Additionally, the proposed project would implement Mitigation Measures HAZ-1 and HAZ-2 to ensure that the proposed project would not create a significant hazard and impacts would be less than significant.

Nearby Airport Hazard

The project site is located within Zone 6 Traffic Pattern Zone and Zone B Airport Influence Area for the San Carlos Airport Land Use Compatibility Plan (C/CAG 2015). There are no limits placed on the intensity of new, nonresidential uses within Safety Zone 6; however, childcare centers are conditionally allowed and the proposed project would require a consistency review by the City/County Association of Government of San Mateo County. In Safety Zone 6, new residential development is compatible and is not restricted for safety reasons. The project would not construct buildings above 100 feet and would not create any airspace hazard. The project site is not within the noise contour areas for the airport. Therefore, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the area and impacts would be less than significant.

Emergency Response or Evacuation Plan

The City has an adopted Emergency Operations Plan (EOP) which is intended to provide a comprehensive emergency response document for natural disasters and man-made events. The EOP does not include any designated evacuation routes. During the construction phase, if partial or full street closures are required, the proposed project would be required to conform to the Work Area Traffic Control Handbook as required by the City's SDR and the Applicant would be required to submit a Traffic Control Plan to the City prior to any lane closures. The proposed project would not modify any existing roadways in such a way that would impede emergency access or evacuation. The proposed project would be designed to provide adequate emergency access to the site for emergency vehicles. Therefore, the proposed project would not impair or interfere with an adopted emergency response plan or emergency evacuation plan. The would be less than significant.

Wildland Fires

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped areas of significant fire hazard in California and the project site is not located in a State Responsibility Area or a Very High Fire Hazard Severity Zone (CAL FIRE 2007, 2008). Additionally, the U.S. Forest Service (USFS) Wildfire Hazard Potential Map designated the project site and surrounding areas as non-burnable (USFS 2020). The proposed project would not be subject to special development controls related to heightened fire protection or vegetation management required to minimize the risk of wildland fires but would be subject to standard fire code and fire suppression requirements. The proposed project would not expose people or structures to significant risk of loss, injury, or death involving wildland fires and impacts would be less than significant.

Hydrology and Water Quality

Surface and Groundwater Quality

Construction of the proposed project would involve demolition, vegetation removal, grading, and excavation activities that could result in the potential for erosion or sedimentation on and off the project site and could result in degradation of water quality. As required by the City's SDR, the proposed project would be required to prepare and implement a SWPPP under the NPDES Construction General Permit program. The SWPPP would include measures to avoid and minimize the discharge of pollutants from the project site. In addition, the proposed project would implement Mitigation Measures HAZ-1 and HAZ-2. Implementation of the SWPPP and Mitigation Measures HAZ-1 and HAZ-2 would ensure that construction activities would not violate any water quality discharge requirements.

The proposed project would comply with the San Francisco Bay RWQCB Municipal Regional Permit C.3 requirements as required by the City's SDR and would prepare a Stormwater Management Plan that would include a summary of how the proposed project is complying with Provision C.3 of the Municipal Regional Permit. The proposed project would design stormwater facilities to meet C.3 requirements and would include stormwater treatment measures on-site, such as bioswales and media filters that would treat runoff from the site before discharging into the City's storm drains. The proposed project would include permanent stormwater pollution prevention measures to reduce water quality impacts from stormwater runoff at the site. With the implementation of a SWPPP, Stormwater Management Plan, Mitigation Measures HAZ-1 and HAZ-2, and compliance with the City's requirements, the proposed

project would not violate any water quality standards or waste discharge requirements and there would be a less than significant impact.

Groundwater Management

The historic groundwater level at the project site has been between approximately 0 to 10 feet bgs. During geotechnical investigations at the project site, groundwater measured at depths of approximately 8 to 11 feet bgs. The project site would be excavated approximately 33.5 feet to construct the three-level underground parking garage. Therefore, groundwater could be encountered during excavation activities and require dewatering. The Caltrain tracks are also located west of the project site, which would require shoring to stabilize soils. According to the preliminary geotechnical report, the final shoring design would be identified during the project development phase and in the design-level geotechnical report in accordance with the City's SDR, Caltrain's 2003 Engineering Standards for Excavation Support Systems, and California Division of Occupational Safety and Health regulations. The construction of the off-site recycled waterline would also require temporary shoring and dewatering as outlined in the geotechnical memo prepared by Langan in November 2022. The proposed project would be required to implement the temporary shoring and dewatering recommendations included in the memo as required by the City's SDR. Additionally, as required by Mitigation Measure HAZ-2, the proposed project would prepare a Soil and Groundwater Management Plan, which would include presumptive measures to manage and treat groundwater generated during construction dewatering. The Soil and Groundwater Management Plan would comply with federal, state, and local regulations, specifying methods of water collection, handling, transport, treatment, discharge, and disposal for all water produced by dewatering activities.

The project site is currently served by the City's municipal water system and would continue to serve the proposed project. Local groundwater is not used by the City as a source of municipal supply, and therefore operation of the proposed project would not rely on groundwater supplies (City of Redwood City 2010b). The project site is in an urbanized area and consists mostly of impervious areas. The proposed project would create approximately 17,000 square feet of new pervious areas and approximately 23,000 square feet of new impervious areas at the project site. For the 1111 Arguello Street property, which would be developed with the residential building, the amount of impervious area would decrease from the existing 20,779 square feet to the proposed 18,609 square feet of impervious roof/pavement. For the 1125 Arguello Street property, which would be developed with the two office buildings and childcare facility, the impervious roof/pavement area would be reduced to 117,545 square feet from the existing 127,703 square feet of impervious area. Overall, the proposed project would create 17,000 square feet of new pervious areas and 23,000 square feet of new impervious areas at the project site. The proposed project would decrease the amount of impervious surface at the project site and incorporate new pervious areas, such as landscaping areas, decomposed granite paving, and bioswales. Therefore, the proposed project would not substantially interfere with groundwater recharge or deplete groundwater supplies, and the impact would be less than significant with implementation of Mitigation Measure HAZ-2.

Drainage Pattern

As discussed above, the proposed project would be required to prepare and implement a SWPPP during construction activities to reduce the potential for erosion related impacts and polluted runoff. The proposed project would construct the storm drainage system at the site in accordance with Provision C.3 requirements and City guidelines to properly manage runoff from the site. The proposed project would

include post-construction stormwater management measures on-site, such as bioswales and media filters to treat runoff before it is discharged into the City's systems. Implementation of the SWPPP, post-construction stormwater management measures and detention of stormwater, the proposed project would not result in substantial alteration to the existing drainage pattern that would result in substantial erosion or siltation or result in substantial additional sources of polluted runoff and impacts would be less than significant.

The project site is currently almost entirely impervious and the proposed project would increase the pervious area at the site which would result in a decrease in stormwater runoff after construction. Additionally, the proposed project would be consistent with Provision C.3 requirements and stormwater would flow through LID treatment measures before discharging to the City's storm drain system which would control the volume of stormwater at the project site to reduce the potential for flooding. The proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding and there would be a less than significant impact.

There are no waterways crossing the project site or surrounding areas that would be impacted by project construction and operation and the proposed project is not located in a flood hazard area. The proposed project would construct storm drainage systems that would meet City requirements and C.3 Provision requirements and would connect to the City's storm drain system. The proposed project would not impede or redirect flood flows and there would be no impacts.

Project Inundation

The project site is located in an area with minimal flood hazard and therefore, the proposed project would not pose a significant risk of project inundation resulting from flood hazards. The project site is located more than 10 miles east of the Pacific Ocean shoreline and is identified in the City's General Plan EIR as having a remote likelihood of being inundated by a tsunami.

Due to the proximity of the City to the San Francisco Bay, there is some potential for the City to be impacted by seiches. However, areas most susceptible to seiche impacts are located immediately adjacent to the San Francisco Bay. The project site is located approximately 2 miles from areas identified as being susceptible to seiche impacts. Additionally, the project site is not within a predicted inundation area for failure of any nearby dams. Therefore, the proposed project would have no impact related to project inundation due to being located in a flood hazard, tsunami, or seiche zone.

Water Quality Control Plan or Sustainable Groundwater Management Plan

The proposed project is located within the San Francisco Bay Water Quality Control Plan (Basin Plan) which is used to protect surface quality in the San Francisco Bay. The Basin Plan policies are primarily implemented through NPDES permits and the proposed project would comply with all NPDES permit requirements, including the preparation and implementation of an SWPPP and on-site treatment measures, such as bioswales and media filters, in accordance with the Provision C.3 requirements as part of the project design. Compliance with NPDES and Provision C.3 requirements would ensure the proposed project would not conflict with or obstruct implementation of a water quality control plan. No sustainable groundwater management plan is currently in effect for the San Mateo Plain groundwater sub-basin and therefore, the proposed project would not conflict with or obstruct a sustainable groundwater management plan. There would be no impact.

Land Use and Planning

Established Community

The proposed project consists of a mixed-use development and an off-site recycled waterline and would not create any new physical divisions. The proposed project would be constructed at a site (1125 Arguello Street) that is currently developed and would be located in an area where development exists on all sides of the project site. The proposed project would not introduce physical features that would create a barrier, divide, or separate adjacent uses or impede circulation through the neighborhood. Therefore, the proposed project would not physically divide an established community and no impact would occur.

Mineral Resources

Loss of Resource

The project site is located in an area classified as Mineral Resources Zone (MRZ) -1 by the Department of Conservation Mineral Land Classification Map. MRZ-1 zones are areas where adequate information indicates that there are no significant mineral deposits are present, or where it is judged that little likelihood exists of their presence (DOC 1982). The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state and there would be no impact.

Resource Recovery Site

The City's General Plan does not designate any areas of significant mineral resources and the project site is not in or near an area where mineral deposits are mined (City of Redwood City 2010a). The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan and there would be no impact.

Noise

Excessive Noise from Airport

The closest airport to the project site is the San Carlos Airport located approximately 1.25 miles north/northeast of the project site. The project site is not located within the noise contour areas for the airport. Therefore, the proposed project would not expose people residing or working in the area to excess noise levels and impacts would be less than significant.

Public Services

Fire

The proposed project would increase demand for Redwood City Fire Department (RCFD) fire protection services within the project area. However, development of the proposed project is not expected to affect RCFD response times and would not result in the need for new or altered protection facilities as the project site and surrounding areas are already served by RCFD. The proposed project would be constructed and operated in accordance with the California Fire Code requirements and City standards. Prior to the issuance of building permits, RCFD would be required to confirm that the California Fire Code requirements and City standards have been incorporated into the project design. Due to the incorporation of design measures to minimize the risk of fire at the site, the proposed project would not affect RCFD's

service ratios, response times, or other performance objectives and would not require the construction of new or expansion of existing fire protection facilities. Impacts would be less than significant.

Police

The proposed project would increase demand for Redwood City Police Department (RCPD) services and facilities in the area. Because the project site is currently developed with urban development, nearby services and patrols are already available. Due to the project site being located in an area that is already served by RCPD, the proposed project is not expected to affect the RCPD's response times or other performance objectives. Therefore, the proposed project would not require the construction of new or expansion of existing police protection facilities and impacts would be less than significant.

Schools

The development of a 33 unit residential development could generate approximately five new elementary and middle school students, and seven new high school students. The proposed project would not generate a substantial number of new students and it is highly likely that existing schools would have sufficient capacity to meet the demands of students without requiring the construction of additional facilities. Additionally, the proposed project would pay a School Impact Fee as required by the City's SDR. Impacts to existing facilities from the increase of students would be mitigated with the payment of impacts fees and the proposed project would not result in the need for construction of new or expansion of existing school facilities. Therefore, impacts would be less than significant.

Parks

The proposed project would result in increased demand for parks. The City requires all new residential development to dedicate land and/or pay a fee in-lieu to meet the City's parkland standard of 3.0 acres of developed parkland per 1,000 residents. The residential building would provide approximately 2,979 square feet of private open space consisting of balconies and terraces. However, since the open space provided would not consist of useable active recreational open space like a park, the Applicant will pay the Parks Impact Fee, as required by City's SDR. Since the project's residential development would create 33 units which is anticipated to have approximately 89 residents, the proposed project would not create a substantial increase in the demand for parks. Therefore, with the payment of a Parks Impact Fee, the Project would result in a less than significant impact.

Other Facilities

The proposed project is not anticipated to result in a substantial increase in demand for other public facilities, such as libraries or other government services. Policy BE-22.2 of the City's General Plan calls for the establishment of a development impact fee which could be used to fund public facilities. However, the impact fee has not been established yet and is not applicable. The proposed project would not result in the construction of new or expansion of existing public facilities and impacts would be less than significant.

Recreation

Existing Parks

As discussed above, the proposed project would increase use of existing parks and recreational facilities. The City requires all new residential development to dedicate land and/or pay a fee in-lieu to meet the City's parkland standard of 3.0 acres of developed parkland per 1,000 residents. The proposed project would develop public and private open spaces at the residential and office development. However, the proposed project would pay a Parks Impact Fee to mitigate increased demand for parks resulting from the proposed project. Therefore, with the payment of the Parks Impact Fee, the proposed project would result in a less than significant impact.

Recreational Facilities

The proposed project would provide approximately 30,929 square feet of public and private open space through the residential and office buildings and would pay a Parks Impact Fee as required by the City. The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment and there would be a less than significant impact.

Traffic and Transportation

Geometric Design Features or Incompatible Uses

The proposed project would construct a crosswalk on Arguello Street and Standish Street with flashing beacons, as well as streetscape improvements along Arguello Street such as a 10-foot sidewalk, 5-foot bike lane, and new street lighting to help improve pedestrian access throughout the site and surrounding neighborhood. The project frontage on Whipple Avenue and Arguello Street would be improved with new/widened sidewalk and ADA complaint ramps at corners. The proposed project would be designed to avoid hazardous geometric design features and incompatible uses. Therefore, impacts from hazards due to project design or incompatible uses would be less than significant.

Emergency Access

The proposed project would be required to develop a construction traffic management plan in accordance with the City's COA to ensure the project construction activities does not interfere with emergency access through the area. The proposed project would be designed to provide adequate emergency vehicle access throughout the project site at 1125 Arguello Street. The proposed driveways would provide an access aisle for emergency vehicles serving the office and residential buildings and would be designed to meet emergency vehicle access requirements. Project access and emergency plans would require review and approval from the RCFD prior to approval of the proposed project to ensure that adequate emergency access is provided. Therefore, the proposed project would not result in inadequate emergency access and impacts would be less than significant.

Utilities and Service Systems

Relocation or Construction of Utility Facilities

The project site is currently served by the City's water, wastewater, and stormwater systems and the proposed project would connect to the City's utility systems. A Preliminary Engineering Study conducted

for the proposed project determined that the existing public infrastructure for water, sewer, and stormwater is adequate to serve the proposed project. The proposed project would construct improvements to the existing water, wastewater, and stormwater systems at the project site and would connect back to the City's systems located along Arguello Street. The proposed project would underground the overhead utility lines along property frontages as required by the City and would construct a new utility pole on the northwest corner of Whipple Avenue and Arguello Street. Additionally, the proposed project would include the construction of approximately 3,862 linear feet of recycled waterline to extend the existing recycled waterline in the City to the vicinity of the project site.

The proposed utility improvements would require work within the public right-of-way. Prior to the issuance of an encroachment permit, the Applicant is required to submit to the City, and obtain approval of, an evaluation and report which demonstrates that the proposed improvements meet City flow requirements as required by the City's SDR. All utility infrastructure improvements would be designed and constructed in accordance with the City's Engineering Standards as required by the City's SDR. Additionally, the proposed project would be required to pay Water and Sewer Fees as outlined in the City's SDR. With compliance with the City's SDRs and Engineering Standards, the proposed project would result in a less than significant impact.

Wastewater Treatment

The City and the County of San Mateo's Fair Oaks Sewer Maintenance District provides wastewater collection services. Wastewater treatment services are provided by SVCW at its wastewater treatment plant (WWTP) located in Redwood City. Redwood City has a maximum operating capacity right of 11.4 mgd average dry weather flow (ADWF) at the SVCW treatment plant (City of Redwood City 2021). In 2020, Redwood City's ADWF was 7.12 MGD, which is about 62 percent of the allocated pant capacity. The proposed project would contribute approximately 0.063 mgd to the SCVW's WWTP which is approximately 0.55 percent of Redwood City's allocated capacity. Therefore, the SCVW's WWTP would have adequate capacity to accept wastewater produced by the proposed project. In addition, the proposed project would be required to implement CalGreen measures to reduce indoor demand for potable water which would further minimize wastewater flows. The Preliminary Engineering Study prepared for the proposed project identified that the 6-inch main in Arguello Street would need to be upsized to 8-inches. The Preliminary Engineering Study confirmed that the 8-inch upsized pipe would be able to handle wastewater generated by the proposed project. The existing wastewater treatment facilities has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments and therefore, impacts would be less than significant.

Solid Waste

Construction of the proposed project would require demolition of existing structures on-site which would generate solid waste. The proposed project would be required to comply with City's Municipal Code Chapter 9, Section 9.192 and Section 9.193 to ensure proper disposal of demolition materials (City of Redwood City 2021). Additionally, the Applicant would be required to submit a Waste Management Plan to the City as required by the City's Municipal Code. Compliance with the City's requirements would ensure construction of the proposed project does not generate solid waste in excess of state or local standards and impacts would be less than significant.

Approximately 90 percent of solid waste collected from the City is sent to the Ox Mountain Sanitary Landfill which has a maximum permitted throughput of 3,598 tons per day and a remaining capacity of 22,180,000 tons (CalRecycle 2021). Operation of the proposed project is estimated to generate 10,024.7 pounds of solid waste per day (5.01 tons per day). The estimated 5.01 tons per day of solid waste generated by the proposed project would be less than one percent of the maximum permitted throughout received at the landfill. Therefore, there would be sufficient capacity available to accommodate solid waste disposal needs for the proposed project. The proposed project would implement and comply with all solid waste reduction measures adopted by the City and incorporate recycling collection areas into the proposed project. The proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals and impacts would be less than significant.

Solid Waste Statutes and Regulations

The proposed project would comply with all federal, state, and local statues and regulations related to solid waste including the California Integrated Management Act which mandated local cities and counties to divert 50 percent of waste from area landfills and Section 9, Article 11 – Recycling and Salvaging of Construction Demolition Debris of the City Municipal Code. Impacts would be less than significant.

Wildfire

Emergency Response

The City has an adopted EOP that is intended to provide a comprehensive emergency response document for natural disasters and man-made events. The EOP does not include any designated evacuation routes. During the construction phase, if partial or full street closures are required, the proposed project would be required to conform to the Work Area Traffic Control Handbook as required by the City's SDR and the Applicant would be required to submit a Traffic Control Plan to the City prior to any lane closures. The proposed project would be designed to provide adequate emergency access to the site for emergency vehicles. Therefore, the proposed project would not impair or interfere with an adopted emergency response plan or emergency evacuation plan, and no impact would occur.

Exacerbate Wildlife Risk

The project site and adjacent areas are not located within a State Responsibility Area or within a Very High Fire Hazard Severity Zone as designated by CAL FIRE (CAL FIRE 2007, 2008). The USFS Fire Hazard Potential Map designates the project site and surrounding areas as non-burnable (USFS 2020). Due to the urban nature and flat topography of the project site and surrounding area, the proposed project would not, due to slope, prevailing wind, and other factors, exacerbate wildfire risk or expose project occupants to pollutant concentrations from a wildlife or the uncontrollable spread of a wildfire. There would be no impacts.

Associated Infrastructure

As discussed above, the project site is not located in an area with a risk of wildfires. The proposed project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment and there would be no impact.

Expose People or Structures

Due to the flat topography, urban environment, and very low risk of wildfire hazards at the project site, the proposed project would not expose people or structures to significant risk, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. No impacts from wildfires would occur.

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9.0 REFERENCES

Section 2.0: Project Description

City of Redwood City. 2010a. Redwood City General Plan. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/general-plan-precise-plans/general-plan. Accessed November 2021.

City of Redwood City. 2014. 2015-2023 Housing Element City of Redwood City. https://www.redwoodcity.org/home/showpublisheddocument/5127/635782757008700000. Accessed November 2021.

SBCA Tree Consulting. 2020. 1125 Arguello Street Arborist Report, October 27, 2020. PDF.

Section 3.1: Aesthetics

City of Redwood City. 2010b. A New General Plan for Redwood City Draft Environmental Impact Report. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/environmental-documents/general-plan-eir. Accessed November 2021.

_____. 2021. City of Redwood City Municipal Code, Section 30.121, Street Lighting. https://library.municode.com/ca/redwood_city/codes/city_code?nodeId=CH30SU_ARTIXDEST_S30.121STLI. Accessed February 2021.

Section 3.2: Air Quality

Bay Area Air Quality Management District (BAAQMD). 2016. Planning Healthy Places. https://www.baaqmd.gov/plans-and-climate/planning-healthy-places. Accessed January 2022.

_____. 2017. CEQA Guidelines. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed January 2022.

California Air Resources Board (CARB). 2016. Ambient Air Quality Standards. https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Accessed January 2022.

_____. 2021. Air Quality Data Statistics. https://www.arb.ca.gov/adam/index.html. Accessed January 2022.

CAPCOA. 2021. California Emissions Estimator Model. https://www.aqmd.gov/caleemod/home. Accessed January 2022.

Office of Environmental Health Hazard Assessment. 2015. Guidance Manual for Preparation of Health Risk Assessments. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed January 2022.

Stephens, B. & Brennan, T. & Harriman, L. 2016. Selecting ventilation air filters to reduce PM2.5 of outdoor origin. 58. 12-20. Accessed January 2022.

United States Geologic Survey. 2011. Asbestos. https://pubs.er.usgs.gov/publication/70044911. Accessed January 2022.

Section 3.3: Cultural Resources

Bean, Lowell. 1978. Social Organization, in Handbook of North American Indians. R.F. Heizer, ed. Vol. 8. Smithsonian Institute, Washington, D.C.

Kroeber, A. L. 1925. Handbook of the Indians of California. University of California Publications. Dover Publications, New York, 1964 reprint.

Levy, Richard. 1978. Costanoan. In California, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Meyer, Jack, and Jeffrey S. Rosenthal. 2007. Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4. Prepared for Caltrans District 4 Office of Cultural Resources, Oakland, California. On file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

Milliken, Randall. 1995. A Time of Little Choice: The Disintegration of Tribal Cultural in the San Francisco Bay Area, 1769-1810. Ballena Press, Menlo Park.

Milliken, R., R. T. Fitzgerald, M. G. Hylkema, R. Groza, T. Origer, D. G. Bieling, A. Leventhal, R. S. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D. A. Fredrickson. 2007. Chapter 8: Punctuated Culture Change in the San Francisco Bay Area. In California Prehistory: Colonization, Culture, and Complexity. Terry L. Jones and Kathryn A. Klar, eds. Pp. 99-123. AltaMira Press, Lanham, MD.

Section 3.4: Greenhouse Gas Emissions

California Air Resources Board (CARB). 2017. California's 2017 Climate Change Scoping Plan. https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed January 2022.

_____. 2021. California Greenhouse Gas Emissions for 2000 to 2019. https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf. Accessed January 2022.

City of Redwood City. 2020. 2030 Climate Action Plan. https://www.redwoodcity.org/home/showpublisheddocument/22781/637426822669070000. Accessed January 2022.

Section 3.5: Land Use and Planning

City of Redwood City. 2010b. A New General Plan for Redwood City Draft Environmental Impact Report. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/environmental-documents/general-plan-eir. Accessed November 2021.

City/County Association of Governments of San Mateo County (C/CAG). 2015. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport. https://ccag.ca.gov/wp-content/uploads/2015/11/SQL_FinalALUCP_Oct15_read.pdf. Accessed February 2022.

Section 3.6: Noise

California Department of Transportation. 2020. Transportation and Construction Vibration Guidance Manual, April 2020. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Accessed February 2022.

Caltrans. 2013. Technical Noise Supplement Traffic Noise Analysis Protocol, September 2013 (https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf. Accessed February 2022.

City of Redwood City. 2010. Public Safety Element of the Redwood City General Plan.https://www.redwoodcity.org/home/showpublisheddocument/5109/635782756603530000. Accessed February 2022.

U.S Environmental Protection Agency (USEPA). 1973. Region 10 Environmental Impact Statement Guidelines, April 1973. https://nepis.epa.gov/Exe/ZyNET.exe/2000RZBX.TXT?ZyActionD=ZyDocument&Client=EPA&Index=Prior+to+1976&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C70thru75%5CTxt%5C00000002%5C2000RZBX.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL. Accessed February 2022.

Federal Highway Administration. 2006. Construction Noise Handbook. https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook02.cfm. Accessed February 2022.

Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual, September 2018. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed February 2022.

City of Redwood City. 2021. City of Redwood City Municipal Code. https://library.municode.com/ca/redwood_city/codes/city_code?nodeId=CH24NORE. Accessed February 2022.

Section 3.7: Population and Housing

Association of Bay Area Governments (ABAG). 2013. Regional Housing Need Plan San Francisco Bay Area 2015 – 2023. https://abag.ca.gov/sites/default/files/2015-23_rhna_plan.pdf. Accessed November 2021.

_____. 2018. Plan Bay Area Projections 2040. http://mtcmedia.s3.amazonaws.com/files/Projections_2040-ABAG-MTC-web.pdf. Accessed November 2021.

California Department of Finance (DOF). 2007. E-8 Historical Population and Housing Estimates for Cities, Counties and the State, 1990 – 2000. https://dof.ca.gov/Forecasting/Demographics/Estimates/E-8/. Accessed November 2021.

_____. 2012. E-8 Historical Population and Housing Estimates for Cities, Counties and the State, 2000 – 2010. https://dof.ca.gov/Forecasting/Demographics/Estimates/E-8/2000-10/. Accessed November 2021.

_____. 2021a. E-1 Population Estimates for Cities, Counties, and the State – January 1, 2020 and 2021. https://dof.ca.gov/Forecasting/Demographics/Estimates/e-1/. Accessed November 2021.

_____. 2021b. E-5 Population and Housing Estimates for Cities, Counties, and the State 2011 – 2021 with 2010 Census Benchmark. https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5/. Accessed November 2021.

City of Redwood City. 2014. 2015-2023 Housing Element City of Redwood City. https://www.redwoodcity.org/home/showpublisheddocument/5127/635782757008700000. Accessed November 2021.

Section 3.8: Transportation

City of Redwood City. 2010a. Redwood City General Plan. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/general-plan-precise-plans/general-plan. Accessed November 2021.

Kimley Horn. 2021. 1125 Arguello Street, Local Transportation Analysis. PDF.

Govornor's Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, State of California, December 2018.

Section 3.9: Tribal Cultural Resources

Bean, Lowell. 1978. Social Organization, in Handbook of North American Indians. R.F. Heizer, ed. Vol. 8. Smithsonian Institute, Washington, D.C.

City of Redwood City. 2010a. Redwood City General Plan. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/general-plan-precise-plans/general-plan. Accessed November 2021.

Kroeber, A. L. 1925. Handbook of the Indians of California. University of California Publications. Dover Publications, New York, 1964 reprint.

Levy, Richard. 1978. Costanoan. In California, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Milliken, Randall. 1995. A Time of Little Choice: The Disintegration of Tribal Cultural in the San Francisco Bay Area, 1769-1810. Ballena Press, Menlo Park.

Section 3.10: Utilities and Service Systems

City of Redwood City. 2021. 2020 Urban Water Management Plan for the City of Redwood City. https://www.redwoodcity.org/home/showpublisheddocument/23547/637575327526570000. Accessed November 2021.

_____. 2022. Water Supply Assessment for the Proposed Arguello Mixed Use Project, December 5, 2022. PDF.

Section 4.0: Cumulative Effects

None.

Section 5.0: Alternatives to the Proposed Project

None.

Section 6.0: Other CEQA Considerations

California Department of Finance (DOF). 2021a. E-1 Population Estimates for Cities, Counties, and the State – January 1, 2020 and 2021. https://dof.ca.gov/Forecasting/Demographics/Estimates/e-1/. Accessed November 2021.

City of Redwood City. 2010a. Redwood City General Plan. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/general-plan-precise-plans/general-plan. Accessed November 2021.

_____. 2014. 2015-2023 Housing Element City of Redwood City. https://www.redwoodcity.org/home/showpublisheddocument/5127/635782757008700000. Accessed November 2021.

Section 7.0: Effects Found Not to be Significant

California Department of Conservation (DOC) 1982. Division of Mines and Geology. Mineral Land Classification Map Palo Alto Quadrangle Special Report 146 Plate 2.40. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc. Accessed November 2021.

California Department of Conservation (DOC). 2021. California Important Farmland Finder. https://maps.conservation.ca.gov/dlrp/ciff/. Accessed November 2021.

California Department of Forestry and Fire Protection (CAL FIRE). 2007. San Mateo County Fire Hazard Severity Zones in SRA. https://osfm.fire.ca.gov/media/6802/fhszs_map41.pdf. Accessed November 2021.

_____. 2008. Redwood City Very High Fire Hazard Severity Zones in LRA. https://osfm.fire.ca.gov/media/5986/redwood_city.pdf. Accessed November 2021.

California Department of Resources Recycling and Recovery (CalRecycle). 2021. SWIS Facility/Site Activity Details. Corinda Los Trancos Landfill (Ox Mtn) (41-AA-0002). https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223. Accessed November 2021.

City of Redwood City. 2010a. Redwood City General Plan. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/general-plan-precise-plans/general-plan. Accessed November 2021.

_____. 2010b. A New General Plan for Redwood City Draft Environmental Impact Report. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/environmental-documents/general-plan-eir. Accessed November 2021.

_____. 2021. 2020 Urban Water Management Plan for the City of Redwood City. https://www.redwoodcity.org/home/showpublisheddocument/23547/637575327526570000. Accessed November 2021.

City/County Association of Governments of San Mateo County (C/CAG). 2015. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport. https://ccag.ca.gov/wp-content/uploads/2015/11/SQL_FinalALUCP_Oct15_read.pdf. Accessed November 2021.

Department of Toxic Substances Control. 2021. EnviroStor Database. https://www.envirostor.dtsc.ca.gov/public/. Accessed November 2021.

State Water Resources Control Board (SWRCB). 2021. GeoTracker Database. https://geotracker.waterboards.ca.gov/. Accessed November 2021.

U.S. Forest Service (USFS). 2020. Wildfire Hazard Potential. https://usfs.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=55226e8547f84aae8965210a9801c357. Accessed November 2021.

Appendix A
Notice of Preparation and Initial Study

Community Development & Transportation Department

Planning Division
1017 Middlefield Road
Redwood City, CA 94063

(650) 780-7234
planning@redwoodcity.org
www.redwoodcity.org

NOTICE OF PREPARATION and NOTICE OF PUBLIC SCOPING MEETING

DATE:	**October 19, 2021**
TO:	**Reviewing Agencies, Interested Parties and Organizations**
FROM:	**City of Redwood City, Lead Agency**
APPLICANT:	**HMB Redwood City LLC**
SUBJECT:	**Notice of Preparation and Scoping Meeting for a Draft Environmental Impact Report and Initial Study for the Proposed 1125 Arguello Street Mixed-Use Development Project**

PURPOSE OF THIS NOTICE OF PREPARATION

In accordance with the California Environmental Quality Act (CEQA), California Code of Regulations (CCR) Section 15082, the City has prepared this Notice of Preparation (NOP) to inform agencies and interested parties that a focused Environmental Impact Report (EIR) that scopes out several environmental review topics from further study will be prepared for the referenced project. The purpose of an NOP is to provide sufficient information about the project and its potential environmental impacts to allow agencies and interested parties the opportunity to provide a meaningful response related to the scope and content of the EIR, including mitigation measures that should be considered and alternatives that should be addressed.

The project location, brief description, and potential environmental effects are summarized below. Additional details about the project's potential effects are included in the attached Initial Study.

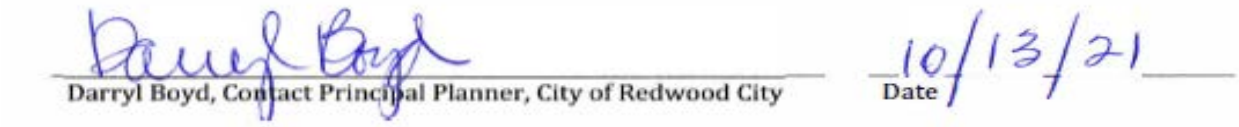
The City of Redwood City is considering the proposed 1125 Arguello Street Mixed-Use Development Project and after completing an Initial Study has determined that a focused EIR will be necessary to evaluate environmental impacts of the project, per CEQA. In compliance with CEQA, the City will be the Lead Agency and will prepare the focused EIR. Attached are the project description, location maps, and preliminary identification of the potential environmental issues to be assessed. The project-specific Initial Study is also attached and is available at the web link provided below. The City is requesting comments and guidance on the scope and content of the focused EIR from responsible and trustee agencies, interested public agencies, organizations, and the general public in accordance with CEQA Guidelines 15082.

Public Review Period (October 19 – November 18, 2021). The City requests review and consideration of this notice, and the Initial Study, and invites written comments regarding the preparation of the EIR be submitted by November 18, 2021. The Notice of Preparation and Initial Study are available for review online at: www.redwoodcity.org/developmentprojects

Comments and responses to this notice must be in writing and submitted to by the close of business on the last day of the 30-day comment period. Please provide a contact name, phone number and email address with your comments. All comments must be sent to:

Darryl Boyd, Contact Principal Planner
City of Redwood City
1017 Middlefield Road, Redwood City, CA 94063
(650) 780-7264 | dboyd@redwoodcity.org

The public **Scoping Meeting** on the Draft EIR for the proposed project will be held on **Tuesday, November 9, 2021 at 7:00 PM** via Zoom: Zoom Meeting ID: 987 6043 3298



Notice of Preparation for an Environmental Impact Report 1125 Arguello Street Mixed-Use Development Project

Project Title and Applicant
1125 Arguello Street Mixed-Use Development Project by HMB Redwood City LLC

Project Location
The approximately 3.5-acre project site is located at 1111, 1125, 1203, 1209, 1219 and 1227 Arguello Street in Redwood City and is made up of six continuous legal lots, as shown in Figure 1 and Figure 2. The proposed project includes a tentative map which proposes to merge 1125, 1203, 1209, 1219, and 1227 into a single parcel with 1125 Arguello Street as the common address and modify the property line between 1125 and 1111 Arguello Street. Pursuant to the lot merger and line adjustment, and approval by the City of the tentative map, there would be two parcels for the project site. The project site is designated by the General Plan as Mixed-Use – Transitional and is zoned Mixed-Use – Transitional as well. The six contiguous parcels totaling 3.5 acres, are bounded by Whipple Avenue to the north, Arguello Street to the east, and Caltrain tracks to the west. Parcels 1203, 1209, 1219 and 1227 are located within the larger Mezesville Historic District that includes portions of the neighborhood across Arguello Street to the east.

Project Description
The proposed project includes a horizontal mixed-use development consisting of an approximately 55,052 square foot (sf) multi-family housing building comprised of 33 for-sale affordable units, approximately 300,000 sf of office space, and an approximately 4,132 sf childcare facility (Figure 3). In addition, in exchange for use of community benefits development standards, the project is proposing a Community Benefits Program which may include various neighborhood improvements; however, the final benefits are not determined at this time. The improvements will be determined and analyzed in the focused EIR. The Community Benefits are in addition to the otherwise required improvements and mitigation measures required by the project. In addition to the Community Benefits, the project is requesting a reduction in required parking spaces, open space, upper story setbacks, and personal storage for the residential development through the State Density Bonus Law (DBL). The project qualifies for the DBL due to the project constructing 100 percent affordable housing. The project's current DBL requests may be modified or augmented prior to the City's final decision making on the project.

The project proposes the demolition of all existing buildings located onsite except for the two historic buildings located at 1219 and 1227 Arguello Street which are planned for adaptive reuse. The proposed office space would be constructed of two connected, four-story commercial office buildings approximately 60 feet in height and totaling approximately 300,000 sf. The proposed office building would include 19,926 sf of open space and three levels of underground parking consisting of 751 parking spaces. The requested height increase from 40 to 60 feet requires Community Benefits.

The proposed 100 percent affordable housing building would include the development of an approximately 55,052 sf, four-story building consisting of 33 affordable multi-family residential units and ground level parking with 33 parking spaces. The units would have two or three bedrooms. The residential building would provide approximately 3,377 sf of private open space.

The proposed public-serving childcare facility is intended to have capacity for 30 children. The childcare facility would be approximately 4,132 gross sf, construction of which would include the adaptive reuse of the two historic houses located onsite and a new additional building expansion that would connect to one of the structures. The childcare center will be on the same lot as the office building.

Required Approvals

City of Redwood City Discretionary Actions. Project implementation would require the following discretionary approvals by the City of Redwood City:

- Vesting Tentative Map (File No. TM 2020-006)
- Condominium Permit (CP 2020-040)
- Use Permit for Offices and Childcare Center (UP 2021-011)
- Planned Development Permit (PD 2020-005)
- Architectural Permit (AP 2020-057)
- Historic Resources Approval
- Affordable Housing Plan
- Tree Removal Permit
- Grading/Demolition Permit
- Encroachment Permit
- Community Benefits Bonus
- State Density Bonus Law Incentives/Concessions and Waivers

Other Government Agency Approvals. Review or approvals from other jurisdictional agencies might include, but are not limited to:

- San Francisco Bay Regional Water Quality Control Board (RWQCB)

EIR Purpose

The purpose of an EIR is to inform decision-makers and the general public of the potential physical environmental impacts of a proposed project that an agency (in this case, the City of Redwood City) may implement or approve. The EIR process is intended to:

1. Provide information sufficient to evaluate a project and its potential for significant impacts on the environment;
2. Examine methods for avoiding or reducing significant impacts which may include project-specific mitigations or uniformly applied development regulations; and
3. Consider alternatives to the proposed project.

In accordance with CEQA, the EIR will include the following:

- A summary of the project, its potential significant environmental impacts, and mitigations required to avoid or reduce those significant impacts;
- A project description;

- A description of the existing environmental setting, potential environmental impacts, and mitigations for the project;
- Alternatives to the proposed project; and
- Other environmental consequences of the project, including
    - (1) growth-inducing effects
    - (2) significant unavoidable impacts
    - (3) irreversible environmental changes
    - (4) cumulative impacts, and
    - (5) effects found not to be significant.

EIR Purpose

Following the close of the NOP comment period, a draft focused EIR will be prepared that will consider all NOP comments. In accordance with CEQA Guidelines Section 15105(a), the draft focused EIR will be released for public review and comment for a required 45-day review period.

EIR Scope

Pursuant to CEQA, the discussion of potential effects on the physical environment is focused on those impacts that may be significant or potentially significant. CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (Public Resource Codes (PRC) Section 21100, CCR Sections 15126.2[a] and 15128). CEQA requires that the discussion of any significant effect on the environment be limited to substantial, or potentially substantial, adverse changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (statutory definition of "environment").

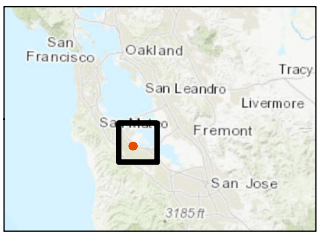
Environmental effects identified in the Initial Study prepared for the proposed project that are dismissed as less than significant and unlikely to occur need not be discussed further in the EIR, unless the lead agency subsequently receives information inconsistent with the finding in the Initial Study (CCR Section 15143). Environmental issue areas scoped out of the focused EIR will include an explanation of why these issues would not result in significant environmental effects and are not required to be evaluated further. Environmental issue areas that would be scoped out of the focused EIR are listed below. See the Initial Study for supporting evidence.

- Agricultural and Forestry Resources
- Biological Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Wildfire

Based on the analysis in the attached Initial Study, the City of Redwood City has determined that the proposed project will require preparation of a focused Environmental Impact Report pursuant to the California Environmental Quality Act (CEQA). The following environmental topics will be evaluated in the EIR:

- Aesthetics
- Air Quality
- Cultural Resources (Historic)
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

Alternatives: The EIR will identify and compare a reasonable range of alternatives to the proposed project. Alternatives will be chosen based on their ability to avoid or reduce identified significant environmental impacts of the project while achieving most of the project objectives (CEQA Guidelines Section 15126.6).



Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Data Sources:
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
1

Title
Project Location

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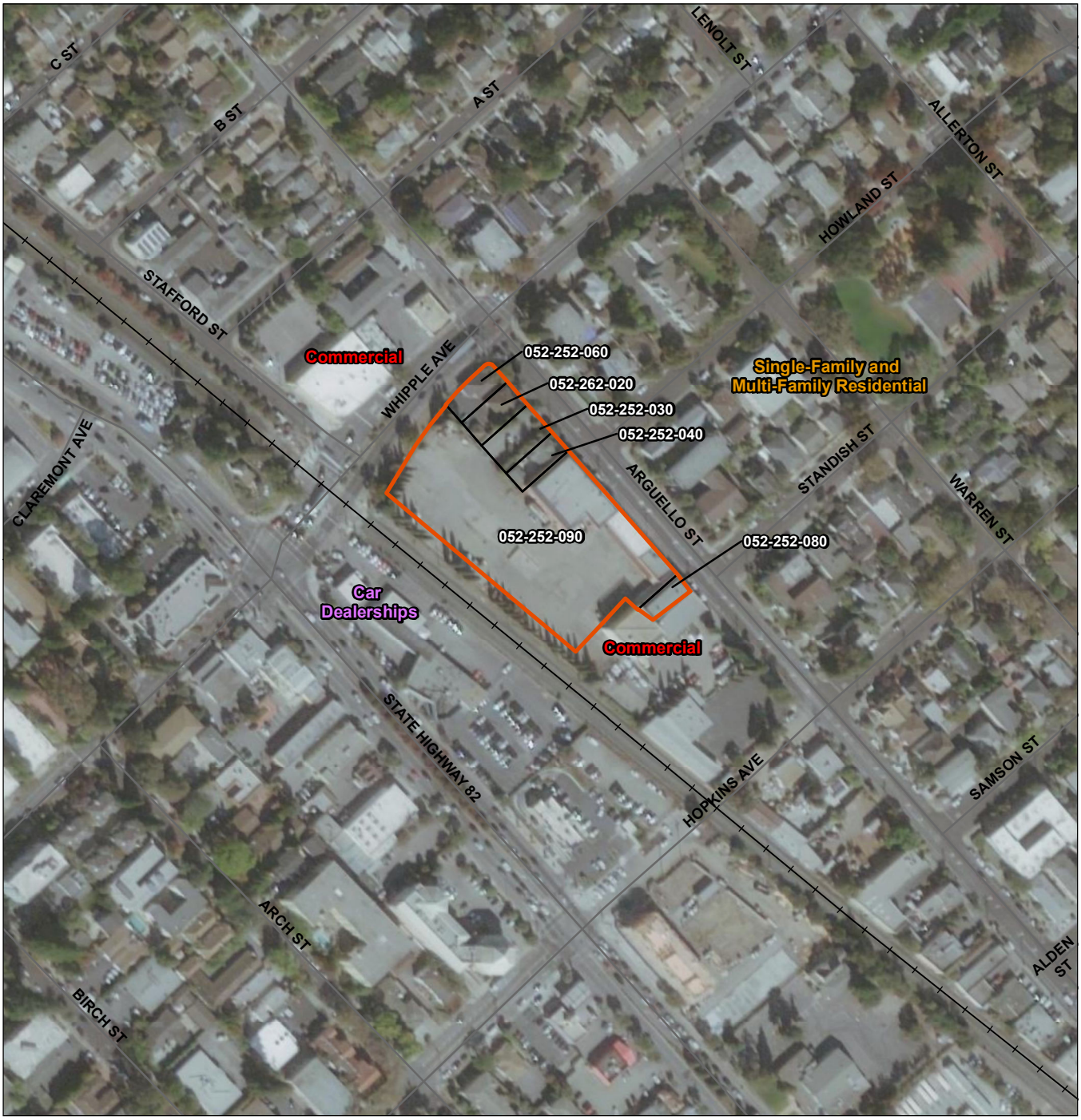

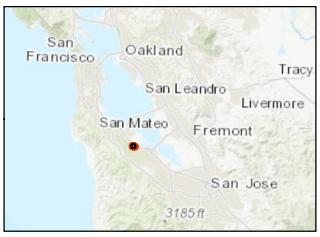

Caltrain
Parcel Boundary
Project Site

0 100 200 Feet
(At original document size of 8.5x11)
1:3,000

N

Notes
1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Data Sources:
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment

Stantec

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
2

Title
Project Site and Surrounding Land Uses

V:\1857\Active\185705505\mxd\fig 2-1 project site.mxd Revised: 2021-10-12 By: KAEJOHNSON

Source: DLR Group May 7, 2021

Project Location
Redwood City, California

Client/Project
City of Redwood City
1125 Arguello Street Mixed Use Development Project
Draft EIR

Figure No.
3

Title
Preliminary Project Site Plan

Stantec

1125 ARGUELLO STREET MIXED-USE DEVELOPMENT PROJECT

Initial Study

October 19, 2021

Prepared for:

City of Redwood City
Community Development and
Transportation Department,
Planning Division

Prepared by:

Stantec Consulting Services Inc.

Proposed Initial Study — Administrative Draft

Table of Contents

LIST OF TABLES

APPENDICES

Acronyms and Abbreviations

ACM	Asbestos containing material
ADA	Americans with Disabilities Act
ADWF	Average dry weather flow
APN	Assessor's Parcel Number
Basin Plan	San Francisco Bay Water Quality Control Plan
bgs	below ground surface
BMP	best management practice
CAP	Climate Action Plan
CBC	California Building Code
CEQA	California Environmental Quality Act
City	Redwood City
COA	Condition of Approval
DBL	California Density Bonus Law
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
EV	electric vehicle
FAR	floor area ratio
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
Gpd	gallons per day
HOA	Homeowner's Association
HSP	Health and Safety Plan
IS	Initial Study
LBP	lead-based paint
LED	light-emitting diode
LEED	Leadership in Energy and Environmental Design
LID	low-impact development
MGD	million gallons per day
MRP	Municipal Regional Permit
MRZ	Mineral Resource Zone
MUT	Mixed-Use – Transitional Zoning District
NPDES	National Pollutant Discharge Elimination System
PG&E	Pacific Gas and Electric
Project	1125 Arguello Street Mixed-Use Development Project
Project site	Six contiguous parcels bounded by Whipple Avenue, Arguello Street, and Caltrain tracks
RCFD	Redwood City Fire Department
RCPD	Redwood City Police Department
RWQCB	Regional Water Quality Control Board
SDR	Standard Development Requirement
sf	square foot; square feet
SMP	Site Management Plan
SVCW	Silicon Valley Clean Water
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
VCP	vitrified clay pipe
VMT	vehicle miles traveled
WWTP	wastewater treatment plant

1. INTRODUCTION

1. Project Title:	1125 Arguello Street Mixed-Use Development Project
2. Lead Agency Name and Address	City of Redwood City – Community Development and Transportation Department, Planning Division 1017 Middlefield Rd, Redwood City, CA 94063
3. Contact Person and Phone Number	Darryl Boyd, Contract Principal Planner, (650) 780-7264
4. Project Location	1111-1227 Arguello Street, Redwood City, CA
5. Project Sponsor's Name and Address	HMB Redwood City LLC 101 California St. Suite 350, San Francisco, CA 94111
6. General Plan Designation	Mixed-Use – Transitional
7. Zoning	Mixed-Use – Transitional (MUT)
8. Assessor Parcel Numbers	052-252-080, 052-252-090, 050-252-040, 052-252-030, 052-252-020, 052-252-060

2. PROJECT DESCRIPTION

This chapter describes the characteristics of the 1125 Arguello Street Mixed-Use Development Project (Project) that is evaluated in this Initial Study (IS).

2.1 PROJECT SITE

The Project is located at 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street in Redwood City (City) on an approximately 3.5-acre site. Parcels located at 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street are six contiguous parcels totaling 3.5 acres, and bounded by Whipple Avenue to the north, Arguello Street to the east, and Caltrain tracks to the west (Appendix A, Figure 2-1). These contiguous parcels are referred to as the Project site. Buildings on three of the parcels, 1203, 1219, and 1227 Arguello Street, are located within the boundaries of the Mezesville Historic District. 1219 and 1227 Arguello Street are individual historic landmarks and are listed on the Redwood City Historic Resources Inventory. 1203 Arguello Street is not listed on the Redwood City Historic Resources Inventory, but it is considered a contributor to the locally listed Mezesville Historic District. The Project site is located in the El Camino Real Priority Development Area[1]. The Project site comprises the following seven parcels and assessor parcel numbers (APNs) (Appendix A, Figure 2-2):

1111 Arguello Street (APN 052-252-080)
1125 Arguello Street (APN 050-252-090)
1203 Arguello Street (APN 050-252-040)
1209 Arguello Street (APN 052-252-030)
1219 Arguello Street (APN 052-252-020)
1227 Arguello Street (APN 052-252-060)

The Project includes a tentative map which proposes APNs 052-252-060, -020, -030, and -040 with APN 052-252-090 to be merged into a single parcel with APN 052-252-090 with the common address at 1125 Arguello Street, and modification of the property line between 1125 Arguello and 1111 Arguello Street. The existing historic buildings, proposed childcare, and proposed office building would be located at 1125 Arguello Street. Pursuant to the lot merger and lot line adjustment, there would be two parcels for the Project site.

[1] Priority Development Areas are areas in existing communities that local city or county governments have identified and approved for future housing and job growth. These areas are within half a mile of frequent transit services; and they are often near established job centers, shopping districts, and other community amenities.

2.2 GENERAL PLAN LAND USE AND ZONING

Table 2-1 provides a summary of the current and proposed general plan land use and zoning designations (Appendix A, Figure 2-3).

Table 2-1: General Plan and Zoning

Designation	Current	Proposed
Project Site		
General Plan	Mixed-Use – Transitional	No change
Zoning	Mixed-Use – Transitional	No change

2.2.1 General Plan

The City's General Plan Land Use Map designates the Project site as Mixed-Use Transitional. The City's 2030 General Plan defines these land uses as:

- **Mixed-Use – Transitional.** This category facilitates a creative mix of residential, industrial, and commercial uses. Represented by its transition from lower density residential or light industrial to higher density mixed-use or more commercial, industrial, or urban areas, the transitional category represents a mixture of uses that are moderate in scale. Live/work uses are encouraged and typically include artist lofts, studio spaces, small offices, and similar low intensity uses. Creative industrial workspace areas are also permitted, provided that activities limit or confine noise, dust, and vibration impacts. Adaptive reuse of existing structures is also encouraged." (City of Redwood City 2010a)

2.2.2 Zoning Districts

Mixed-Use – Transitional

The Redwood City Zoning Map categorizes the parcels within the Project site as MUT Zoning District. The purpose of the MUT District is to:

- Reflect the transitional nature of the area from lower density residential or light industrial to higher density mixed-use or more commercial, industrial, or urban areas.
- Promote a mix of low-to-moderate scaled buildings.
- Allow light industrial and residential areas to transition into a diverse mix of workplaces and residences while retaining viable light industrial uses.
- Permit stand-alone commercial or industrial workspace areas, provided that activities limit or confine noise, dust, and vibration impacts, are low impact in nature, and are compatible with any nearby existing or allowed residential uses.
- Allow existing single family and duplex dwelling units to remain and expand residential density in keeping with the transitional nature of the area.

Office spaces exceeding 10,000 sf and childcare centers in the MUT are allowed conditionally, and the Project would be required to obtain a Use Permit, in addition to other land use entitlements.

2.3 EXISTING SITE CONDITIONS

The Project site is within a highly urbanized area. The Project site is developed with existing structures and overhead powerlines. The majority of the Project site is already paved, with trees, and vegetation along the street frontages and along the existing driveways into the site on Arguello Street. Trees are also present along the western border, adjacent to the Caltrain tracks. The existing buildings on-site are one to two stories high. The 1111 and 1125 Arguello Street parcels are developed with commercial/industrial uses; the 1203 Arguello Street parcel contains a vacant residential development; the 1219 and 1227 Arguello Street parcels were originally developed as residences but were converted for office use, and 1209 Arguello is currently a vacant lot used for parking. The Project site is relatively flat with a slight slope towards the northeast and is located approximately 18 feet above mean sea level. Historic groundwater level at the Project site has been between approximately 0 to 10 feet below ground surface (bgs). Groundwater measured during geotechnical investigations at the Project site measured at depths of approximately 8 to 11 feet bgs.

The Caltrain tracks run west of the Project site with a Caltrain track crossing located east of the intersection of Whipple Avenue and El Camino Real. Caltrain schedules indicate 72 commuter trains pass by the site daily; and freight trains run on the same tracks but are inconsistent, with the majority of the freight trains running during nighttime.

2.3.1 Existing Operations

Currently, on-site tenancy on the Project site consists of a small automobile towing operation and property management business. Previously, the site comprised various tenants and uses including an equipment rental center and associated equipment yard, party rental center and associated laundry cleaning area, building contractor, boxing gym, coffee tech repair, and towing company. The current number of employees on the Project site are eight and hours of operations are from 9 AM to 5 PM.

2.4 SURROUNDING LAND USES

The Project site is surrounded by the following land uses as shown in Appendix A, Figures 2-2 and 2-3:

- North – Whipple Avenue, single story commercial uses
- East – Arguello Street, one to two story single-family, and two to three story multi-family residential uses
- South – one to two story commercial uses
- West – Caltrain tracks, car dealerships west of the Caltrain tracks

2.5 PROJECT OBJECTIVES

The primary objective of the Project is to comply with development standards in the MUT District and adhere to the land use goals, policies and standards in the City's current General Plan. Specific Project objectives are as follows:

- Redevelop the Project site consistent with the land use policies and strategies provided in the Plan Bay Area 2040, El Camino Real Priority Development Area.
- Redevelop the Project site consistent with the Mixed-Use Transitional General Plan and Zoning designations, including policies that guide the growth and development of Redwood City; establish the basis for zoning regulations and guidance; economic development; transportation improvements; sustainability; City services; parks; and cultural and historic preservation.
- Redevelop an existing industrial area with attractive and desirable amenities close to Downtown, including housing, Class A office space, and childcare available to all Redwood City residents.
- Meet and exceed the City's Affordable Housing Ordinance and Inclusionary Zoning requirements through construction of 100 percent affordable ownership housing.
- Provide childcare to address Redwood City's existing estimated shortage of childcare spaces for infants/toddlers and preschool-age children.
- Support the City's Historic Preservation Ordinance through adaptive reuse of structures identified as historic buildings by the City.
- Develop a project that would meet strict sustainability, conservation, and reach code goals intended to reduce greenhouse gas emissions and address climate change and energy conservation goals.
- Deliver an economically feasible development, balancing market conditions, city objectives, and community benefits.
- Create a mixed-use environment that increases vibrancy of the existing area, encourages use of multimodal transportation, activates frontages along public streets, and provides employment and housing opportunities near transit.

2.6 PROJECT CHARACTERISTICS

The Project would include a horizontal mixed-use development consisting of a 55,052 square foot (sf) multi-family housing building comprising 33 affordable units, approximately 300,000 sf of office space (noted as North Office Building and South Office Building), and a 4,132-sf childcare facility (Appendix A, Figure 2-4). In addition, the Project is proposing a Community Benefits Program. The community benefits to be provided are not determined at this time but may include improvements to neighboring businesses.

2.6.1 Office Building

The Project proposes two connected, four-story commercial office buildings approximately 60 feet in height. A mechanical penthouse would be located on the rooftop of each office building and add an additional 29 feet to the building height. The north office building would be approximately 148,951 gross sf and the south office building would be approximately 152,310 gross sf. The two office buildings would be connected at the ground floor by a shared common space and through enclosed bridges at floor levels two and four. The proposed buildings would be constructed of mass timber and glass. Each office building would feature a lobby and main entrance with direct access from Arguello Street.

The proposed office building development would be set back from Arguello Street to create approximately 19,926 sf of open space and landscaping consisting of balconies, plaza, and vegetated space. The Project also proposes two open plazas that lead to the two office lobbies, and space in the plaza would be allocated for public art. The open space would place plantings and trees along the street edge at Arguello Street.

The buildings would feature terraces and a recessed niche for the connecting bridges. The first floors of both office buildings would include lobby areas at the entrances, a shared common space, bicycle storage room with 120 bicycle parking spaces, mechanical rooms, and office space. In addition, 60 short-term bike storage spaces would be provided on the exterior of the building. Levels 2 through 4 of both office buildings would consist of office space. The office buildings would also include three levels of shared, below-ground parking, consisting of 751 parking spaces. The office would have approximately 1,350 employees and operational hours would be from 7 AM to 6 PM. Appendix A, Figure 2-5 shows the proposed elevations.

The proposed office building requires conditional use, architectural, and planned development permits.

2.6.2 Affordable Housing

The Project would construct a 100 percent for-sale affordable housing building. The Project proposes a 55,052 sf, four-story building to include 33 multi-family residential units and ground level parking. The proposed building would be 46 feet tall. The units would be comprised of two- and three-bedroom units, with an average size of approximately 915 sf and 1,150 sf, respectively. The total number of residents for the residential development are estimated to be 89 people. Table 2-2 shows the mix of affordable housing units by income level. The proposed building entry and garage entry would be off Arguello Street. The ground floor of the building would comprise lobby space, 52 bicycle parking spaces, and 33 vehicle parking spaces. The housing building would provide approximately 3,377 sf of open space consisting of balconies and terraces; the minimum per unit is 64 sf, and the average per unit is 102 sf. Common space for the lobby at ground floor entrances would be approximately 2,660 sf. Appendix A, Figure 2-6 shows the proposed elevations.

Table 2-2: Proposed Affordable Housing Mix

Income	Required Affordable Units[1]	Provided Affordable Units	Two-Bedroom Units	Three-Bedroom Units	Percent of Mix
Very low Income	6	6	6	0	18
Low Income	15	15	5	10	45
Moderate Income	9	12	4	8	36
Totals	**30**	**33**	**15**	**18**	**100**

Note:
1 Per Redwood City Affordable Housing Ordinance and in Section 50052.5 of the California Health and Safety Code and California Code of Regulations Title 25, Sections 6910-6924.

The Project would partner with Habitat for Humanity Greater San Francisco for construction of the housing development. Habitat for Humanity would establish a Homeowner's Association (HOA) for the new condominium development that would be responsible for the long-term maintenance and upkeep of the property. Individual units would be sold to qualified homeowners, while the common interest areas would be owned and maintained long-term by the HOA. The HOA would hire a property management company to complete daily and monthly upkeep on the property, which will include landscaping upkeep, general cleaning and maintenance, and regular operational functions. The property management company would staff the Project as necessary, and there would be no permanent residential maintenance staff on-site for the Project. All aspects of the HOA setup and budget would be established in accordance with California Department of Real Estate guidelines and would be subject to City's review and approval.

The residential component of the Project requires architectural, condominium and planned development permits.

2.6.3 Childcare

The Project includes a public-serving childcare facility intended to provide 30 childcare slots. The Project proposes to adaptively reuse the two historic homes currently being used as commercial spaces and would construct an additional new extension building on 1219 Arguello that would enable the buildings to function together and properly for childcare. The childcare facility would be in the existing buildings at 1219 and 1227 Arguello Street, along with a new 1,922-sf addition building that would expand the existing 1219 building. The childcare facility would be a total of 4,132 gross sf. Approximately 2,850 sf of play area would be located in the open space between the office building and the new childcare facility. A 6-foot fence would be installed around the outdoor play areas to help ensure safety and security from adjacent roadways. Appendix A, Figure 2-7 shows the proposed elevations. The interior of the historic buildings would be updated to modernize the building systems and provide the services required by childcare.

The Project proposes up to 10 on-street parking spaces along Arguello Street to be designated as loading spaces (15 minutes or less) for drop-off and pick-up, and the curb would be painted/marked as such. Operational hours for the childcare center would be 6 AM to 6 PM, with typical peak hours expected to be 7 AM to 9 AM and 4 PM to 6 PM. The childcare facility would have approximately 16 employees. Nine parking spaces would be reserved for childcare facility employees in the adjacent office parking structure. The childcare facility would be intended to serve the citywide population. The childcare center requires conditional use and architectural permits and historic preservation approval for alterations, construction and demolition. The childcare center will require a permit from State Community Care Licensing prior to operation.

2.6.4 Tree Removal and Landscaping

The Project would provide landscaping along the Project frontages on Arguello Street and Whipple Avenue and throughout the Project site. Approximately 110 existing trees within the Project site would be removed and would require a Tree Removal Permit from the City. Tentative approval of the tentative map by the City Planning Commission constitutes a permit to remove any trees so designated thereon. Trees that are removed are not planned for replanting. Two of the existing street trees would remain. The Project would plant deciduous screening trees along the western edge of the Project site to screen the Caltrain tracks. The Project would also include approximately 3,000 sf of bioswale areas consisting of

flow through planters on the Project site. A final landscape plan would be submitted for the City's review and approval in conjunction with the entitlement process.

2.6.5 Off-site Improvements

The Project frontage on Whipple Avenue and Arguello Street would be improved with curb, gutter, sidewalk, tree wells, utility laterals, new/widened sidewalk, Americans with Disabilities Act (ADA)-compliant ramps at corners, two new access driveways, crosswalks, and offsite utilities. The sidewalk would be 950 linear feet and 12 feet wide. The area of disturbance outside the Project site for off-site improvements would be approximately 0.25 acre. All of the required public utility upsizing as described below is considered an offsite improvement.

2.6.6 Vehicular and Pedestrian Access

Vehicular access to the office building (1125 Arguello) would be through a new 34-foot driveway on Arguello Drive. The driveway is proposed to be 34 feet between the office and residential buildings and 24 feet along the southwestern side of the office building. The driveway would provide an access aisle for emergency vehicles serving the office building and the residential building. Both an aerial fire apparatus access route and secondary access route on Whipple Avenue and Arguello Street would be provided for the Fire Department to access the office building.

The residential development would include a parking garage located at the ground floor of the building which would be accessed through the garage entrance located on Arguello Street. Pedestrians would access the residential development from Arguello Street. The childcare center would be accessible from Arguello Street.

The Project would construct a crosswalk at Arguello and Standish Streets; and there would be streetscape improvements along Arguello Street such as a 12-foot sidewalk, a 5-foot bike lane, and new street lighting to help improve pedestrian access throughout the site and surrounding neighborhood.

2.6.7 Parking

The construction of the office buildings would include surface parking and three levels of below-ground parking consisting of 751 parking spaces, which is less than the zoning code requirement. A Planned Development Permit has been requested to allow the proposed parking reduction. The office would provide five parking stalls on Level 1 (surface parking), 238 stalls on Level B1, 254 stalls on Level B2, and 254 stalls on Level B3 for a total of 751 parking stalls. Out of the 751 parking stalls, 16 would be ADA-compliant, 80 would be clean air vehicle/carpool spaces, 60 would be electric charging station spaces and 50 would be motorcycle parking spaces. The office buildings would provide 120 long-term bicycle parking spaces in the interior bike room located in the ground floor lobby, and 60 short-term bicycle parking spaces at the ground floor of the exterior of the buildings for a total of 180 bicycle parking spaces.

Nine vehicle parking spaces in the office building parking garage would be reserved for childcare employees. The children drop-off and pickup would occur on Arguello Street.

The residential building would include a ground floor parking garage. The garage would provide 33 parking stalls, two of which are electric charging station spaces, and four motorcycle parking spaces. Per the Zoning Code, the Project is required to provide 75 total parking spaces. The Project is requesting a Parking Reduction to reduce the required parking to 33 parking spaces which is allowed by the California Density Bonus Law due to the Project being located near transit. The residential building would also provide 48 long-term bicycle parking spaces and four short-term spaces.

2.6.8 Utilities

The City of Redwood City currently provides water, sewer, and utility service to the Project site and would continue to do so. Work within the public right-of-way will require encroachment permits.

Water Supply

The Project site is currently served by water services connected to an existing 6-inch cast iron main in Arguello Street and an existing 6-inch cast iron main in Whipple Avenue. The Project would require upsizing of the existing 6-inch main in Arguello Street to an 8-inch main from Whipple Avenue to Hopkins Avenue. The upsizing would be required to satisfy the Fire Marshall's fire water flow and pressure requirements for the building construction type/size. The Project would install and connect its domestic, fire water, and recycled laterals out to Arguello Street. A dual plumbing system would be installed to include a separate plumbing system for recycled water for internal use. Recycled water would also be used for irrigation. Recycled water service has not been extended to the vicinity of the Project site; therefore, the recycled water plumbing system would connect to the domestic water system until recycled water service is extended to the Project site in the future. The City and the Applicant are evaluating the potential to include the extension of recycled water plumbing system to the Project site as part of the Project by way of including it as part of a potential requirement of the City's Community Benefit Program or if the subsequent water supply analysis indicates there is insufficient water supply for the Project and recycled water must be utilized.

Stormwater

Currently, stormwater runoff at the Project site is collected in catch basins throughout the site and routed out to the 12-inch reinforced concrete main in Arguello Street. Storm drain laterals would be installed, and stormwater runoff from the Project would be drained by on-site storm drain lines, connecting to the existing 12-inch main in Arguello Street. Before discharging to the City's storm drain, runoff from the site would flow through detention and treatment measures. The Project would also be providing stormwater treatment to the Arguello Street frontage runoff as green infrastructure.

Wastewater

The Project site is currently served by an existing 6-inch vitrified clay pipe (VCP) sanitary sewer main in Arguello Street and a 10-inch VCP sanitary sewer main in Whipple Avenue. There are currently four laterals servicing the existing site out to Arguello Street. The Project would install laterals for the two office buildings, childcare building, and the residential building. The Project is proposing to upsize the 6-inch main in Arguello Street to 8 inches. The improvement would start at the new childcare building and run south through Arguello Street to Howland Street, where it ties into a 15-inch main in Howland.

Additional analysis will be done to confirm this improvement is sufficient to accommodate the Project's demand.

Electricity, Gas, and Telecommunication

The Project would place the overhead utility lines underground along the property frontages on Arguello and Whipple up to the next pole located off the property frontage. A new utility pole would be constructed on the northwest corner of the Whipple Avenue and Arguello Street intersection. Five existing gas lines located along Arguello Street would be cut, capped, and abandoned by Pacific Gas and Electric (PG&E) prior to demolition. Electricity at the Project site would be provided by PG&E, and telecommunication services would be provided by AT&T, Comcast, or Wave G.

2.6.9 Aesthetics and Design

The Project design would incorporate various architectural elements and require an Architectural Permit for the proposed office building, affordable housing, and childcare center. The office building would be set back between 7 feet and 75 feet from Arguello Street to create open spaces for the proposed development and to provide a pedestrian scale. The Project proposes two open plazas that would lead to two office lobbies. Space in the plazas would be allocated for public art, and the plazas would be publicly accessible. The Project also proposes plantings along much of the street edge along Arguello Street in combination with the new street trees. The design and architectural elements for each development are discussed below.

Office Buildings

The office buildings are planned to be constructed of mass timber and glass and would be set back from Arguello Street. The setback would allow for the Project to create a more integrated edge between the office and the neighborhood by way of street trees, landscaped garden beds, and the adaptive reuse of existing historic homes. The portions of the office building closest to the street frontage would be three stories with a fourth-floor terrace. The buildings would also feature a recessed niche for the connecting bridges, and a smaller scale common structure, all of which limit the length of the unarticulated façade that fronts the residential neighborhood. The terraces and common structure would also bring the scale of the building down towards Arguello Street. The two entry courtyards and the common building would be designed to be away from the street edge. The street trees would frame the common building which would complement the scale of neighboring buildings. With clear glazing on three sides, the structures would be visible to passersby, reinforcing a connection between the interior and exterior. Appendix A, Figure 2-8A shows the conceptual rendering with the office building on the right.

The office building would be separated from the residential building by the new driveway and sidewalk. The office building side facing the residential development would feature large glass windows with glazing. The office building would be taller than the residential building.

Housing

The housing building would be elevated by raising the wood-framed building on a concrete podium and orienting the units toward the streets. The façade alternates board form concrete elements with glass between entries, allowing no more than 22 feet of length at a time, modulating, and providing visual

interest and scale on the ground floor. The second floor would be articulated to provide private open space for residents. The upper levels of the housing would orient to align with the planes of the adjacent office building, as well as direct the views within the units towards the street, instead of facing directly towards the office. This reorientation of the façade also would allow for more sunlight to hit the balconies that would be provided for each unit. Appendix A, Figure 2-8A shows the conceptual rendering with the affordable housing on the left.

Child Care Center

The Project proposes to adaptively reuse the two historic homes that are currently used for commercial purposes and would construct an additional new extension building on 1219 Arguello that would enable the two existing structures to function appropriately for childcare. Historic materials would be preserved, and repair and replacement of materials would use matching finishes if the existing materials were deteriorated beyond repair. Siding in select areas would be removed to enable connection of the new addition to the exterior walls and roofs of the existing structures. High pressure laminated panel and solid wood siding would be used. New frosted glazing would be installed in existing window frames, and there would be no change to the height of the buildings. Appendix A, Figure 2-8B shows the conceptual rendering with the childcare center in the front of the office building.

2.6.10 Alternative Transportation

The Project site is located in proximity to downtown Redwood City and is within half a mile from the Redwood City Caltrain Station and the Redwood City Transit Center on James Avenue. The Project site is two blocks away from the nearest SamTrans bus stop. An existing bike lane runs adjacent to the site along Arguello Street. Both office buildings and the residential building would provide long-term and short-term bicycle parking spaces.

2.6.11 Sustainability

The office buildings are targeting Leadership in Energy and Environmental Design (LEED) Gold and Well Certification. To meet these certifications, the buildings would be designed to employ passive strategies, such as a high-performance curtain wall and drought tolerant plantings, throughout the landscape. An efficient building envelope would be designed and detailed to complement the mechanical systems in the Project's efforts to achieve points in energy efficiency for the LEED rating system. To align with the Peninsula Clean Energy's Reach Code recommendations, the office buildings would also be 100 percent electric. The Project would pursue low lighting power density light fixtures.

The office buildings would be designed without a cooling tower which would eliminate the need for any makeup water. Energy-efficient mechanical equipment would be used, and gas-fired broilers would be eliminated by using an air-cooled heat recovery chiller. Fan power would be reduced by using multi-zone air handling units.

The affordable housing building would comply with the City's green building measures and sustainability goals of the General Plan. It would be 100 percent electric and target a Green-Point Rating.

The Project would include installation of low flow plumbing fixtures The buildings would be constructed with mass timber that allows the structures to take advantage of the sustainable features of wood. The

embodied energy required to create a timber beam is significantly less and, as a natural material, wood has the unique ability to sequester and store carbon over its lifetime. Due to it being lighter in weight, it allows for a compressed construction schedule, which minimizes impacts and inconvenience for the surrounding neighborhood.

2.6.12 Community Benefits

The MUT District allows increased height and density in exchange for the provision of community benefits as part of the Project. The community benefits program is a tiered points-based system. In exchange for increased height, the Project is proposing several community benefits as part of the Project, which include the following:

- A 4,132-sf childcare facility serving 30 children
- New for-sale, on-site affordable housing comprising 33 family-oriented units

The community benefits to be provided are not finalized at this time. Additional community benefits provided may include, but are not limited to, improvements to neighboring businesses.

The Project is seeking the following concession under the Community Benefits Program:

- **Height.** The Mixed-Used Transitional zoning development standards allow mixed-use buildings to have a maximum of four stories and 50 feet in height. Through the Community Benefits program, mixed-use buildings may be increased to 60 feet maximum. As noted in the section above, the Project is proposing a number of Community Benefits that will allow the Office buildings to be four stories, but 60 feet in height. The MUT zoning development standards allow residential buildings to have a maximum of three stories and 40 feet in height. The Project is requesting the multi-family building to be four stories at 46 feet in height.

2.7 PROJECT CONSTRUCTION

2.7.1 Schedule

Construction activities would occur during the work week, Monday through Friday, between 7 AM and 8 PM, consistent with the City's Municipal Code applicable to construction activities. Any work outside of the City's construction hours would require special permits. Table 2-3 shows the anticipated schedule with the assumption that the construction would begin in November 2022 and end in October 2024. This Project schedule is dependent on market conditions, regulatory approvals, and other factors; therefore, it is subject to change.

Table 2-3: Project Construction Schedule

Task	Start Date	End Date	Workdays
Site Demolition	11/7/2022	1/7/2023	40
Site Preparation	11/7/2022	3/2/2023	80
Grading	2/20/2023	9/8/2023	140
Building Construction	8/21/2023	1/14/2025	350

Task	Start Date	End Date	Workdays
Paving	9/15/2024	10/30/2024	75
Architectural Coating	Assumed to be paint and/or exterior wall system components; included with Building Construction		

2.7.2 Access and Staging

Travel routes for construction workers, soils export, and material import would be determined in consultation with the City's Engineering and Transportation Division and included in the construction traffic management plan to be developed in accordance with the City's standard conditions of approval. All construction materials would be stored on-site. Construction of the Project and any utility work would require the closure of selected sidewalks which will be furnished with temporary signage and alternate routing and will be identified in the construction traffic management plan.

2.7.3 Construction Equipment and Workers

Construction equipment anticipated on-site is listed in Table 2-4. The Project's construction is expected to require approximately 230 workers during peak construction stage (exterior envelope and interior buildout operations) in late fourth quarter of 2023 and first quarter of 2024. Peak construction traffic is anticipated to occur during first quarter 2023 which would be during mass excavation operations. During this time, approximately 180 off-haul truck trips per day are expected to occur.

Table 2-4: Proposed Construction Equipment

Phase Name	Equipment Type	Number of Equipment	Usage (hours/day)
Site Preparation (includes demolition and undergrounding utilities)	Excavators	2	8
	Generators	1	8
	Compressors	1	8
	Backhoe	2	8
	Bobcat Loader	1	8
Grading (includes shoring and 3 levels of excavation)	Bulldozer	1	8
	Bobcat Loader	1	8
	Drill Rig	2	8
	Tieback Drill Rig	2	8
	Tiedown Drill Rig	2	8
	Mobile Crane	1	8
	Excavators	2	8
	Backhoe	2	8
	Generator	1	24
	Generator	1	8
	Roller / Compactor	1	4
	Compressor	1	8
Building Construction (includes all construction from bottom of excavation to finished building)	Mobile Crane	1	8
	Sky Jack Lift	2	8
	Compressor	1	4
	Mini Tower Crane (electric)	1	8
	Tower Crane (electric)	2	8
	Welding Machine (electric)	6	8
	Backhoe	1	4
	Personnel Hoist (electric)	1	8
Paving (includes site improvements, hardscape, landscape)	Backhoe	1	8
	Bobcat Loader	1	8
	Asphalt Paver	1	8
	Roller	1	8
	Sky Jack Lift	1	8
	Compressor	1	4
Architectural Coating	Air Compressors	(Included in equipment for Building Construction above)	

2.7.4 Grading, Excavation and Demolition

The Project site currently consists almost entirety of impervious areas. For the 1111 Arguello property, which would be developed with the residential building, the amount of impervious area would decrease from the existing 20,779 sf to the proposed 18,609 sf of impervious roof/pavement. For the 1125 Arguello Street property which would be developed with the office and childcare center, the impervious roof/pavement area would be reduced to 117,545 sf from the existing 127,703 sf of impervious area. Overall, the Project would create 17,000 sf of new pervious areas and 23,000 sf of new impervious areas at the Project site. New pervious areas created would include landscaping areas, decomposed granite paving, and bioswales. New impervious areas created would include driveways, sidewalks, and unit paving.

The Project's construction would result in the export of approximately 124,433 cubic yards of materials from the site that would be disposed at landfills located in Alameda County. Fill material imported to the site is anticipated to be 4,100 cubic yards. Maximum depth of excavation for the Project would be 33.5 feet, and the total amount of demolition expected to occur on-site would be 26,000 sf, which includes existing industrial/commercial structures and a residential house with garage to clear the site. On-site area of disturbance for the Project is expected to be 3.5 acres, and off-site disturbance would be approximately 0.25 acre.

2.8 STANDARD DEVELOPMENT REQUIREMENTS

The City has established standard conditions of approval and standard development requirements to address resource protection. The conditions of approval are specific conditions applicable to the Project. The standard development requirements are items which are codified or adopted by resolution and have been included for ease of reference; they may not be appealed or changed. The Project would comply with these standard conditions and standard development requirements, which are described in greater detail, where applicable. Project will also include special conditions of approval as needed based on the project specifics.

2.9 STATE DENSITY BONUS

The Project would provide 33 dwelling units of 100 percent affordable housing, thereby qualifying the Project for certain requests pursuant to the State Density Bonus Law (DBL) (Government Code Sections 65915 et. Seq.). The DBL was adopted in 1976 to address California's affordable housing needs. As originally enacted, the DBL sought to increase the production of affordable housing by requiring local agencies to grant an increase to the maximum allowable residential density for eligible projects, and to support the development of eligible projects at greater residential densities by granting incentives, concessions, waivers, and/or reductions to applicable development regulations. An example of a concession or incentive is a reduction in the number of parking spaces that may be required for a project, or an increase in the allowable building height that applies to the project. The DBL applies to projects providing five or more residential units with a certain percentage of affordability levels, including mixed-use developments. Density bonuses and associated incentives, concessions, waivers, or reductions are intended to offset the financial burden of constructing affordable or specialized units.

The applicant proposes 100 percent affordable housing. Separate from requests for concessions/incentives, DBL also allows a qualifying applicant to request a waiver or reduction of development standards (Government Code §65915I), as summarized below. The applicant's current SDBL requests may be modified or augmented prior to the City's final decision making on the project.

- **Reduced Parking.** The Zoning Code requires two parking spaces per unit for two-bedroom units or larger, and one space for every four units for guest parking. For a 33-unit building of 15 two-bedrooms and 18 three-bedrooms, 75 parking spaces are required. The Project would provide parking reduction for the Housing in the amount of one parking space per unit for a total of 33 parking spaces. This is allowed by the DBL due to the Project location near transit and is not considered to be a concession.

- **Open Space.** The Zoning Code requires 125 sf of open space per unit. The housing building would provide an average of 102 sf per unit, (64 sf minimum) of private open space consisting of balconies and terraces that are less than 125 sf per unit. This is a concession being requested under a DBL concession. The Project is requesting an open space reduction for the residential building pursuant to the DBL.

- **Upper Story Setbacks.** The Zoning Code requires that buildings shall not intercept a 45-degree daylight plane inclined inward from 15 feet above existing grade at the property line of the parcel adjacent to property line of an adjacent property containing public open space or a historic resource. The Project requests a waiver from this requirement for units facing Arguello Street. The Project is requesting a reduction in the upper story setback for the residential building pursuant to the DBL.

- **Personal Storage.** The Zoning Code requires 80 cubic feet of personal storage for each residential unit. The Project requests a waiver from this requirement and would not provide any personal storage space. The Project is requesting a reduction in personal storage space for the residential building pursuant to the DBL.

2.10 REQUIRED PROJECT APPROVALS

The following discretionary approvals and permits are anticipated for the Project:

City of Redwood City
- Planned Development Permit (PD 2020-005)
- Architectural Permit (AP 2020-057)
- Historic Resources Approval
- Vesting Tentative Map (TM 2020-006)
- Condominium Permit (CP 2020-004)
- Tree Removal Permit
- Grading/Demolition Permit
- Encroachment Permit
- Use Permit for Offices and Childcare Center (UP 2021-011)
- Affordable Housing Plan
- Community Benefits Bonus
- State Density Bonus Concessions and Waivers

Regional Water Quality Control Board

- Stormwater Pollution Prevention Plan/Construction General Permit

3. ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

The environmental factors checked below would potentially be affected by this Project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

- ☒ Aesthetics
- ☐ Agricultural and Forestry Resources
- ☒ Air Quality
- ☐ Biological Resources
- ☒ Cultural Resources
- ☐ Energy
- ☒ Geology and Soils
- ☒ Greenhouse Gas Emissions
- ☒ Hazards and Hazardous Materials
- ☒ Hydrology and Water Quality
- ☒ Land Use and Planning
- ☐ Mineral Resources
- ☒ Noise
- ☐ Population and Housing
- ☐ Public Services
- ☐ Recreation
- ☒ Transportation
- ☒ Tribal Cultural Resources
- ☒ Utilities and Service Systems
- ☐ Wildfire

Determination

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "Potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

Darryl Boyd 10/13/21

Signature Date

Darryl Boyd, Contract Principal Planner
City of Redwood City, Community Development and Transportation Department, Planning Division

3.1 AESTHETICS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
I. AESTHETICS — Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality??	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

Discussion of Impacts

a) Have a substantial adverse effect on a scenic vista?

No Impact. Scenic vistas in the City are located within the elevated hillside neighborhoods in the southern and western portions (Redwood City 2010b) and are not visible from the Project site. The surrounding development are two to three story high and obscure views to the scenic hillsides form the Project site. There are no scenic vistas in the Project vicinity and due to the distance from any scenic resources and the nature of development in the Project area, the Project's construction and operation would not disrupt views of scenic resources in the City. Therefore, the Project would have no impact on scenic vistas.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less-than-Significant Impact. According to a review of the Caltrans California State Scenic Highway System Map, there are no state designated or eligible scenic highway located near the Project area. The closest State designated scenic highway is Interstate 280, located more than 3 miles west of the Project site (Caltrans 2021). The Project would result in removal of approximately 110 trees within the boundaries of the Mezesville Historic District. Tree removal would require a Tree Removal Permit, required by the City's Standard Development Requirement (SDR), which would be included as part of the tentative map. Development of the Project would comply with all the conditions of tree removal permit. In addition, a final landscape plan would be submitted to the City for review and approval. Therefore, Project construction

and operation would not substantially damage scenic resources within a state scenic highway and there would be a less-than-significant impact.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Potentially Significant Impact. The Project is located in an urbanized area. As discussed in Section 2, Project Description, the Project would include demolition of all buildings except for the two structures; development of 33 affordable housing units, approximately 300,000 sf of office space, and a 4,132-sf childcare facility in an urbanized area. The proposed office and residential buildings would be four stories each, and the daycare center would be one story. The Project would replace the existing development with new uses and could potentially conflict with applicable zoning or other regulations. The Project's potential to conflict with applicable zoning and regulations governing scenic quality would be analyzed fully in the Environmental Impact Report (EIR).

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Potentially Significant Impact. The Project site is currently developed and produces light and glare from existing lighting and windows. Areas adjacent to the Project site contain multiple sources of lighting that are typical to developed areas including exterior lighting on residential and commercial buildings, parking lot lighting, street lights, and vehicle headlights. Glare from adjacent land uses emanates from parked cars, passing cars, and windows on nearby buildings. The Project would demolish the existing structures and replace them with new four-story buildings. Although the Project would be consistent with the existing surrounding land uses, the new buildings would be taller than the existing buildings and also have more glass facades facing the streets. Therefore, the Project's impact from new sources of light and glare would be analyzed fully in the EIR.

3.2 AGRICULTURAL AND FORESTRY RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
II. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use, or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion of Impacts

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. According to the City's General Plan EIR, there are no areas of Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance within the City (City of Redwood City 2010b). The Department of Conservation Farmland Mapping and Monitoring Program classifies the Project site and the surrounding areas as Urban and Built-Up land (DOC 2021). Therefore, construction and

operation of the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Important to non-agricultural uses and there would be no impact.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Project site is zoned Mixed-Use - Transitional. The zoning designation does not allow for agricultural uses and there are no lands under the Williamson Act contract within the City (City of Redwood City 2010b). Therefore, construction and operation of the Project would not conflict with existing zoning for agricultural use or with a Williamson Act contract, and there would be no impact.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production as defined by Government Code Section 51104(g))?

d) Result in loss of forest land or conversion of forest land to non-forest use?

No Impact. The City does not contain any forest land and there are no lands zoned for forest land or timberland uses in the City (City of Redwood City 2010b). Therefore, construction and operation of the Project would not conflict with existing zoning or cause rezoning of forest land or timberland and would not result in loss of forest land or conversion of forest land to non-forest use. There would be no impact for Impact (c) or (d).

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use, or conversion of forest land to non-forest use?

No Impact. The Project site and surrounding areas are not used for agricultural or forest land uses. Construction and operation of the Project would not involve changes in the existing environment which would result in conversion of Farmland to non-agricultural uses or conversion of forest land to non-forest uses. Therefore, there would be no impact.

3.3 AIR QUALITY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion of Impacts

a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact. The Project's construction and operation could emit air pollutants that have the potential to conflict with or obstruct implementation of an applicable air quality plan, resulting in a potentially significant impact. The Project's potential to conflict with an applicable air quality plan adopted for the purpose of reducing air quality impacts would be further analyzed in the EIR.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Potentially Significant Impact. The construction and operational emissions could exceed the threshold of significant for air pollutants and emissions and could be cumulatively considerable resulting in a potentially significant impact. The Project's potential to result in a cumulatively considerable net increase of pollutants would be further analyzed in the EIR.

c) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. Sensitive receptors refer to those individuals of the population most susceptible to poor air quality including children, the elderly, and those with pre-existing health problems affected by air quality. Construction and operation emissions from the Project could expose sensitive receptors to substantially pollutant concentrations and result in a potentially significant impact. The Project's potential to expose sensitive receptors to substantial pollutant concentrations would be further analyzed in the EIR.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-Significant Impact. The Project would develop residential, commercial office, and childcare uses. Construction and operation of the Project would not generate substantial odors that would affect substantial number of people. Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations; and the Project does not contain any land uses typically associated with emitting odors. During operation, Project developments could generate odors from cooking or trash enclosures. These odors would not be substantial enough to be considered nuisance odors that would affect a substantial number of people. During Project related construction activities on the Project site, construction equipment exhaust, painting, and pacing activities would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. Therefore, Project impacts from odors would be less than significant.

3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES — Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion of Impacts

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less-than-Significant Impact. The Project site is currently developed with urban uses and is surrounded by development on all sides. This precludes the presence of habitat for any special-status species. In addition, the General Plan EIR identifies the Project area as urban, and areas that have the potential for

sensitive species are located further away from the site (City of Redwood City 2010b). Considering its location next to urban uses and busy roadways, it is reasonable to assume that sensitive species are not present as there are no areas that would provide wildlife habitat throughout the project site. However, since the Project would require the removal of trees, the Project would require a survey for nesting birds prior to start of construction activities. As a Condition of Approval (COA) required by the City for the Project, the Applicant will be required to hire a qualified biologist to conduct a survey for nesting birds prior to tree removal or trimming and submit the survey for filing and comply with any recommendation in the report. Additionally, all tree removal and trimming activities are required to take place outside of the breeding season. Compliance with the City's COA would ensure that the Project does not have any impacts on any species identified as a candidate, sensitive, or special-status species, and impacts would be less than significant.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The Project site is located in a highly urbanized area. The Project site is developed with urban uses that preclude the possibility of containing any riparian habitat, or any other sensitive natural communities identified within a local or regional plan, policy, or regulation, or by the California Department of Fish and Wildlife and the United States Fish and Wildlife Service. Additionally, the Project site does not contain any state or federally protected wetlands as the site is almost completely graded and developed with existing uses. Wetland areas identified by the City's General Plan are located along the San Francisco Bay shoreline, located east of the Project site (City of Redwood City 2010a). Therefore, construction and operation of the Project would have no impact on sensitive habitats identified in Impact (b) or (c).

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. Extensive development, roadways, and Caltrain tracks surround the Project site, which minimizes the opportunity for wildlife to move freely across the site. In addition, the Project site does not represent a corridor that links areas of open space lands. As such, the site is not considered to support wildlife movement or native wildlife nursery sites, and there would be no impact from construction and operation of the Project.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less-than-Significant Impact. The Project would include the removal of approximately 100 existing trees. However, the Project would plant new trees throughout the Project site and street frontages as part of the landscaping plan. The Project would be required to comply with the City's Tree Preservation

Ordinance under Chapter 35 of the Redwood City Municipal Code (City of Redwood City 2010b). The Project would be required to obtain a permit from the City's Parks and Recreation Director before removing any trees on-site and comply with the requirements under the ordinance. Compliance with the Tree Preservation Ordinance would ensure the Project does not conflict with any local policies or ordinances protecting biological resources and the impacts would be less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans covering the Project site. Therefore, construction and operation of the Project would have no impact on or conflict with habitat conservation plans in the area.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
V. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion of Impacts

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Potentially Significant Impact. A portion of the Project site is located within the Mezesville Historic District established by the City. The Historic Resources Evaluation conducted for the Project by Page & Turnbull identifies multiple historic resources on-site. In addition, the Project includes demolition of the building on 1203 Arguello Street that contributes to the Mezesville Historic District and is not evaluated as a local historic resource. Therefore, the Project could have the potential to cause a substantial adverse change in the significance of a historical resource. Therefore, Impact (a) and (b) are potentially significant and would be further analyzed in the EIR.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less-Than-Significant Impact. The Project site is developed and potential for human remains is low due to subsurface disturbance from past development. However, due to the Project requiring excavation at the Project site to provide for three levels of underground parking and proximity of the Project site to the oldest part of the City, there is still some potential for discovery of human remains or other cultural resources that are currently undiscovered. In accordance with California Health and Safety Code Section 7050.5(b), if human remains are uncovered during ground-disturbing activities, all such activities in the vicinity of the find shall be halted, and the San Mateo County Coroner and a qualified professional archaeologist will be contacted immediately. The coroner is required to examine all discoveries of human remains within two working days of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are of Native American origin, he or she must contact the Native American Heritage Commission by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). The County or its appointed representative

and the professional archaeologist shall consult with a Most Likely Descendent determined by the Native American Heritage Commission regarding the removal or preservation and avoidance of the remains and determine if additional burials could be present within the Project site. With incorporation of the procedures outline in California Health and Safety Code Section 7050.5(b), impacts resulting from inadvertent disturbance to human remains would be less than significant.

3.6 ENERGY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VI. ENERGY — Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Background

Grid electricity and natural gas service in Redwood City is provided by PG&E, as regulated by the California Public Utilities Commission. PG&E provides electrical service and natural gas to approximately 16 million people throughout its 70,000-square-mile service area in northern and central California. In 2019, PG&E reported that 39 percent of its electricity in 2018 came from renewable resources, including solar, wind, geothermal, biomass, and small hydroelectric sources. Additionally, nearly 85 percent of its total electric power mix came from greenhouse gas (GHG)-free sources (PG&E 2019). The power mix PG&E provided to customers in 2018 consisted of non-emitting nuclear generation (34 percent), large hydroelectric facilities (13 percent), and eligible renewable resources (39 percent), such as wind, geothermal, biomass, solar, and small hydro. The remaining portion came from natural gas (15 percent). In addition, PG&E has plans to increase the use of renewable power (PG&E 2019).

In October 2016, the City Council of Redwood City approved joining Peninsula Clean Energy to provide additional renewable power. Peninsula Clean Energy is a community choice energy program, also known as community choice aggregation. PG&E would still deliver the power, maintain the lines, and bill customers, but the power would be purchased by “Peninsula Clean Energy” in San Mateo County. Peninsula Clean Energy plans to have an “ECO 50” and “ECO 100” program that includes 50 percent and 100 percent renewable energy, respectively.

Discussion of Impacts

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less-than-Significant Impact.

Construction. Project construction would include the operation of construction vehicles and debris removal. During Project construction, equipment operation would comply with Bay Area Air Quality Management District basic construction measures recommended for all projects that are aimed at reducing air pollution, such as minimizing idling of construction off-road equipment and maintaining all equipment in accordance with manufacturer standards. Such measures would also minimize the wasteful

consumption of energy resources during construction. Additionally, the Project would comply with the City's Construction and Demolition Debris Program, which requires the diversion of 100 percent of inert solids (e.g., asphalt, brick, concrete, dirt, rock, sand, soil, stone) from landfill for all demolition projects; and a minimum of 65 percent of all other construction and demolition debris from new construction, roofing, and alterations/additions. With implementation of existing standards, the Project would not result in wasteful or unnecessary consumption of energy during construction, and impacts would be less than significant.

Operation. The Project would be required to comply with energy efficiency standards set forth by Title 24 of the California Administrative Code and the Applicable Efficiency Regulations. Title 24 requires that the project meet a number of conservation standards, including installation of water-efficient fixtures and energy-efficient appliances. Title 24 also regulates energy consumption for the heating, cooling, ventilation, and lighting of residential and nonresidential buildings, and is enforced by the City. Compliance with Title 24 would ensure reduction in the use of fuel, water, and energy by the Project. Furthermore, the Project would comply with CALGreen and the City of Redwood City Municipal Code requirements related to energy and water conservation. Moreover, the office buildings are targeting to meet LEED Gold and Well Certification and will be designed to employ passive strategies, such as a high-performance curtain wall and drought tolerant plantings. The office buildings and residential components would be constructed to be 100 percent electric in order to align with the Peninsula Clean Energy's Reach Code recommendation. Adherence to existing regulatory standards and LEED Gold and Well Certification would result in the conservation of energy.

The Project would also provide features that encourage alternative modes of transportation, such as long-term and short-term bicycle parking, electric vehicle parking, and clean air vehicle parking as well as being located within 1,000 feet of two existing bus stops. Because the Project is an infill mixed-use development in a transit-rich area, the Project provides opportunities to limit vehicle trips and the associated energy demand. The Project would be consistent with the goals of the Plan Bay Area 2040 land use strategy, which seeks to reduce per capita vehicle miles traveled (VMT). Specifically, Project operation would provide opportunities to minimize VMT through the use of public transit, nonmotorized modes of transportation (e.g., biking), and through alternatively fueled vehicles to reach residential and employment destinations and amenities. As such, transportation energy demands would be minimized.

Therefore, the Project would not result in inefficient, wasteful, and unnecessary consumption of energy, and the impact is less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-than-Significant Impact. The City's 2020 Climate Action Plan (CAP) was developed to reduce GHG emissions by implementing various strategies and programs at the local level. The CAP identifies the City's existing GHG inventory and estimates emissions for the year 2030 under different scenarios. Based on this, the CAP proposes emission reduction targets to help meet Senate Bill 32's regional goals. The CAP recommends various renewable energy, energy-efficiency, and energy conservation strategies over the ten-year period from 2020 to 2030, including policies that are applicable to the Project. The Project would be consistent with the City's CAP, because it would achieve the latest CALGreen standards, the City's Energy Conservation Ordinance, and would implement several other energy

efficiency measures. The City of Redwood City General Plan puts forth the following policies as they relate to energy efficiency, as applicable to the project:

- NR-4.1: Support energy efficiency through the City's Municipal Code Green Building Ordinance
- NR-4.4: Pursue efforts to reduce energy consumption through appropriate energy conservation and efficiency measures throughout all segments of the community.
- NR-4.5: Conserve energy by promoting efficient and cost-effective lighting that reduces glare and light pollution.

As shown in Table 3-1 below, the Project would be consistent with energy efficiency policies.

Table 3-1: Energy Efficiency Policies Consistency Analysis

Measure	Description	Reductions	Project Consistency with Applicable Measures
EM-6. Energy Efficient Street Lighting	Continue light-emitting diode (LED) street light replacement program and replacement of parks and parking lot lighting.	112	**Consistent.** The Project will propose LED lighting for all public spaces and street lights.
EM-7. Environmentally Preferred Purchasing Policy: Energy	Implement a sustainable purchasing policy that emphasizes the purchase of ENERGY STAR certified equipment – appliances, electronics, etc.	8	**Consistent**. The Project will require the purchase of energy efficient appliances and lighting consistent with the latest CALGreen and Title 24 Building standards as well as meet Leadership in Energy and Environmental Design (LEED) Gold and Well Certification.
WC-1. Increase Waste Diversion Rate	Achieve 90 percent waste diversion rate through promotion of traditional and new recycling and organics recycling programs, local enforcement of requirements, and sustainable vendors policy for public events.	631	**Consistent.** Redwood City is implementing a series of programs for recycling materials that reduce the amount of waste the City sends to landfills. Current services for residential users include weekly soil waste collection, single stream recycling, organics recycling, plant materials recycling, and housing batteries and cell phone recycling. For commercial users, services include solid waste collection, single stream and source-separated recycling, organics recycling, and plant material recycling. These programs and services would be available to the Project. Additionally, the Project would comply with Assembly Bill 1826 – requiring businesses and multi-family residential uses of five

Measure	Description	Reductions	Project Consistency with Applicable Measures
			or more units to recycle organic waste - and Senate Bill 1018 - requiring businesses that generate 4 cubic yards or more of commercial solid waste per week to arrange for recycling services.
EC-5. Commercial Energy Efficiency Programs	Promote participation in commercial energy efficiency programs and demand response programs offered by San Mateo County Energy Watch and Pacific Gas and Electric Company (PG&E). Encourage commercial energy audits.	491	**Consistent.** The City of Redwood City is part of Peninsula Clean Energy and as a result, the Project will purchase electricity sourced from renewables. The office component of the Project will be 100 percent electric to align with the Peninsula Clean Energy's Reach Code recommendations and will pursue low lighting power density light fixtures. The office buildings are targeting LEED Gold and Well Certification and will employ passive energy saving strategies, such as a high-performance curtain wall and drought tolerant planting.
EC-6. Residential Energy Efficiency Programs.	Promote participation in residential energy efficiency programs, including BayREN's Home Upgrade program and PG&E's efficient appliance rebates. Encourage residential energy audits.	860	**Consistent.** The City of Redwood City is part of Peninsula Clean Energy and as a result, the Project will purchase electricity sourced from renewables. The site will also be required to adhere to the latest Title 24 and CALGreen building standards. Additionally, the housing component of the Project will be constructed to 100 percent electric to align with the Peninsula Clean Energy's Reach Code recommendations.
EW-1. Water Conservation Programs	Promote Bay Area Water Supply and Conservation Agency residential water conservation rebate programs for items including high efficiency appliances, rain barrels, sprinkler nozzles, irrigation controls and Lawn Be Gone (drought tolerant landscapes).	403	**Consistent.** The Project would be required to install high efficiency appliances consistent with Title 24 and CALGreen building energy. The Project will include the installation of low flow plumbing fixtures and in order to target LEED Gold and Well Certification, the site will employ passive strategies such as drought tolerant landscaping.

Measure	Description	Reductions	Project Consistency with Applicable Measures
EW-2. Water Efficient Landscape Ordinance.	Enforce existing Water Efficient Landscape Ordinance.	172	**Consistent.** The Project is required to adhere to the water efficient landscape ordinance. In order to target LEED Gold and Well Certification, the site will employ passive strategies such as drought tolerant landscaping.
TL-1. Smart Growth Development Policy.	Continue smart growth policy that prioritizes infill, higher density, transportation-oriented and mixed-use development. Continue focusing new growth in Priority Development Areas (Downtown and transit corridors), encourage orderly growth with a jobs/housing balance, and consider precise plans for transit corridors to implement the goals and policies of the Built Environment element of the General Plan.	4,228	**Consistent.** The Project will develop a mixed-use project with 33 affordable housing units, office space, and a childcare facility. The site lies approximately 290 feet from the Arguello Street and A Street bus stop for SamTrans line 73 and lies 800 feet from the Whipple Avenue and El Camino Real bus stop that serves SamTrans lines 73 and 295. As a result, the Project would be consistent with TL-1 as it would create a mix of jobs and housing near existing transit.
TL-4. Parking Policies Promoting Public Transit, Biking, and Walking	Continue parking policies such as metered parking, reduced parking requirements for new development, and "unbundling" sales/leases of parking space to increase public transit use, biking, and walking.	9,695	**Consistent.** The Project will construct 751 office parking spaces and 33 residential parking spaces, which is less than the zoning code requirement. A Planned Development permit has been requested to allow the proposed parking reduction.
TL-9 Expand EV Charging Infrastructure	Leverage partnerships and incentives to expand electrical vehicle (EV) charging infrastructure in public properties, multi-unit dwellings, and workplaces.	32,522	**Consistent.** The Project would construct 62 EV parking spaces (60 spaces for the office component and two for the residential component), expanding the City's network of EV charging infrastructure.

The Project would be consistent with these policies, because it would implement the City's Green Building Ordinance and would use several methods outlined above to further minimize energy consumption. Therefore, the Project would not conflict with any plans for renewable energy or energy efficiency, and it would have a less-than-significant impact.

3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VII. GEOLOGY AND SOILS — Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Discussion of Impacts

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologic for the area or based on other substantial evidence of a known fault?

Less-than-Significant Impact. The Project site is not located within a Alquist-Priolo Fault Zone and no known major active faults runs through the Project site (CGS 2021). The San Andreas Fault is located approximately 3.5 miles southwest of the Project site. Therefore, the potential for impact from the rupture of an earthquake fault is low and impacts from Project construction and operation would be less than significant.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. The Project site and the City is within a seismically active region and the potential for impacts causing strong seismic ground shaking is high. The CGS classifies the Project site as being within a liquefaction zone and the General Plan identifies the area as having medium liquefaction susceptibility (CGS 2021, City of Redwood City 2010a). A preliminary geotechnical evaluation was prepared for the Project site and is included as Appendix B. As noted in the preliminary geotechnical evaluation, the site is in a seismically active area and will be subject to very strong shaking during a major earthquake. Strong ground shaking during an earthquake can result in ground failure such as that associated with soil liquefaction and lateral spreading. As part of the City's SDR, the Project would require a site-specific geotechnical report which would include recommendations and measures to reduce potentially significant geologic hazards and would be required to comply with the most current California Building Code (CBC) standards. The design-level geotechnical report would be prepared prior to final Project design and submitted as part of the building permit application. The Project plans and specifications would be reviewed by a qualified geotechnical engineer prior to construction to confirm that the final design meets the intent of the recommendations in the design-level geotechnical report; and that a qualified geotechnical engineer be present during construction to observe foundation installation, ground improvement, and fill placement, and revise recommendations based on actual site conditions, if needed.

Additionally, the City's General Plan includes programs to ensure that safety of residents and buildings from seismic related impacts. The General Plan would require future development projects to provide project-specific assessments performed by a state-licensed geologists and specialists to identify potential seismic and geologic hazards and incorporate recommended mitigation measures into the Project, per Programs PS-23 and PS-24 of the General Plan. Additionally, Program PS-25 would require the City to implement the International Building Code seismic safety standards, consistent with the CBC (City of Redwood City 2010b). Implementation and compliance with the City's requirements, current building codes, and implementation of design-level geotechnical report recommendations into the Project design would ensure that impacts from strong seismic ground shaking (ii) and seismic related ground failure (iii) are less than significant from Project construction and operation.

iv) Landslides?

No Impact. Given the relatively flat topography of the Project site and because the site is not classified as being in a landslide area, the potential for impacts related to landslides is very low. Therefore, there would be no impact related to seismically induced landslides from Project construction and operation.

b) Result in substantial soil erosion or the loss of topsoil?

Less-than-Significant Impact. Construction activities associated with the Project would involve demolition, grading, and excavation activities which could expose soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the Project site. As discussed in the Hydrology and Water Quality section, the Project would disturb greater than 1 acre and would require coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit. The NPDES Permit is obtained through State Water Resources Control Board (SWRCB) and requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) which requires implementation of standard construction best management practices (BMPs) to minimize erosion and loss of topsoil. With implementation of BMPs required by the SWPPP under the NPDES Permit, the potential impacts related to soil erosion would be less than significant during construction.

Once constructed, the Project would be landscaped and/or covered in buildings or hardscape features; and not result in soil erosion or loss of topsoil. New pervious areas created as part of the Project would include landscaping areas, decomposed granite paving, and bioswales, thereby, preventing soil erosion or loss of topsoil. There would be no impact related to erosion and topsoil loss from operation of the Project.

c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less-than-Significant Impact. As discussed earlier, the Project site is not located within an area with potential for landslides and the preliminary geotechnical evaluation conducted by Langan in November 2020 identified that the potential for lateral spreading at the site was low (Appendix B). However, the Project site is located in an area with potential for liquefaction. In addition, the Caltrain tracks lie west of the Project site. The proposed office building includes three levels of excavation adjacent to the tracks and could potentially exposed the tracks to unstable soils due to vertical movement and settlement. The preliminary geotechnical evaluation stated that adequate foundation support, settlement behavior and shoring design should be addressed during design development in the design-level geotechnical report. As previously indicated in Impact a.ii and a.iii, the Project would be required to implement City's SDR and comply with CBC standards and implementation of General Plan Programs. The Project would be required to prepare a design-level geotechnical report which would include recommendations and measures to address any impacts caused by unstable soils and seismic conditions. In addition, due to the project site's proximity to the Caltrain tracks, the City would coordinate with Caltrain to determine if the design-level geotechnical report needs to incorporate Caltrain's most recent Engineering Standards. If determined by the City, the Project contractor would also be required to submit the design-level geotechnical report to Caltrain for review prior to the start of construction activities. Therefore, construction and operational impacts of the Project would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?

Less-than-Significant Impact. The preliminary geotechnical evaluation identified that moderately to highly expansive surface soil is present at the Project site. The Project would be required by comply with City's SDR, CBC and General Plan Program PS-24 to prepare a site-specific geotechnical report which would include recommendations and measures to address any impacts caused by expansive soils. The Project would be required to incorporate the recommended measures into the design of the Project. Compliance with current CBC standards and City's General Plan Programs would ensure that all impacts related to expansive soils would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The Project would connect to and be served by the City's existing sanitary sewer system and would not require the installation of septic or alternative wastewater disposal systems. Therefore, no impacts would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant with Mitigation. According to the City's General Plan EIR, no records of known paleontological resources exist within the City and the closest is two miles south of the City, within the City of Atherton. Though there are no known paleontological resource deposits within the City, there is a possibility for discovery of unknown paleontological resources during earth moving activities during construction of the Project. The proposed office building includes excavation to accommodate three levels of basement parking. Construction activities could destroy a unique paleontological resource or unique geologic feature if they are discovered during construction and could result in a significant impact. Therefore, the Project would implement Mitigation Measure GEO-1 which outlines procedures for inadvertent discovery of paleontological resources. Additionally, the Project would be required to implement the City's COA which requires the Community Development Department, in coordination with a qualified paleontologist, assess the Project for potential to destroy unique paleontological resources prior to the issuance of grading or demolition permits. Implementation of Mitigation Measure GEO-1 and compliance with the City's COA would mitigate any potential impacts to a less than significant level.

Mitigation Measures

Mitigation Measure GEO-1: Procedures for Inadvertent Discovery of Paleontological Resources.

In the event that unknown paleontological resources are discovered during earth-moving activities, the construction crew shall immediately cease work in the vicinity of the find and notify the City. Work shall be halted until a qualified paleontologist can evaluate the find and make recommendations.

If the deposits of paleontological materials cannot be avoided by project activities, the City shall confirm that the Project Applicant has retained a qualified paleontologist to evaluate the potential historic significance of the resource. If the deposits are determined to be non-significant by a qualified paleontologist, avoidance is not necessary. If the deposits are determined to be potentially significant, the

resource shall be avoided if feasible. If avoidance is not feasible, the qualified paleontologist shall make recommendations and prepare a recovery plan. The recovery plan may include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum curation for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the City to be necessary and feasible would be implemented before construction activities can resume at the site where the paleontological resources were discovered.

3.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS — Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Discussion of Impacts

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact. The impacts associated with GHG emissions generated by the Project are related to the emissions from construction and operation. Off-road equipment, materials transport, and worker commutes during construction of the Project would generate GHG emissions. Building operation, energy use, and mobile sources from vehicle trips by residents would also generate GHG emissions. The Project would have the potential to generate GHG emissions that could have a significant impact on the environment. Therefore, this impact is potentially significant, and GHG emissions from the Project would be further analyzed in the EIR.

b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact. The Project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, resulting in a potentially significant impact. The Project's potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be further analyzed in the EIR.

3.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e) For a project located within an airport land use compatibility plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Discussion of Impacts

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant with Mitigation. The discussion below applies to significance threshold (a) and (b) as outlined above.

The Project would involve the construction of a mixed-use development which would include multi-family residential building, an office space, and a childcare facility. Construction activities would include the demolitions of existing structures and the construction of new buildings and associated infrastructure. During the construction phase, limited amounts of hazardous materials would be used, including standard construction materials such as concrete, paints, solvents and heavy construction equipment which would contain diesel fuels and oils and construction activities could potentially cause accidental spills or releases of hazardous materials. As part of the City's SDR and NPDES Construction General Permit, the Project would be required to prepare and implement an SWPPP that would include BMPs to prevent accidental spills of hazardous materials during construction. With adherence to applicable federal, state, and local regulations, and implementations of BMPs in the SWPPP, the impact to the public or environment from use or accidental release of hazardous materials during Project construction would be reduced.

Demolition activities could potentially expose construction workers and the public to hazardous conditions through the disturbance of hazardous building materials such as asbestos containing materials (ACMs) and lead-based paint (LBP) which may be present due to the age of the existing buildings. A Phase I Environmental Site Assessment (ESA) conducted for 1203 and 1205 Arguello Street revealed the presence of LBP at both properties (Appendix C). A Phase I ESA conducted for 1227 and 1219 Arguello also revealed the presence of LBP at both properties (Appendix C). Both Phase I ESAs conducted Limited Asbestos Screening to evaluate the presence of ACMs at the properties and did not identify any ACMs. However, due to the non-destructive nature of the Limited Asbestos Screening, there may be ACMs not identified located within walls, ceiling cavities and other inaccessible areas and a thorough assessment of these spaces are recommended to be conducted before any maintenance/renovation/demolition activities to identify and confirm the presence or absence of ACM. The Phase I ESA conducted for 1125 Arguello did not conduct any lead or asbestos testing (Appendix C). Therefore, Mitigation Measure HAZ-1: Hazardous Building Materials Survey and Abatement would require a survey for hazardous building materials be undertaken at the site, and that any hazardous building materials (if present) be properly removed and disposed of by a certified contractor prior to demolition or renovation activities, in accordance with applicable laws.

Site grading activities could potentially expose construction workers and the public to hazardous conditions through the disturbance, transportation, or disposal of contaminated soils or groundwater due to the confirmed presence of metal affected groundwater in some areas of the site, at levels that exceed the environmental screening levels for Direct Exposure and NPDES General Effluent Limitations. Metal affected soils at concentrations that exceed environmental screening levels for Soil Exposure for Construction Workers were also detected in some areas of the site. Grading activities could result in accidental release of contaminants from the soil to groundwater or air. A Limited Phase II ESA (Appendix C) conducted for the Project site determined contaminated soil and groundwater in the vicinity of the storage building and diesel/gasoline above-ground storage tanks present at the site. These areas are generally shallow and would likely be excavated during the proposed redevelopment. The Limited Phase II ESA report recommends additional soil borings to further delineate the depth and areal extent of metal affected areas and recommends that a soil and groundwater management plan be prepared prior to initiating future site development activities. Therefore, the Project would be required to implement

Mitigation Measure HAZ-2: Soil and Groundwater Management Plan that would document specific dust mitigation, soil management, and waste characterization activities for excess soil generated during site development and, if applicable, presumptive measures to manage and treat groundwater generated during construction dewatering. Implementation of Mitigation Measure HAZ-1 and Mitigation Measure HAZ-2 would ensure that impacts during construction activities would be less than significant.

During operation of the Project, the use of hazardous materials would be limited to those commonly found at residential, office, and commercial facilities such as solvents, cleaners, paints, and pesticides for landscape maintenance activities. These common household hazardous materials would be used in limited quantities and would not create a substantial hazard to the public or the environment. Operation of the childcare center at 1219 and 1227 Arguello Street buildings would potentially expose children and staff to asbestos fibers or LBP dust, if any such materials remained in the building following its renovation and repurposing. Such an impact could be potentially significant, particularly during any future renovation activities that might further disturb existing materials. However, as discussed above in relation to construction impacts, Mitigation Measure HAZ-1 would require any such hazardous building materials to be properly removed from all structures on the Project site (including the buildings are 1219 and 1227 Arguello Street) in accordance with federal and state law. Implementation of Mitigation Measure HAZ-1 would therefore reduce potential exposure to such hazardous building materials from operation of the Project to less than significant. Therefore, impacts related to the routine transport, use, and disposal of hazardous materials during Project operation would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant with Mitigation. The closest school to the Project site is Orion Elementary School, which is located approximately 0.2 miles southeast of the site. As discussed under Impacts a and b above, Project construction would include handling of typical quantities of hazardous materials such as fuels, lubricants, and paints; however, this is not anticipated to pose a significant risk to students attending the school because the regulations and BMPs designed to protect construction workers handling such materials would protect any nearby students and sensitive receptors on adjacent sites. The quantity and type of hazardous materials used during construction of the Project would not result in significant impacts to students.

Construction of the Project may also require the handling of hazardous buildings materials such as ACMs or LBP and contaminated soils and groundwater. Handling of hazardous materials could expose students to hazardous emissions through fugitive dust containing lead paint, dust or other contaminants, or through the release of asbestos fibers into the air. Implementation of Mitigation Measures HAZ-1 and HAZ-2 would reduce the potential impacts on school students from emissions of hazardous materials during construction to a less than significant level. Mitigation Measure HAZ-1 would require pre-demolition surveys to identify potentially hazardous building materials at the site so that they can be disposed of in accordance with applicable local, state, and federal laws. Mitigation Measure HAZ-2 would require the preparation and implementation of a Site Management Plan, which would, among other requirements, require site-specific health and safety plans to protect the general public and construction workers from contaminated soil and groundwater at the site.

Therefore, impacts of construction and operation of the Project from emissions or handling of hazardous materials within 0.25 miles of a school would be less than significant with implementation of Mitigation Measures HAZ-1 and HAZ-2.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant with Mitigation. According to the SWRCB GeoTracker website and the Department of Toxic Substances Control (DTSC) EnviroStor website, 1125 Arguello Street is listed as a leaking underground storage cleanup site (SWRCB 2021, DTSC 2021). The case was opened in 1998 during the removal of underground storage tanks that was used to store gasoline for the A-1 Rental Company on-site. Cleanup of the site was completed, and the case was closed in 2010. Although the Project site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, this listing does not represent a significant hazard to the public or the environment because the case has been closed for several years. Additionally, the Caltrain tracks adjacent to the Project site to the west are not identified on GeoTracker or EnviroStor. To ensure that there are no significant impacts, the Project would be required to implement Post Closure Site Management Requirements identified by the SWRCB. These requirements include no excavation of contaminated soils without agency review and approval, no groundwater extraction at any depth without approval, and perform Health and Safety Plan prior to subsurface work (SWRCB 2021). Compliance with these requirements would reduce impacts to a less than significant level. Additionally, the Project would implement Mitigation Measures HAZ-1 and HAZ-2 to ensure the Project would not create a significant hazard and impacts would be less than significant with mitigation.

e) For a project located within an airport land use compatibility plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Less-than-Significant Impact. The closest airport to the Project site is the San Carlos Airport, located approximately 1.25 miles north/northeast of the site. The Project site is located within Zone 6 Traffic Pattern Zone and Zone B Airport Influence Area for the San Carlos Airport Land Use Compatibility Plan (C/CAG 2015). There is no limit placed on the intensity of new, nonresidential uses within Safety Zone 6; however, childcare centers are conditionally allowed within Safety Zone 6 and the Project will require a consistency review by the City/County Associated of Governments of San Mateo County. In Safety Zone 6, new residential development is compatible and is not restricted for safety reasons. The Project would not construct buildings above 100 feet and would not create any airspace hazard. The Project site is not within the noise contour areas for the airport and therefore, would not create excessive noise for people residing or working in the Project area. Therefore, the Project would not result in a safety hazard or excessive noise for people residing or working in the area and impacts would be less than significant.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. The City has developed an Emergency Operations Plan which is intended to provide comprehensive emergency response document for natural disasters and man-made

events. The Emergency Operations Plan does not include any designated evacuation routes. During the construction phase, partial street/lane closures may be required. All construction related street/lane closures would conform to the Work Area Traffic Control Handbook as required by the City's SDR and the Applicant would be required to submit a Traffic Control Plan to the City prior to any lane closures. The Project includes offsite utility work and construction of new sidewalks that may require encroachment of construction crew in public right of way. The construction contractor would comply with City's standard COA that requires submittal of a construction parking management plan, which shall outline the number of construction workers, construction duration, where parking will be located. Construction parking, material storage, equipment, or other construction-related uses are not allowed within the City right of way without prior approval from the City Engineer. The Project would not impair or interfere with an adopted emergency response plan or evacuation plan and impacts would be less than significant.

The Project operations would not modify any existing roadways in such a way that would impede emergency access or evacuation. Vehicular access to the office building would be through a new 34-foot driveway on Arguello Drive. The driveway is proposed to be 34 feet between the office and residential buildings and 24 feet along the southwestern side of the office building. The driveway would provide an access aisle for emergency vehicles serving the office building and the residential building. Both an aerial fire apparatus access route and secondary access route on Whipple Avenue and Arguello Street would be provided for the Fire Department to access the office building. The residential building would have emergency access from the 34-foot driveway. The Project design would be reviewed by the Redwood City Fire and Police departments prior to approval to ensure that the Project has adequate ingress and egress, setbacks, clearances, turning radii, etc.; and does not impede emergency access. Therefore, the potential impact related to emergency and evacuation plans would be less than significant.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less-than-Significant Impact. The California Department of Forestry and Fire Protection has mapped areas of significant fire hazards in California. The Project site is not located in a State Responsibility Area or a Very High Fire Hazard Severity Zone (CAL FIRE 2007, 2008). Additionally, the U.S. Forest Service Wildfire Hazard Potential map designated the Project site and surrounding areas as non-burnable (USFS 2020). Areas outside of the Very High Fire Hazard Severity Zone are not subject to special development controls related to heightened fire protection or vegetation management required to minimize the risk of wildland fires. However, new construction at the Project site would be subject to standard fire code and fire suppression requirements. The Project site is in a highly urbanized area and is served by the Redwood City Fire Department, who would review the Project design prior to approval to ensure that adequate ingress and egress, setbacks, clearances, turning radii, etc. are incorporated so that the Project does not impede emergency access. Therefore, the Project would not expose people or structures to significant risk of loss, injury or death involving wildland fires and impacts would be less than significant.

Mitigation Measures

Mitigation Measure HAZ-1: Hazardous Building Materials Survey and Abatement

Prior to issuance of any grading permit, the Applicant shall retain a certified hazardous waste contractor to determine the presence or absence of building materials or equipment that contains hazardous

materials, including asbestos and lead-based paint. If such substances are found to be present, the contractor shall properly remove and dispose of these hazardous materials in accordance with federal and state law. All removal activities shall be completed prior to permit issuance for demolition activities. Following completion of removal activities, the Applicant shall submit documentation to the Bay Area Air Quality Management District and the City verifying that all hazardous materials were properly removed and disposed.

Mitigation Measure HAZ-2: Site Management Plan

Prior to building permit issuance, the Applicant shall retain a qualified California-Registered Geologist or a California Registered Civil Engineer to prepare a Site Management Plan (SMP). As part of the SMP, the qualified professional shall notify the San Francisco Regional Water Quality Control Board (RWQCB) or other regulatory agency of proposed activities at the Project site. The SMP shall include, but not be limited to:

- Land use history, including description and locations of known contamination;
- The nature and extent of previous investigations and remediation at the site;
- Identified areas of concern at the site, in relation to proposed activities;
- A listing and description of institutional controls, such as the City's excavation ordinance and other local, state, and federal regulations and laws that would apply to the project; ·
- Names and positions of individuals involved with soils management and their specific role; · An earthwork schedule;
- Requirements for site-specific Health and Safety Plans (HSPs) to be prepared by all contractors at the Project site. The HSP should be prepared by a Certified Industrial Hygienist and would protect on-site workers by including engineering controls, personal protective equipment, monitoring, and security to prevent unauthorized entry and to reduce construction related hazards. The HSP should address the possibility of encountering subsurface hazards including hazardous waste contamination and include procedures to protect workers and the public;
- Hazardous waste determination and disposal procedures for known and previously unidentified contamination, including those associated with any soil export activities, if applicable;
- Requirements for site specific techniques at the site to minimize dust, manage stockpiles, run on and run-off controls, waste disposal procedures, etc.;
- Procedures for dewatering of construction excavations and/or dewatering of excavated sediments prior to off-hauling (if required), consistent with federal, state, and local regulations, specifying methods of water collection, handling, transport, treatment, discharge, and disposal for all water produced by dewatering activities;
- Measures to protect future site users from contact with contaminants from the regional groundwater plume, including intrusion of soil-gas vapors emitted from the plume. Such measures may include vapor extraction systems, vapor intrusion barriers, operation and

maintenance protocols for any disturbance of groundwater; and recording of deed restrictions, such as activity and use limitations, with the San Mateo County Recorder's Office to assure that the implemented remedy(ies) is maintained; and

- Copies of relevant permits or closures from regulatory agencies.

3.10 HYDROLOGY AND WATER RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would	☐	☐	☒	☐
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Discussion of Impacts

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less-than-Significant with Mitigation. Construction activities associated with the Project would involve demolition, vegetation removal, grading, and excavation activities that could expose barren soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the Project site resulting in degradation of water quality. Additionally, construction activities would have the potential to generate polluted runoff into the City's storm drain system. The NPDES stormwater permitting

programs regulate stormwater quality from construction sites, which includes erosion and sedimentation. As required by the City's SDR, under the NPDES Construction General Permit program, the preparation of a SWPPP is required for construction activities that would disturb an area of more than 1 acre. Prior to any ground disturbance, the Applicant would file a Notice of Intent with the SWRCB under the Construction Activities Storm Water General Permit (General Permit). The Notice of Intent indicates the applicant's intent to comply with the San Mateo Countywide Stormwater Pollution Prevention Program, including a SWPPP. The SWPPP would specify BMPs, as required by the City's SDR, to avoid and minimize the discharge of pollutants from the Project site through standard construction BMPs, such as installation of silt fences, which would substantially reduce potential sediment transport from the construction site. In addition, Mitigation Measure HAZ-1, as discussed under Impact a of the Hazards and Hazardous Materials section above, would ensure that contaminants such as ACM, lead are managed during demolition of structures and are not released into the environment. Preparation and implementation of an SWPPP and Mitigation Measure HAZ-1 would ensure that Project construction would not violate any water quality standards or waste discharge requirements.

The proposed office building includes three levels of below-grade parking that would require excavation below the groundwater level. The Limited Phase II ESA (Appendix C) conducted for the Project site indicated presence of contaminated soil and groundwater at the depth of 2 feet to 10 feet bgs in the vicinity of the storage building and diesel/gasoline above-ground storage tanks present at the site. Considering the shallow extent of contaminated soil and groundwater, there is potential for exposure of construction workers or the public to hazardous materials during excavation. In addition, groundwater encountered during excavation would require dewatering. Dewatering activities could also have potentially significant effects if contaminated dewatering effluent is not handled properly. During construction, soil and groundwater would be removed from active work areas, treated where necessary (sediments would be allowed to settle), and disposed of in accordance with SWPPP permit requirements. Mitigation Measure HAZ-2 requires preparation of a SMP that would address safe handling and disposal of contaminated soil or water encountered during construction. The SMP would specify procedures for handling, excavating, characterizing, and managing contaminated soils and dewatering effluent. Implementation of this plan would ensure that the handling and disposing of excavated soil, groundwater, and/or dewatering effluent are in accordance with federal and state hazardous waste disposal laws, and in accordance with state and local stormwater and sanitary sewer requirements. Implementation of Mitigation Measure HAZ-2 would reduce potential construction-related impacts to less than significant levels.

The Project would create or replace more than 10,000 sf of impervious surfaces at the site and is required to comply with San Francisco Bay RWQCB's Municipal Regional Permit C.3 requirements. Compliance with C.3 requirements is also required by the City's SDR. As the City's COA for the Project, the Applicant would be required to prepare a Stormwater Management Plan that would include a brief summary of how the Project is complying with Provision C.3 Municipal Regional Permit (MRP). The proposed stormwater facilities for the Project operations would be designed to meet C.3 requirements of the Municipal Regional Permit (NPDES Permit CAS612008) and comply with the San Mateo County C.3 Stormwater Technical Guidance. To meet the C.3 requirements, a project is required to incorporate traditional low-impact development (LID) treatment measures in the system design in the form of flow through planters, self-treating areas, and self-retaining areas. However, the Project would qualify for the Special Project

Category "C"[2] as it is within half a mile of the Redwood City Caltrain station, is a non-auto related use with less than 10 percent surface parking, meets the minimum floor area ratio (FAR) requirement, and would get LID treatment reduction credit. The proposed office building parcel would take a 45 percent reduction credits, and the proposed affordable housing parcel would take a 65 percent reduction credits on LID treatment measures (BKF 2021). Stormwater treatment controls for the Project would be designed and constructed to treat runoff from the site based on criteria specified by Provision C.3 of the MRP, Special Projects criteria, and City and County guidelines. Before discharging to the City's storm drain, runoff from the site would flow through detention and treatment measures and the Project would include permanent stormwater pollution prevention measures in order to reduce water quality impacts of stormwater runoff from the site. In addition, the Project would increase the pervious area of the Project site, which would result in a decrease in stormwater runoff. Therefore, operation of the Project would not violate any water quality standards or discharge requirements and impacts would be less than significant.

With the preparation of an SWPPP, implementation of Mitigation Measure HAZ-1, Mitigation Measure HAZ-2, and the Stormwater Management Plan, and incorporation and compliance with the City's COAs and SDRs, the Project would not violate any water quality standards or waste discharge requirements and there would be a less-than-significant impact with mitigation during construction and operation.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. The Project site is underlain by the Santa Clara Valley groundwater basin, San Mateo Plain, and is currently designated as a "very low priority" basin by the Department of Water Resources (DWR 2020). Groundwater recharge of the deep aquifer primarily occurs in the unconfined layer near the foothills further to the west, but the shallow aquifer is recharged throughout the urbanized area between the foothills and the Bay. Groundwater levels at wells on the Project site are approximately 6 to 12 feet bgs. During geotechnical surveys and investigations conducted in September and October 2020, groundwater was measured at the site at depths of approximately 8 to 15 feet bgs. The preliminary geotechnical report identified that these depths were recorded during and immediately after exploration and may not represent stabilized levels. Four piezometers were installed to monitor groundwater levels and recent measurements of these show groundwater levels at depths of 8 to 11 feet bgs. (Appendix B).

During construction, demand for water for dust control, concrete mixing, etc. would be short term and met by existing service connections to municipal suppliers. Construction activities would not require new wells or substantial increases in pumping at regional municipal wells, nor would it interfere with groundwater recharge that could occur if the Project were converting pervious surfaces to impervious surfaces.

A majority of the Project site is graded and is not a major groundwater recharge area. The Project would increase the amount of pervious area on the Project site from what currently exists and the proposed LID detention basins would allow for local filtration at the site. Therefore, the Project is not expected to substantially interfere with groundwater recharge. The Project would connect to the City's water system and would not require the use of groundwater and therefore, would not substantially decrease

[2] Special Projects are smart growth, high density, or transit-oriented developments with the criteria defined in Provision C.3.e.ii.(2), (3) or (4).

groundwater supplies. Potential impacts of the Project on groundwater supplies and groundwater would not be substantial and there would be no impact.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would?

i) result in substantial erosion or siltation on- or off-site;

Less-than-Significant Impact. Construction of the Project would include demolition and ground disturbing activities that could result in erosion related impacts. As discussed above in (a), the Project would be required to prepare and implement an SWPPP in accordance with the NPDES General Construction Permit and the City's SDR. The SWPPP would include BMPs that would be implemented during construction activities to reduce the potential for erosion and impacts would be less than significant.

Operation of the Project could result in change in drainage patterns due to new development and impervious areas that result in increased runoff leading to increase erosion and siltation. Post construction, the Project would replace existing buildings and paved areas with new paved areas. The amount of pervious areas on the Project site would increase as a result of the Project. The new pervious areas for the Project site would include approximately 3,000 sf of bioswale areas consisting of flow through planters.

The City of Redwood City requires detention of Project stormwater so that the flow rate of stormwater leaving the site under proposed conditions during the 25-year storm event does not exceed the 10-year flow rate under existing conditions. If the post construction stormwater flows exceed the pre-exiting conditions, then detention is required. The Project would result in an increased stormwater runoff post construction and would construct detention basins to control stormwater runoff (BKF 2021). In addition, per Redwood City's Green Infrastructure Plan, the Project would be required to treat as much of the public frontage as possible. The Project includes tree wells and silva cells that would collect water from the public sidewalk and the public street and discharge back into the City main after treatment. In large storm events that exceed the C.3 rainfall amount, catch basins are proposed in the gutter to capture any overflow, bypassing the Silva cell system.

With implementation of the SWPPP, post construction stormwater management measures and detention of stormwater, the Project would not result in substantial erosion or siltation and the impacts would be less than significant.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Less-than-Significant Impact. According to the Preliminary Engineering Study conducted by BFK Engineers, the Project site is currently almost entirely impervious at approximately 97 percent impervious. As a requirement of the City's SDR, post construction runoff into storm drains shall not exceed pre-construction runoff levels. The Project would increase the pervious area at the site which would result in a decrease in stormwater runoff after construction. Additionally, consistent with the Provision C.3 requirements, stormwater would flow through LID treatment measures in the form of flow-through

planters, self-treating areas, detention basins, and self-retaining areas before discharging into the City's storm drain systems. This would control the volume of stormwater at the Project site to reduce the potential for flooding. Therefore, the Project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding and there would be no impact.

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less-than-Significant Impact. As described previously, construction activities would have the potential to generate polluted runoff, and therefore, the Project would be required to prepare and implement an SWPPP during construction to prevent, control and reduce polluted runoff from entering the City's storm drain system. Stormwater generated at the site would be directed and treated in flow-through planters, self-treating areas, and self-retaining areas prior to entering the piped storm drain system. The storm drainage system at the site would be designed and constructed in accordance with Provision C.3 requirements and City guidelines to properly manage runoff from the site. The proposed LID treatment measures would control the rate of runoff from the site and ensure polluted runoff does not enter the City's storm drain system. In addition, the Project would include detention basins to manage stormwater flows from the Project during operations. Therefore, there the Project would not create or contribute runoff water which would exceed the capacity of stormwater drainage systems or provide substantial additional sources of polluted runoff, and there would be a less-than-significant impact from Project construction and operation.

iv) impede or redirect flood flows?

No Impact. There are no waterways crossing the Project site or nearby that would be impacted from Project construction and operation. The proposed buildings and on-site hardscape will be drained by on-site storm drain lines, connecting into the existing 12-inch main in Arguello Street. A main extension has been proposed to allow for laterals from the childcare and northern end of the office to connect into the City system. Before discharging to the City storm drain, runoff from the site will flow through detention and treatment measures as discussed above in a) and b) and would meet City requirements for post-construction runoff volumes and C.3 provisions. As such, the Project would not impede or redirect flood flows and less-than-significant impacts would occur.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. The Project site is classified as Zone X by the Federal Emergency Management Agency (FEMA) Flood Hazard Map (FEMA 2021). Zone X are designated to areas of minimal flood hazard and the Project would not pose a significant risk of project inundating resulting from flood hazards. The Project site is located more than 10 miles east of the Pacific Ocean shoreline and therefore, potential for tsunami is not anticipated. In addition, the City's General Plan EIR determined that the City's plan area is not located within the County of San Mateo Tsunami Evacuation Planning area, and the likelihood of the City's plan area being inundated by a tsunami is remote (City of Redwood City 2010b). Therefore, there would be no impacts related to project inundation resulting from tsunamis.

Due to the proximity of the City to the San Francisco Bay, there is some potential for the City to be impacted by seiches. However, areas most susceptible to seiche impacts are located immediately adjacent to the San Francisco Bay such as Bair, Bird, and Greco Island. The closest developed areas to the Bay include the Redwood Shores area, the Bayfront, and the Port of Redwood City. The Project would be located approximately two miles from these areas and not subject to seiche related impacts. Additionally, the site is not within a predicted inundation area for failure of any nearby dams (City of Redwood City 2010a). Therefore, there would be no impact.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The RWQCB prepared and implements the San Francisco Bay Water Quality Control Plan (Basin Plan) to protect surface quality in the San Francisco Bay. Basin Plan policies are primarily implemented through NPDES permits. The Project would comply with all NPDES permit requirements, including the preparation and implementation of an SWPPP with BMPs to minimize impacts to water quality during construction, and inclusions of stormwater detention and treatment systems in accordance with C.3 requirements as part of the project design. Therefore, the Project would not conflict with or obstruct implementation of a water quality control plan.

No sustainable groundwater management plan is currently in effect for the San Mateo Plain groundwater sub-basin. Because there is no sustainable groundwater management plan in effect, the Project would not conflict with or obstruct a sustainable groundwater management plan and there would be no impact.

Mitigation Measures

Mitigation Measures HAZ-1 and HAZ-2 would be required for Impact (a).

3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XI. LAND USE AND PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

Discussion of Impacts

a) Physically divide an established community?

No Impact. The Project consists of a mixed-use development consisting of affordable housing building, office space, and a childcare facility on a previously developed site. The Project would not create any new physical divisions. The Project would result in lot merger and lot line adjustment to create two parcels, one for the office and childcare, and another for affordable housing. The two lots would share a common driveway and would not divide and established community. Therefore, the Project would not introduce physical features that would create a barrier, divide, or separate adjacent uses; or impede circulation through the neighborhood and no impact would occur.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact. The Project site is designated by the City's General Plan as Mixed-Use – Transitional and zoned Mixed-Use Transitional. The Project is not proposing any changes to the land use designation or zoning. The Project would be required to obtain a Use Permit as office spaces exceeding 10,000 sf and childcare centers in the MUT District are allowed conditionally. The Project is also requesting waivers and concessions under the State Density Bonus Law, reduced parking and open space, and a waiver for upper story setback and personal storage requirements. Additionally, the Project is seeking a height concession under the community benefits. The Project would require these approvals in order to not conflict with City's plans, policies, and regulations. A detailed analysis of the Project's consistency with applicable policies of the Redwood City General Plan is provided in Table 3-2 to identity whether the Project would create an inconsistency with the General Plan. The analysis in Table 3-2 demonstrates that the Project would not create inconsistencies with the applicable policies of the General Plan. With the approvals, the Project would be constructed in accordance with any land use plan, policy and regulation adopted for the purpose of avoiding and mitigating environmental effects. However, since the Community Benefits requirements, DBL, and tentative map for the Project has not yet been finalized, there is a potential for the Project to conflict with the existing land use plan and final determination of the Project's conformance cannot be determined. Therefore, this impact is potentially significant and would be further analyzed in the EIR.

Table 3-2: General Plan Consistency Analysis

Policy	Consistency Analysis
Built Environment	
BE-1.4: Require that buildings and properties be designed to ensure compatibility within and provide interfaces between neighborhoods, corridors, and centers.	**Consistent.** The mixed-use nature of the Project would be compatible with the surrounding commercial and residential units. As noted in Section 2.6, the Project would create open spaces for the proposed office development and provide setbacks on upper floors, as well as ground floor to create a pedestrian scale. The Project also proposes two open plazas that lead to the two office lobbies, and space in the plaza would be allocated for public art. The residential development would provide open space through balconies and terraces and would be designed to be compatible with surrounding development.
BE-1.5: Require that new and renovated buildings be designed to avoid styles, colors, and materials that negatively impact the environment or the design character of the neighborhood, corridor, and center in which they are located.	**Consistent.** As noted in Section 2.6, the architectural style of the proposed buildings would consist of modern materials sch as mass timber, glass, and concrete. The proposed materials would be subject to review and approval from the City as part of design review and ensure that the new buildings and the renovation of the childcare center does not negatively impact the neighborhood. Furthermore, the Project site plan would include landscaping to would visually "soften" the comparative newness and prominence of the proposed buildings compared to lower-scaled development on surrounding parcels.
BE-1.6: Require that new large-scale projects are developed with an interconnected pattern of small blocks to induce walking and create walkable neighborhoods and to maximize connections between neighborhoods. If a new large-scale development project is able to achieve circulation interconnectedness for all modes and maximize walkability, then the small block pattern may not be required.	**Consistent.** As noted in Section 2.6, the Project frontage on Whipple Avenue and Arguello Street would be improved with new/widened sidewalk, American with Disabilities Act-compliant ramps at corners, and crosswalks. In addition, the two plazas at the office building would be accessible to public.
BE-1.7: Require that new large-scale projects consist of buildings primarily oriented to public streets, rather than private drives, walkways, and parking lots.	**Consistent.** As noted in Section 2.6, the proposed office and affordable housing building would be oriented towards Arguello Street by providing entrances on Arguello Street, access to plazas, and glass facades to connect interior spaces with exterior spaces.
BE-1.8: Require that new projects are integrated as seamlessly as possible into surrounding development, creating extensions of the urban fabric.	**Consistent.** See discussion for Policies BE-1.4 through BE-1.6.

BE-2.1: Create complete neighborhoods by integrating schools, parks, child care centers, community centers, infrastructure, green spaces and parks, and other public amenities into each neighborhood.	**Consistent.** The Project is a mixed-use development, and integrates office, residential, and childcare, through integrated site planning.
BE-2.5: Protect neighborhoods from the encroachment of incompatible activities or land uses that may have a negative impact on the residential living environment.	**Consistent.** The Project is consistent with the General Plan and zoning designation and would build a mixed-use development surrounded by residential and commercial uses and is compatible with the existing neighborhoods.
BE-2.7: Effectively integrate single-unit and multi-unit housing with local-serving convenience and neighborhood shopping centers, parks and recreation opportunities, child care, and other uses appropriate for a neighborhood.	**Consistent.** The Project includes a mixed-use development consisting of office, residential, and a childcare center.
BE-3.1: Provide high-quality public streetscapes in all neighborhoods, particularly in locations where new investment in historic property renovation and infill development are desires.	**Consistent.** The proposed childcare center would be located in the existing historic buildings. The Project design would include trees and other landscape elements. A final landscape plan would be submitted for City's review and approval in conjunction with the architectural review.
BE-3.2: Encourage new development to create direct and clear visual relationships between residences and public streets, while minimizing driveways, parking areas, and garage doors in front of yard spaces.	**Consistent.** The Project would orient buildings towards Arguello Street. The parking for the office building would subterranean and would not be visible from public roads.
BE-3.3: Require new development to provide engaging, well-landscaped outdoor spaces that invite and support outdoor activities for residents, especially areas viewed or accessible by the public.	**Consistent.** The Project would provide outdoor spaces through balconies, courtyards, and terraces. The two open courtyards would be located along the entry ways into the office building and would be surrounded by street trees and landscaped garden beds to provide an inviting view of the new development.
BE-17.3: Encourage and facilitate the establishment of child-care facilities in proximity to large employment areas such as Downtown, south Broadway, Redwood Shores, the Kaiser and Sequoia Hospital areas, and near high-density residential areas and transit nodes.	**Consistent.** The Project would include a childcare facility in proximity to the Redwood City Transit Center.
BE-22.1: Strive for consistency between the General Plan and the Zoning Ordinance and other local regulatory documents that implement General Plan policies.	**Consistent.** The Project would not require a General Plan amendment or a zone change, because it is consistent with applicable land use and zoning designations. A CUP is required for the office building and a planned development permit is needed for reduced parking for the office building. However, this is not inconsistent with the City's land use regulations.
BE-23.1: Accommodate a range of land uses to meet the economic, environmental, and social needs of Redwood City.	**Consistent.** The Project contains a mix of land uses, including residential, office, and childcare facility.

BE-23.6: Accommodate mixed-use projects pursuant to the Land Use Map and any implementing regulations.	**Consistent.** See discussion for Policy BE-23.1.
BE-23.7: Promote higher residential densities at locations near or within commercial, financial, and compatible employment centers, and also transportation corridors where neighborhood services are available.	**Consistent.** The Project site is near the City's Downtown. Implementation of the Project would replace auto-oriented uses and surface parking with a mixed-use project near transit.
BE-26.6: Require new development projects to provide pedestrian, bicycle, and electric bicycle/scooter facilities that connect to existing and planned pedestrian and bicycle facilities; and require large parking facilities to accommodate pedestrian, bicycle, and electric bicycle/scooter circulation.	**Consistent.** The Project would include clean air vehicle/carpool spaces, electric charging station spaces, motorcycle parking spaces, and bile parking spaces.
BE-27.5: Require that new development of projects improve access to and accommodations for public transit.	**Consistent.** See discussion for Policy BE-17.3.
BE-37.2: Encourage the retention and/or adaptive reuse of historic residential, commercial, and industrial buildings.	**Consistent.** The Project includes adaptive reuse of two historic buildings as a childcare center.
BE-44.2: Continue to require the placement of utilities underground with new development.	**Consistent.** The Project will underground the overhead utility lines along the property frontages on Arguello and Whipple up to the next pole located off the property frontage.
Building Community	
BC-1.1: Require parkland dedications and/or provision of on-site usable public space for significant development projects involving new residential construction.	**Consistent.** The Project would provide open space at the residential building through balconies and terraces. The Project would be required to pay Parks Impact Fees in lieu of providing on-site usable public open space.
Public Safety	
PS-1.5: Require projects that generate potentially significant levels of air pollutants to incorporate the most effective air quality mitigation into project design, as feasible.	**Consistent.** The Project would be a mixed-use development near transit and is expected to result in reduced auto dependency. Air pollutants from construction and operation of the Project would be fully analyzed in the EIR and include mitigation if needed.
PS-2.6: Require all land uses proposed within 500 feet of U.S. 101, El Camino Real, and Woodside Road that will house, accommodate, or serve sensitive receptors to incorporate appropriate design and construction features (e.g., filters on HVAC systems) that reduce potential exposure of persons to pollutants.	**Consistent.** The Project site is within 500 feet of El Camino Real. The potential exposure of persons from pollutants would be fully analyzed in the EIR and include mitigation if needed.
PS-13.6: Require all exterior noise sources (construction operations, air compressors, pumps, fans, and leaf blowers) to use available noise suppressions devices and techniques to bring	**Consistent.** Noise impacts from Project construction and operation would be fully analyzed in the EIR and include mitigation if needed.

exterior noise down to acceptable levels that are compatible with adjacent land uses.	
PS-13.7: Require that mixed-use structures be designed to account for noise from adjacent uses and minimize transfer of noise and vibrations from commercial/retail to residential uses.	**Consistent.** The proposed office and residential buildings are separated by access road. Moreover, the residential buildings would be oriented at an angle from the office. Noise and vibration impact between the residences and office would be fully analyzed in the EIR and include mitigation if needed.
PS-13.8: Implement all standard construction noise controls for all construction projects.	**Consistent.** The Project would incorporate City's COAs and SDRs as they apply to the Project.
PS-14.4: Require development that is, or will be, affected by railroad noise and/or vibrations to include appropriate measures to minimize adverse noise effects on residents and business persons.	**Consistent.** The Project would be located in proximity to the Caltrain tracks. Noise vibration impacts would be fully analyzed in the EIR and include mitigation if needed.
Natural Resources	
NR-3.1: Require new development to demonstrate that adequate water is available before project approval and to fund its fair-share costs associated with the provision of water service.	**Consistent.** A water supply assessment is being prepared for the Project to ensure adequate water is available.
NR-7.2: Encourage the use of site and landscape designs that minimize surface runoff and retain or detain stormwater runoff, minimizing volume and pollutant concentrations.	**Consistent:** The Project site is almost entirely covered with impervious surfaces under existing conditions. The Project would result in an increase in pervious areas that would allow increased opportunities for groundwater recharge. Furthermore, new green infrastructure, including bio-filtration swales, would be constructed to capture and treat stormwater before entering the City's storm drain system.

3.12 MINERAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XII. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion of Impacts

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The Redwood City General Plan does not designate any areas of significant mineral resources and the Project site is not in or near an area where mineral deposits are mined (City of Redwood City 2010a). Additionally, the Department of Conservation Mineral Land Classification Map classifies the Project site as being in Mineral Resource Zone (MRZ) -1. MRZ-1 zones are areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists of their presence (DOC 1982). Therefore, the Project would not result in a loss of availability of a known mineral resource that would be of value or result in the loss of availability of a locally important mineral resource recovery site, and there would be no impact for Impact (a) or (b).

3.13 NOISE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XIII. NOISE — Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Discussion of Impacts

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact. The Project site is adjacent to residential uses and construction could result in temporary increase in noise levels from equipment, workers, and vehicles on-site. Operation of the Project could result in increase in noise levels from existing conditions due to increased traffic along the roads and increased pedestrian traffic. In addition, the proposed affordable housing and office would be adjacent to the Caltrain tracks. The Project would implement mitigation measures included in the Downtown Precise Plan as required by the City's COA to minimize construction noise impacts. As required by the City's COA and mitigation measures in the Downtown Precise Plan, the Project would be required to submit a site-specific noise study to demonstrate that the Project would not exceed noise standards. The study would include recommended building designs, construction measures, and noise reduction measures to reduce potential impacts. The study has not been prepared at the time of writing this Initial Study and therefore, the results of the study would be analyzed in the EIR. The Project's potential to generate temporary or permanent increase in ambient noise levels in the vicinity of the Project, and impact of train operations on the new residents, in excess of standards would be analyzed fully in the EIR.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact. The Project site is adjacent to residential uses and Caltrain tracks and construction and could result in excessive groundborne vibration or groundborne noise levels. The Project

would implement mitigation measures included in the Downtown Precise Plan as part of the City's COA to reduce demolition and construction generated groundborne vibration levels. A site-specific vibration study is required to be prepared as a COA for the City to demonstrate that the Project would not exceed acceptable groundborne vibration and groundborne noise levels. At the time of preparation of this Initial Study, the vibration study has not been prepared yet and therefore, these impacts and the results of the study would be analyzed fully in the EIR.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact. The closest airport to the Project site is the San Carlos Airport, located approximately 1.25 miles north/northeast of the site. The Project site is located within Zone 6 Traffic Pattern Zone and Zone B Airport Influence Area for the San Carlos ALUCP (C/CAG 2015). The Project site is not within the noise contour areas for the airport and therefore, would not create excessive noise for people residing or working in the Project area. Therefore, the Project would not result in a safety hazard or excessive noise for people residing or working in the area and impacts would be less than significant.

3.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XIV. POPULATION AND HOUSING — Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion of Impacts

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less-than-Significant Impact. The Project would directly induce population growth in Redwood City through residential development, and indirectly through office development. The Project would include 33 residential units. Using the average household size of 2.7 per unit identified in the City's General Plan, the Project would create an increase of 89 residents. The Department of Finance estimates the current population of Redwood City in 2021 to be 85,182 residents and therefore, the Project would result in a 0.10 percent increase from the current population (DOF 2021). The new residents resulting from the Project would result in a minimal increase in the City's future growth forecasts and the projected increase in residents from the Project would be consistent with the City's population growth projections.

The office is expected to serve approximately 1,350 employees. The General Plan EIR estimates that the number of jobs in the City would increase by approximately 30 percent between 2010 and 2030 (City of Redwood City 2010b). The estimated number of jobs in Redwood City in 2030 is expected to be 66,600. The anticipated number of employees for the office would represent approximately two percent of the 2030 projected number of jobs in the City and is anticipated to be within the expected growth level.

Therefore, the Project would not induce substantial population growth in the area and would have a less-than-significant impact.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project site does not currently contain any units used for residential purposes and therefore, the Project would not displace existing people or housing. There would be no impact.

3.15 PUBLIC SERVICES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XV. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

Discussion of Impacts

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

Less-than-Significant Impact. The Project would consist of multi-family residential uses, office space, and a child care facility which would increase demand for Redwood City Fire Department (RCFD) fire protection services and facilities. The Project site is currently served by RCFD's Station 9 and would continue to do so after the development of the Project. Though the Project would increase the demand for fire protections services, it is not expected to affect RCFD's response times and would not result in the need for new or altered fire protection facilities. Policy BE-22.2 of the General Plan calls for the establishment of a development impact fee which could be used to fund fire protection services. However, this impact fee has not been established yet and is not applicable. The Project would be required to be constructed and operated in accordance with the California Fire Code requirements and City standards (Automatic sprinkler systems, fire hydrants, etc.). RCFD would confirm that the California Fire Code requirements and City standards have been incorporated into the project design during the review and

approval of project plans prior to issuance of building permits. As the City's COA, all buildings and parking garages would be required to have approved radio coverage for emergency responders.

Incorporation of all California Fire Code and City requirements into the project design would reduce the dependence on RCFD by reducing fire hazards. Because the Project would incorporate design measures to minimize the risk of fire at the site, the Project would affect RCFD's service ratios, response times, or other performance objectives. Therefore, the Project would not result in the construction of new or expansion of existing fire protection facilities and the impacts would be less than significant.

Police protection?

Less-than-Significant Impact. The Project would consist of a mixed-use development which would increase the demand for Redwood City Police Department (RCPD) services and facilities in the area. The RCPD provides services from one central police station located approximately one mile east of the site, but because the Project site is currently developed with urban development, nearby services and patrols are already available. Policy BE-22.2 of the General Plan calls for the establishment of a development impact fee which could be used to fund police protection services. However, this impact fee has not been established yet and is not applicable. Due to the Project site being located in an area that is already served by RCPD, the Project is not expected to affect the RCPD's response times or other performance objectives. Therefore, the Project would not result in the construction of new of expansion of existing police protection facilities and impacts would be less than significant.

Schools?

Less-than-Significant Impact. The residential development within the Project site would generate school aged children within the Redwood City School District and Sequoia Union High School District boundaries. Students living at the new development would be within the boundaries for Clifford School and Sequoia High School, which according to the General Plan EIR have a total capacity of 742 students and 2200 students, respectively (City of Redwood City 2010b). As of the 2019-2020 school year, enrollment in these schools totaled 576 and 2,041, respectively (Ed Data 2021). Using Redwood City and Sequoia Union High School Districts' student yield factor of 0.15 and 0.20 students per residential unit, the development of 33 units could generate approximately five new elementary and middle school students and seven new high school students (RCSD 2013, SUHSD 2014). These figures suggest that the District currently has capacity to accommodate the estimated enrollment growth resulting from the Project. The Project would not generate a substantial number of new students and it is highly likely that existing schools would have sufficient capacity to meet the demands of Project generate students without requiring the construction of additional facilities. Additionally, the Project would pay a School Impact Fee, as required by the City's SDR as noted in the Conditions of Approval (Appendix D), which would mitigate impacts to school facilities resulting from the Project. The General Plan EIR identified that under SB 50, school districts may collect fees to offset the costs associated with increasing school capacity as a result of residential development. Under the terms of this statute, payment of statutory fees by property owners or property developers is considered to mitigate in full, for the purposes of California Environmental Quality Act (CEQA), any impacts to school facilities associated with a qualifying project (City of Redwood City 2010b). Therefore, the Project would not result in the construction of new or expansion of existing school facilities and with the payment of fees, the impacts would be less than significant.

Parks?

Less-than-Significant Impact. The Project would result in increased demand for new parks. The City requires all new residential development to dedicate land and/or pay a fee in-lieu to meet the City's parkland standard of 3.0 acres of developed parkland per 1,000 residents. The residential building would provide approximately 3,377 sf of open space consisting of balconies and terraces. However, since the open space provided would not consist of useable active recreational open space like a park, the Applicant will pay the Parks Impact Fee, as required by City's SDR. Since the Project's residential development would create 33 units which is anticipated to have approximately 89 residents, the Project would not create a substantial increase in the demand for parks. Therefore, with the payment of a Parks Impact Fee, the Project would result in a less-than-significant impact.

Other public facilities?

Less-than-Significant Impact. The Project's residential development of 33 new units is anticipated to result in approximately 89 new residents. This is not anticipated to result in substantial increase in demand for other public facilities, such as libraries or other government services. Policy BE-22.2 of the General Plan calls for the establishment of a development impact fee which could be used to fund public facilities. However, this impact fee has not been established yet and is not applicable. The Project would not result in the construction of new or expansion of existing public facilities and there would be a less-than-significant impact.

3.16 RECREATION

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVI. RECREATION — Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion of Impacts

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less-than-Significant Impact. The Project would result in increased use of existing parks and recreational facilities. The City required all new residential development to dedicate land and/or pay a fee in-lieu to meet the City's parkland standard of 3.0 acres of developed parkland per 1,000 residents. The Project would develop public and private open spaces at the residential and office development. However, as discussed in the Population and Housing section, the Project will be paying a fee and since the Project's residential development would create 33 units which is anticipated to have approximately 89 residents, the Project would not create a substantial increase in the demand for parks. Therefore, with the payment of the Parks Impact Fee, the Project would result in a less-than-significant impact.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less-than-Significant Impact. The Project would provide approximately 28,653 sf of public and private open space through the residential and office buildings. The Project would be required to pay a Parks Impact Fee as required by the City. The Project would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment and there would be a less-than-significant impact.

3.17 TRANSPORTATION

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVII. TRANSPORTATION — Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☒	☐	☐	☐
c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Discussion of Impacts

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Potentially Significant Impact. The Project would have the potential to conflict with a program plan, ordinance, or policy the circulation system, including transit, roadway, bicycle and pedestrian facilities, resulting in a potentially significant impact, and would be fully analyzed in the EIR.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Potentially Significant Impact. CEQA Guidelines Section 15064.3, subdivision (b)(3) allows for a qualitative analysis of potential impacts related to VMT. Although the Project meets the criteria outlined in CEQA Section 15064.3 (b.1), which states that a project located within 0.5 miles of a major transit stop or along a high-quality transit corridor would generally be presumed to have a less than significant transportation impact, a Project specific traffic impact assessment is being prepared. The assessment would analyze the Projects potential to increase VMT in the project area above established thresholds. Therefore, for the purposes of this IS, Project impacts are considered to be potentially significant and would be further analyzed in the EIR.

c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The Project design does not substantially increase hazards or results in an incompatible use. The proposed access point to the Project site would be from Arguello Street. The Project would construct a crosswalk on Arguello Street and Standish Street with flashing beacons, as well as streetscape improvements along Arguello Street such as a 10-foot sidewalk, 5-foot bike lane, and new

street lighting to help improve pedestrian access throughout the site and surrounding neighborhood. The Project frontage on Whipple Avenue and Arguello Street would be improved with new/widened sidewalk, and ADA compliant ramps at corners. Caltrain tracks are located west of the Project site. The intersection of Whipple Avenue and Caltrain tracks intersection has warning signs, and a gate. The Project would not result in any changes to the existing intersection. The entry and exit to the Project site would be on Arguello Street and not conflict with the Caltrain tracks. Therefore, impacts from hazards due to Project design or incompatible uses would be less than significant.

d) Result in inadequate emergency access?

Less Than Significant Impact. Construction of the Project would generate traffic through the transport of workers, equipment, and materials to and from the Project site. It is currently anticipated that Project construction would take approximately 23 months to complete, starting in November 2022 and ending in October 2024. Travel routes for construction workers, soils export, and material import would be determined in consultation with the City's Engineering and Transportation Division and included in the construction traffic management plan to be developed in accordance with the City's COA. All construction materials would be stored on-site. If construction of the Project and any on-site and offsite utility work would require the closure of sidewalks, full or partial roads, bike lanes, temporary signage and alternate routing would be provided and also would be identified in the construction traffic management plan. Samtrans provides public transit service to a bus stop located approximately 300 feet north of the Project site. Arguello Street fronting the Project site is a Class II bike lane. The Project would not modify or interfere with the bicycle or bus facilities adjacent to the Project site during construction. Therefore, the impact would be less than significant.

Post construction, project operations would not result in new offsite access roads or change configuration of existing roadways and would not add so much congestion to surrounding roadways that response times are negatively impacted. The proposed driveway would provide an access aisle for emergency vehicles serving the office building and the residential building and would be designed to meet emergency vehicle access requirements. Both an aerial fire apparatus access route and secondary access route on Whipple Avenue and Arguello Street would be provided for the Fire Department to access the office building. Project access and emergency plans would require review and approval from the fire department. Therefore, the Project would not result in inadequate emergency access from operations.

3.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES — Would the project: cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☒	☐	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☒	☐	☐	☐

Discussion of Impacts

Would the project: cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Potentially Significant Impact. As discussed in the Cultural Resources section, the City's plan area contains prehistoric archaeological sites and cultural resource sites understood to be associated with Native Americans. The Project has the potential to cause a substantial adverse change in the significance of a tribal cultural resource. Therefore, the Project could cause a potentially significant impact on tribal cultural resources for Impact (a) and (b) and these impacts will be further analyzed in the EIR.

3.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☒	☐	☐	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion of Impacts

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less-than-Significant Impact.

Water Infrastructure

The Project site is currently served by water services connected to an existing 6-inch cast iron main in Arguello Street and an existing 6-inch cast iron main in Whipple Avenue. The Project would require upsize of the existing 6-inch main in Arguello Street to an 8-inch main from Whipple Avenue to Hopkins Avenue. The upsizing would be required to satisfy the Fire Marshall fire water flow and pressure requirements for the building construction type/size. The Project would install and connect its domestic, fire water, and recycled laterals out to Arguello Street. A dual plumbing system would be installed to

include a separate plumbing system for recycled water. All infrastructure improvements would be constructed in accordance with the City's SDRs. The infrastructure improvements would be designed and constructed in accordance with the City's Engineering Standards as required by the City's SDR. Prior to encroachment permit issuance for the Project, the Applicant is required to submit to the City, and obtain approval of, an evaluation and report which demonstrates that the proposed water main meets domestic and fire flow requirements as required by City's SDR. A Preliminary Engineering Study conducted by BFK Engineers in May 2021 determined that the existing public infrastructure is adequate to serve the proposed development and the Project would have a less-than-significant impact on existing water systems. The City is preparing a Water Supply Analysis that will be included in the EIR. Furthermore, the City and Applicant are evaluating the feasibility of extending Recycled Water service to the site by way of the City's Community Benefit Agreement and or as a requirement to provide a more supplemental quantity of the Project's water supply. Additionally, the Project would be required to pay Water and Sewer Fees as outlined by the City's SDR (Appendix D). Compliance with the City's SDRs and engineering standards, the Project would not require the construction of new or expansion of existing water facilities and the impacts would be less than significant.

Wastewater Infrastructure

The Project site is currently served by an existing 6-inch VCP sanitary sewer main in Arguello Street and a 10-inch VCP sanitary sewer main in Whipple Avenue. There are currently four laterals servicing the existing site out to Arguello Street and the Project would install laterals for the two office buildings, childcare building, and the residential building. The Project is proposing to upsize the 6-inch main in Arguello Street to 8 inches. The improvement would start at the new childcare building and run south through Arguello to Howland Street, where it ties into a 15-inch main in Howland. Pipeline upgrades would be designed and constructed in accordance with the City's Engineering Standards as required by City's SDR. Wastewater infrastructure improvements proposed for the Project would be completed in accordance with the requirements of the City. The Preliminary Engineering Study described above determined that the existing public infrastructure is adequate to serve the proposed development and the Project would have a less-than-significant impact on existing wastewater systems. Additionally, the Project would have to pay Water and Sewer Fees as required by the City's SDR. The Project would not require the construction or expansion of wastewater treatment facilities and there would be a less-than-significant impact.

Stormwater Infrastructure

Currently, stormwater runoff at the Project site is collected in catch basins throughout the site and routed out to the 12-inch reinforced concrete main in Arguello Street. Storm drain laterals would be installed, and stormwater runoff from the Project would be drained by on-site storm drain lines, connecting to the existing 12-inch main in Arguello Street. A stormwater main extension has been proposed to allow for laterals from the childcare and northern end of the office to connect into the City's system. Before discharging to the City's storm drain, runoff from the site would flow through detention and treatment measures. The Project's stormwater infrastructure would be designed and constructed in accordance with all of the City's requirements relating to stormwater infrastructures. The City's SDR requires that post-construction runoff shall not exceed pre-construction runoff levels. The Preliminary Engineering Study described above determined that the existing public infrastructure is adequate to serve the proposed development and the Project would have a less-than-significant impact on existing stormwater systems

(BKF 2021). The Project would not require the construction or expansion of stormwater treatment facilities and impacts would be less than significant.

Other Utilities

The Project site is served by existing utility services in the area. The Project would underground the overhead utility lines along the property frontages as require by the City's COA. A new utility pole would be constructed on the northwest corner of Whipple Avenue and Arguello Street intersection, which would be designed and constructed in accordance with the City's Engineering Standards as required by the City's SDR. The Project is not expected to result in the need for new or expanded utility infrastructure facilities and therefore, there would be a less-than-significant impact.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Potentially Significant Impact. A Project specific water supply assessment is being prepared. The assessment would analyze the Project's water demand and available water supply. Therefore, Project impact with regard to available water supplies is considered to be potentially significant and would be further analyzed in the EIR.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less-than-Significant Impact. The City of Redwood City and the County of San Mateo's Fair Oaks Sewer Maintenance District provides wastewater collection services to the City. Wastewater treatment services are provided by Silicon Valley Clean Water (SVCW) at its wastewater treatment plant (WWTP) which is located in Redwood City. The Project's sewer demand was calculated in the Preliminary Engineering Study using the City of Redwood City Engineering Standards (BFK 2021). For the 1125 site, the proposed average daily flow is 56,942 gallons per day (gpd) and for the 1111 site, the proposed average daily flow is 6,718 gpd. Therefore, the total average daily flow for the Project would be 63,660 gpd. The SVCW treatment plant has a permitted operating capacity of 29 million gallon per day (MGD) average dry weather flow (ADWF) and Redwood City has maximum capacity rights of 11.4 MGD ADWF (City of Redwood City 2021). In 2020, Redwood City's ADWF was 7.12 MGD, which is about 62 percent of the allocated plant capacity. The Project would contribute 0.063 MGD to the SCVW's WWTP, which is approximately 0.55 percent of Redwood City's allocated capacity. Therefore, the SVCW WWTP would have adequate capacity to accept wastewater produced by the Project. In addition, the Project would be required to implement CALGreen measures to reduce indoor demand for potable water which would further minimize wastewater flows.

The Preliminary Engineering Study identified that Project would require upsizing the 6-inch main in Arguello Street to 8 inches. The improvements would start at the new childcare building and run south through Arguello until Howland Street, where it would tie into a 15-inch main in Howland. The Preliminary Engineering Study confirmed that the 8-inch upsized pipe would be able to handle the Project's discharge (BFK 2021). The existing wastewater treatment facilities has sufficient capacity to serve the Project's

projected demands in addition to the provider's existing commitments and therefore, the Project impact would be less than significant.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-than-Significant Impact. Construction of the Project would require the demolition of existing structures on-site which would generate solid waste. The Project would be required to comply with City's Municipal Code Chapter 9, Section 9.192 and Section 9.193 to ensure proper disposal of demolition materials (City of Redwood City 2021). Section 9.192 requires the recovery of maximum feasible amount of salvageable materials prior to demolition. Section 9.193 required all demolition projects to divert a minimum of 60 percent of total generated construction and demolition debris tonnage and 100 percent of inert materials from the Project. Additionally, the Project would be required to comply with Chapter 9, Section 9.195 of the Municipal Code and submit a Waste Management Plan to the City's Community Development Department. At Compliance with these requirements would ensure the construction of the Project does not generate solid waste in excess of State or local standards and impacts created by construction would be less than significant.

The City of Redwood City currently contracts Recology of San Mateo County to provide and handle all solid waste collection for the City. Approximately 90 percent of the solid waste collected from Redwood City is sent to the Ox Mountain Sanitary Landfill, located east of Half Moon Bay in unincorporated San Mateo County (City of Redwood City 2010b). The Ox Mountain Landfill has a maximum permitted throughput of 3,598 tons per day and has a remaining capacity of 22,180,000 tons (CalRecycle 2021a). According to CalRecycle's Disposal Rate Calculator, Redwood City had an annual disposal rate of 5.2 pounds per person per day for residents, and 7.0 pounds per person per day for employees. With an estimated 89 new residents and 1,366 new employees, the Project would generate 10,024.8 pounds of solid waste per day or 5.01 tons per day (CalRecycle 2021b). The estimated 5.01 tons per day of solid waste generated by the Project would be less than one percent of the maximum permitted throughput received at the landfill. Therefore, there would be sufficient landfill capacity available to accommodate solid waste disposal needs for the Project. The Project would implement and comply with all solid waste reduction measures adopted by the City and incorporate recycling collection areas into the Project. Therefore, the Project would not generate waste in excess of State or local standards, capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals and the impacts would be less than significant.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less-than-Significant Impact. The Project would comply with all federal, state, and local statutes and regulations related to solid waste including the California Integrated Waste Management Act (Assembly Bill 939), which mandates local cities and counties divert 50 percent of waste from area landfills, and Section 9, Article 11 – Recycling and Salvaging of Construction and Demolition Debris of the Redwood City Municipal Code. Therefore, impacts would be less than significant.

3.20 WILDFIRE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XX. WILDFIRE — If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Discussion of Impacts

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The discussion below applies to significant threshold (a), (b), (c), and (d) as outlined above.

The Project site and the adjacent areas are not located within a State Responsibility Area or within a Very High Fire Hazard Severity Zone as designated by CALFIRE (CALFIRE 2007, 2008). The U.S. Forest Service Fire Hazard Potential Map Project site and surrounding areas as “Urban and Built-Up Land” (USFS 2020). The closest Very High Fire Hazard Severity Zone is located approximately 1.4 miles west of the Project site. Due to the urban nature and flat topography of the Project site and surrounding areas,

the Project would not impair an adopted emergency response plan or evacuation plan pertaining to wildfires, nor would it exacerbate risks and expose Project occupants to pollutant concentrations from a wildlife or uncontrolled spread of a wildfire. The Project would not require the installations or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts. The Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope stability, or drainage changes. No impacts from wildfires would occur.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion of Impacts

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Potentially Significant Impact. Based on the analysis herein, the Project does not have the potential to substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten or eliminate a plan or animal community; or substantially reduce the number or restrict the range of a rare or endangered plant or animal. As discussed above in the Biological Resources section, the Project site is developed and is within an area that does not include habitats for fish or wildlife species. COAs established by the City would require the Applicant to hire a qualified biologist to conduct a survey for nesting birds prior to tree removal or trimming. Compliance with the City's COA would reduce any impacts on biological resources and impacts would be less than significant.

This IS has identified that the Project could have potentially significant impacts in relation to historical and archaeological resources, as discussed in the Cultural Resources section. These impacts would be analyzed in the EIR.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Potentially Significant Impact. Cumulative impacts, other than those related to aesthetics, air quality and GHG emissions, cultural and tribal cultural resources, noise, transportation, and utility systems would be less than significant, or the Project would result in a less than cumulatively considerable contribution to cumulative impacts. Cumulative impacts related to the resource areas outlined above would be analyzed in the EIR.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact. Based on the analysis herein, construction and operation of the Project could potentially cause substantial adverse effects on human beings in relation to air quality and GHG emissions, cultural and tribal cultural resources, noise, transportation, and utility systems. These impacts would be further analyzed in the EIR. No adverse effects on human beings were identified in this IS.

4. REFERENCES

BFK (BFK Engineers). 2021. Preliminary Engineering Study 1125 Arguello Street Redwood City, California 94063. PDF. Accessed September 2021.

CAL FIRE (California Department of Forestry and Fire Protection). 2007. San Mateo County Fire Hazard Severity Zones in SRA. https://osfm.fire.ca.gov/media/6802/fhszs_map41.pdf. Accessed August 2021.

_____. 2008. Redwood City Very High Fire Hazard Severity Zones in LRA. https://osfm.fire.ca.gov/media/5986/redwood_city.pdf. Accessed August 2021.

CalRecycle (California Department of Resources Recycling and Recovery). 2021a. SWIS Facility/Site Activity Details. Corinda Los Trancos Landfill (Ox Mtn) (41-AA-0002). https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223. Accessed August 2021.

_____. 2021b. Disposal Rate Calculator – Redwood City – 2019. https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/DisposalRateCalculator. Accessed August 2021.

Caltrans (California Department of Transportation). 2021. California State Scenic Highway System Map. https://www.arcgis.com/apps/webappviewer/index.html?id=2e921695c43643b1aaf7000dfcc19983. Accessed August 2021. Accessed September 2021

DWR (California Department of Water Resources). 2020. Sustainable Groundwater Management Act 2019 Basin Prioritization, Process and Results, May 2020. https://water.ca.gov/programs/groundwater-management/basin-prioritization.

CGS (California Geologic Survey). 2021. Earthquakes Zones of Required Investigation. https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed August 2021.

City of Redwood City. 2010a. Redwood City General Plan. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/general-plan-precise-plans/general-plan. Accessed August 2021.

_____. 2010b. A New General Plan for Redwood City Draft Environmental Impact Report. https://www.redwoodcity.org/departments/community-development-department/planning-housing/planning-services/environmental-documents/general-plan-eir. Accessed August 2021.

City of Redwood City. 2021. 2020 Urban Water Management Plan for City of Redwood City. https://www.redwoodcity.org/home/showpublisheddocument/23547/637575327526570000. Accessed September 2021.

C/CAG (City/County Associated of Governments of San Mateo County). 2015. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport. https://ccag.ca.gov/wp-content/uploads/2015/11/SQL_FinalALUCP_Oct15_read.pdf. Accessed August 2021.

DOC (Department of Conservation). 1982. Division of Mines and Geology. Mineral Land Classification Map Palo Alto Quadrangle Special Report 146 Plate 2.40. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc. Accessed August 2021.

_____. 2021. Farmland Mapping and Monitoring Program (FMMP). https://maps.conservation.ca.gov/dlrp/ciff/. Accessed August 2021.

DOF (Department of Finance). 2021. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/. Accessed August 2021.

DTSC (Department of Toxic Substances Control). 2021. EnviroStor. https://www.envirostor.dtsc.ca.gov/public/. Accessed August 2021.

Ed Data (Educational Data Partnership) 2021. School Summary. http://www.ed-data.org/school/San-Mateo/Sequoia-Union-High/Sequoia-High. Accessed October 2021.

EMA (Federal Emergency Management Agency). 2021. Flood Hazard Map. https://msc.fema.gov/portal/search#searchresultsanchor. Accessed August 2021.

Geocon Consultants Inc. 2012. Offsite Groundwater and Soil Vapor Investigation Report – Former Style Cleaners, 707 Arguello Street, September 2012. https://documents.geotracker.waterboards.ca.gov/esi/uploads/geo_report/4710926830/SL060818 3007.PDF. Accessed September 2021.

PG&E (Pacific Gas and Electric). 2019. Where your electricity comes from: 2018 Power Mix. Power Content (pge.com). Accessed September 2021.

RCSD (Redwood City School District). 2013. Development Impact Fee Justification. https://www.rcsdk8.net/cms/lib/CA01001036/Centricity/Domain/22/RCSD_Developer_Fee_Study_May_2013.pdf. Accessed August 2021.

SUHSD (Sequoia Union High School District). 2014. Level I Developer Fee Study for Sequoia Union High School District. https://www.seq.org/documents/Departments/Admin%20Services/Maintenance%20and%20Operations/Resolutions%20and%20Justification%20Reports/Level%20I%20Developer%20Fee%20Study.pdf. Accessed August 2021.

SWRCB (State Water Resources Control Board). 2021. GeoTracker. https://geotracker.waterboards.ca.gov/. Accessed August 2021.

USFS (U.S. Forest Service). 2020. Wildfire Hazard Potential. https://usfs.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=55226e8547f84aae8965210a9801c357. Accessed August 2021.

Appendix A FIGURES

Appendix A is available as a separate PDF document on the City's website at www.redwoodcity.org/developmentprojects, or upon written request, in order to provide a manageable document size.

Appendix B PRELIMINARY GEOTECHNICAL EVALUATION

Appendix B is available as a separate PDF document on the City's website at www.redwoodcity.org/developmentprojects, or upon written request, in order to provide a manageable document size.

Appendix C PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENTS

Appendix C is available as a separate PDF document on the City's website at www.redwoodcity.org/developmentprojects, or upon written request. In order to provide a manageable document size, Appendix C is separated into four PDF documents, labeled Appendix C.1 through C.4.

Appendix D SAMPLE CITY STANDARD CONDITIONS OF APPROVAL

Appendix D is available as a separate PDF document on the City's website at www.redwoodcity.org/developmentprojects, or upon written request, in order to provide a manageable document size.

WRITTEN COMMENTS RECEIVED AS PART OF NOP PUBLIC SCOPING PROCESS

From: CD-Darryl Boyd
To: Eudovich, Anne; Webster, Jennifer
Cc: Macronik, Tyson
Subject: FW: ARGUELLO STREET MIXED-USE
Date: Wednesday, November 17, 2021 12:13:11 PM

FYI - This gentleman spoke at the scoping meeting and made similar comments.

Darryl Boyd
Contract Principal Planner
City of Redwood City
Community Development and Transportation
1017 Middlefield Road
Redwood City, CA 94063
650-780-7264
https://can01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.redwoodcity.org%2F&data=04%7C01%7Cjennifer.webster%40hunterc.com%7Cc876840f9c4554e3f784c08d9aa08abe0%7C413c6f2c219a469297d3f2b4d80281e7%7C0%7C0%7C637727767905048778%7CUnknown%7CTWFpbGZsb3dSkyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=iRHTqbwiqQvL2ANOPjXe7utC7wOMe3Gv%2FkHOVwGzwk%3D&reserved=0

To support community and employee health, many City services are being offered virtually or with modifications. As part of our phased approach to offering in-person services, City Hall is open Monday - Wednesday, 10 am - 4 pm for in-person services. Public counters may have different hours; see current information about City services and operating hours here. Visit MyRWC to access services available online 24-hours a day, 7 days a week.

-----Original Message-----
From: Kris Johnson <krisjohnson@gmail.com>
Sent: Thursday, November 4, 2021 4:38 PM
To: CD-Darryl Boyd <dboyd@redwoodcity.org>
Subject: ARGUELLO STREET MIXED-USE

Hi Daryl,

I noticed that this project is coming before the Planning Commission next week for an EIR scoping session. I know that part of this exercise is to provide alternative development patterns. Can one of the options be 100% housing?

Regards,
Kris Johnson

From: CD-Darryl Boyd
To: Redmond, Anne; Webster, Jennifer
Cc: CD-Keith Fetak
Subject: FW: Notice of Preparation for the draft environmental impact report and initial study for the proposed 1125 Arguello St. mixed use development project.
Date: Thursday, November 18, 2021 3:25:38 PM

FYI

Darryl Boyd
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Redwood City, CA 94063
650-780-7264
https://can01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.redwoodcity.org%2F&data=04%7C01%7Cjennifer.webster%40stantec.com%7C245883a23b2244ad4002068d9aacab87c%7C413c6f2c219a4692973d3f2b4d80281e7%7C0%7C0%7C637728747374612409%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=jLIB9CRxvjfZeS1z5hz2eBNyha5RITa%2F0IsDBqTqw9c%3D&reserved=0

To support community and employee health, many City services are being offered virtually or with modifications. As part of our phased approach to offering in-person services, City Hall is open Monday - Wednesday, 10 am - 4 pm for in-person services. Public counters may have different hours; see current information about City services and operating hours here. Visit MyRWC to access services available online 24-hours a day, 7 days a week.

-----Original Message-----
From: Edwin Gotay <edwingotay@icloud.com>
Sent: Thursday, November 18, 2021 3:12 PM
To: CD-Darryl Boyd <dboyd@redwoodcity.org>
Subject: Notice of Preparation for the draft environmental impact report and initial study for the proposed 1125 Arguello St. mixed use development project.

[You don't often get email from edwingotay@icloud.com. Learn why this is important at http://aka.ms/LearnAboutSenderIdentification.]

Mr. Boyd
First of all many property owners like myself were not notified with this notice of preparation and many of my neighbors who rent did not receive this notice of preparation. I wonder why?
I was vocal in the first zoom meeting concerning the proposed 1125 Arguello St. mixed use development project and I listened in on the second zoom meeting concerning the proposed project. I was not able to participate in the scoping meeting held November 9, 2021.
Below I have listed my concerns about the project.
The request by the developer to change the building height limit from 40 feet to 60 feet will have a permanent environmental impact to our neighborhood by casting a 50% higher shadow cutting out natural light to many centennial residents, The highest building in our neighborhood between Arguello st. and Winslow st. is 30 ft.
Why are they requesting an exception?
Why can't they follow the guidelines laid out by the city?
This proposed office building on 3.5 acres should not be placed in our neighborhood when what we really need is housing not just 33 affordable housing units but for hundreds of Redwood City residents. The proposed office buildings size and height will be a permanent blight in our neighborhood forever.

The request by the developer to provide less parking spaces for the affordable housing units will severely impact street parking in the Centennial neighborhood. Two or three bedroom units should have at least two on site parking spaces.
Why do they need 700 parking spaces for the proposed office building?
The 700 office parking spaces will be larger than the downtown parking garage on Marshall Street.
Why can't they provide more parking spaces for the proposed affordable housing units and a little less for the proposed office building?

The aerial view and map included in the notice of preparation does not include or indicate the location of the proposed open space site for the 33 affordable housing units.The developers say they are providing 3,377 sf of on-site open space for the proposed 33 affordable housing units at the 1125 Arguello st. location when in fact they are proposing to lease a portion of a 5,000 square-foot lot on the busy corner of Brewster st. and Arguello Street 2 1/2 blocks away from the affordable housing units.This proposed leased lot site will not include the paved parking spaces currently leased and in use by the liquor store and will not be included in their proposed open space site thus the actual square footage will be only slightly over 3,000 sq.ft.
This off site proposed open space is a small plot of dirt space which is unsuitable and a dangerous place especially for children.
Why would any parent want to send their children 2 1/2 blocks away to a small dangerous corner next to a liquor store, a notorious bar and a county mental health facility?
No one will make use of this proposed open space park except the drug and alcoholic vagrants that currently use it as a hangout space to get together and drink.
The liquor store and bar will use it after sunset as a spill over space for their customers at night.
I see only trouble for the city of Redwood City if this request by the developers is granted, also a partially leased city lot is not a permanent solution as leases expire and are not always renewed and owners of the 1125 Arguello St. project may decide to sell and a new buyer may not want to continue with any land lease agreement.
When the developer is finished with his project what stops him from ending payment to the owners of the property at the corner of Brewsters St. and Arguello St.?
Any open-space should be included within the proposed 1125 Arguello St. project and not outsourced to an alternate location that is temporary as the lease is not permanent.
The project is enormous and excluding required open space which is very small just makes the impact on the development site that much more worse, creating a poor land-use plan for all people who live in the neighborhood and will frequent the development.
Thank you for taking the time to read my comments and concerns.
My name is Edwin Gotay and I live at 306 Standish Street, Redwood City Ca. 94063 My phone number is (650) 804.5082 and my email address is edwingotay@me.com

Sent from my iPad

California Department of Transportation

DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS–10D | OAKLAND, CA 94623-0660
www.dot.ca.gov

November 16, 2021

SCH #: 2021100322
GTS #: 04-SM-2021-00392
GTS ID: 24596
Co/Rt/Pm: SM/82/4.77

Darryl Boyd, Contact Principal Planner
City of Redwood City
1017 Middlefield Road
Redwood City, CA 94063

Re: 1125 Arguello Street Mixed-Use Development Project Notice of Preparation (NOP)

Dear Darryl Boyd:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the 1125 Arguello Street Mixed-Use Development Project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the October 2021 NOP.

Project Understanding
The proposed project includes a horizontal mixed-use development consisting of 33 for-sale affordable multi-family units, approximately 300,000 square feet (sf) of office space, and an approximately 4,132 sf childcare facility. In addition, the project includes three levels of shared below-ground parking. The project is located adjacent to the Caltrain tracks, near the intersection of Whipple Avenue and State Route (SR)-82 (El Camino Real) in Redwood City.

Travel Demand Analysis
With the enactment of Senate Bill (SB) 743, Caltrans is focused on maximizing efficient development patterns, innovative travel demand reduction strategies, and multimodal improvements. For more information on how Caltrans assesses Transportation Impact Studies, please review Caltrans' Transportation Impact Study Guide.

If the project meets the screening criteria established in the City's adopted Vehicle Miles Traveled (VMT) policy to be presumed to have a less-than-significant VMT impact and exempt from detailed VMT analysis, please provide justification to support the exempt status in align with the City's VMT policy. Projects that do not meet the screening criteria should include a detailed VMT analysis in the Draft Environmental Impact Report (DEIR), which should include the following:

- VMT analysis pursuant to the City's guidelines. Projects that result in automobile VMT per capita above the threshold of significance for existing (i.e. baseline) city-wide or regional values for similar land use types may indicate a significant impact. If necessary, mitigation for increasing VMT should be identified. Mitigation should support the use of transit and active transportation modes. Potential mitigation measures that include the requirements of other agencies such as Caltrans are fully enforceable through permit conditions, agreements, or other legally-binding instruments under the control of the City.

- A schematic illustration of walking, biking and auto conditions at the project site and study area roadways. Potential safety issues for all road users should be identified and fully mitigated.

- The project's primary and secondary effects on pedestrians, bicycles, travelers with disabilities and transit performance should be evaluated, including countermeasures and trade-offs resulting from mitigating VMT increases. Access to pedestrians, bicycle, and transit facilities must be maintained.

Mitigation Strategies
Location efficiency factors, including community design and regional accessibility, influence a project's impact on the environment. Using Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, the proposed project site is identified as a Close-In Community Center where community design is moderate and regional accessibility is strong.

Given the place, type and size of the project, the DEIR should include a robust Transportation Demand Management (TDM) Program to reduce VMT and greenhouse gas emissions from future development in this area. The measures listed below have been quantified by California Air Pollution Control Officers Association (CAPCOA) and shown to have different efficiencies reducing regional VMT:

- Addition/ Increase in number of affordable housing units in the project;
- Orientation of project towards non-auto corridor;
- Pedestrian network improvements;
- Traffic calming measures;

- Implementation of a neighborhood electric vehicle (EV) network, including designated parking spaces for EVs;
- Limiting parking supply;
- Unbundled parking from property costs;
- Market price public parking;
- Ridesharing programs, Commute Trip Reduction programs, bike sharing programs;
- Transit and trip planning resources such as a commute information kiosk;
- Real-time transit information system;
- Transit access supporting infrastructure (including bus shelter improvements and sidewalk/ crosswalk safety facilities); and/or
- Bike parking near transit facilities.

Using a combination of strategies appropriate to the project and the site can reduce VMT, along with related impacts on the environment and State facilities. TDM programs should be documented with annual monitoring reports by a TDM coordinator to demonstrate effectiveness. If the project does not achieve the VMT reduction goals, the reports should also include next steps to take in order to achieve those targets.

Please reach out to Caltrans for further information about TDM measures and a toolbox for implementing these measures in land use projects. Additionally, Federal Highway Administration's Integrating Demand Management into the Transportation Planning Process: A Desk Reference (Chapter 8). The reference is available online at: http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf.

Transportation Impact Fees
Please identify project-generated travel demand and estimate the costs of transit and active transportation improvements necessitated by the proposed project; viable funding sources such as development and/or transportation impact fees should also be identified. We encourage a sufficient allocation of fair share contributions toward multi-modal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable mode shares, thereby reducing VMT.

Construction-Related Impacts
Potential impacts to the State Right-of-Way (ROW) from project-related temporary access points should be analyzed. Mitigation for significant impacts due to construction and noise should be identified. Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. To apply, visit: https://dot.ca.gov/programs/traffic-operations/transportation-permits.

Prior to construction, coordination may be required with Caltrans to develop a Transportation Management Plan (TMP) to reduce construction traffic impacts to the STN.

Lead Agency
As the Lead Agency, the City of Redwood City is responsible for all project mitigation, including any needed improvements to the State Transportation Network (STN). The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Nick Hernandez at nick.hernandez@dot.ca.gov. Additionally, for future notifications and requests for review of new projects, please email LDIGR-D4@dot.ca.gov.

Sincerely,

Mark Leong

MARK LEONG
District Branch Chief
Local Development Review

c: State Clearinghouse

STATE OF CALIFORNIA Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
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Chumash

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Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
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Pomo

NAHC HEADQUARTERS
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nahc@nahc.ca.gov
NAHC.ca.gov

October 20, 2021

Darryl Boyd
City of Redwood City
1017 Middlefield Road
Redwood City, CA 94063

Re: 2021100322, 1125 Arguello Street Mixed-Use Development Project, San Mateo County

Dear Mr. Boyd:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

a. A brief description of the project.

b. The lead agency contact information.

c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).

d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

a. Alternatives to the project.

b. Recommended mitigation measures.

c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

a. Type of environmental review necessary.

b. Significance of the tribal cultural resources.

c. Significance of the project's impacts on tribal cultural resources.

d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

a. Whether the proposed project has a significant impact on an identified tribal cultural resource.

b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Katy.Sanchez@nahc.ca.gov.

Sincerely,

Katy Sanchez

Katy Sanchez
Associate Environmental Planner

cc: State Clearinghouse

Pacific Gas and Electric Company

Plan Review Team
Land Management

PGEPlanReview@pge.com

October 23, 2021

Darryl Boyd
City of Redwood City
1017 Middlefield Road
Redwood City, CA 94063

Ref: Gas and Electric Transmission and Distribution

Dear Darryl Boyd,

Thank you for submitting the 1125 Arguello Street plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page.

2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.

3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team
Land Management

Attachment 1 – Gas Facilities

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: https://www.usanorth811.org/images/pdfs/CA-LAW-2018.pdf

1. Standby Inspection: A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.

2. Access: At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

3. Wheel Loads: To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. Grading: PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.

5. Excavating: Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 12 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch

wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [24/2 + 24 + 36/2 = 54] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 12 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 12 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line ‘kicker blocks’, storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E’s ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4’) in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an “Impressed Current” cathodic protection system. Any proposed facilities, such as metal conduit, pipes, service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E’s facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as "**RESTRICTED USE AREA – NO BUILDING."**

2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.

3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.

4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 15 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.

5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.

6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.

7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.

8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (https://www.dir.ca.gov/Title8/sb5g2.html), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 (http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.

Appendix B
Air Quality CalEEMod and AERMOD Modeling

Criteria Air Pollutant CalEEMod Modeling and Assumptions

Stantec

Memo

To:	Darryl Boyd, Apollo Rojas City of Redwood City	From:	Elena Nuño/Kaitlyn Heck Stantec Consulting Services Inc.
File:	185705505	Date:	November 5, 2021

Reference: **1125 Arguello Street Mixed-Use Development Project – Air Quality Methodology and Assumptions**

CRITERIA AIR POLLUTANT AND GREENHOUSE GAS MODELING PARAMETERS/ASSUMPTIONS AND RESULTS

The following modeling parameters and assumptions will be used to generate criteria air pollutant and greenhouse gas (GHG) emissions for the 1125 Arguello Street Mixed-Use Development Project (project).

MODEL SELECTION

The California Emissions Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. CalEEMod quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Further, CalEEMod identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

CalEEMod was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California Air Districts. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California Air Districts to account for local requirements and conditions.

CalEEMod version 2020.4.0 will be used to estimate construction and operational impacts of the proposed project.

AIR POLLUTANTS AND GHGS TO BE ASSESSED

Criteria Pollutants Assessed

The following criteria air pollutants will be assessed in this analysis: ROG, NO_X, PM_{10}, and $PM_{2.5}$.

Note that the proposed project would emit ozone precursors ROG and NO_X. However, the proposed project would not directly emit ozone since it is formed in the atmosphere during the photochemical reaction of ozone precursors.

GHGs Assessed

This analysis is restricted to GHGs identified by AB 32, which include CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3. The proposed project would generate a variety of GHGs, including several defined by AB 32 such as CO_2, CH_4 and N_2O.

Certain GHGs defined by AB 32 would not be emitted by the project. HFCs, PFCs, SF_6, and NF_3 are typically used in industrial applications, none of which would be used by the proposed project. Therefore, it is not anticipated that the proposed project would emit those GHGs.

GHG emissions associated with the proposed project construction, and operations will be estimated using CO_2e emissions as a proxy for all GHG emissions. Construction GHG emissions would be amortized over the lifetime of the Project. To obtain the CO_2e, an individual GHG is multiplied by its GWP. The GWP designates on a pound for pound basis the potency of the GHG compared to CO_2.

THRESHOLDS

Nearly all development projects in the Bay Area have the potential to generate air pollutants that may increase the difficultly of attaining National Ambient Air Quality Standards and California Ambient Air Quality Standards. Therefore, for most projects, evaluation of air quality impacts is required to comply with CEQA. The BAAQMD has developed the CEQA Air Quality Guidelines to help public agencies evaluate air quality impacts (BAAQMD 2017c). The BAAQMD's guide includes recommended thresholds of significance, including mass emission thresholds for construction-related and operational ozone precursors. The May 2017 version of the Guidelines includes revisions made to the BAAQMD's 2010 Guidelines to address the California Supreme Court's 2015 opinion in *Cal. Bldg. Indus. Ass'n vs. Bay Area Air Quality Mgmt. Dist*., 62 Cal.4th 369.

The regional project-level emissions for the project will be estimated and compared to the BAAQMD thresholds for determining significance under CEQA.

Table 1: BAAQMD Project-Level Air Quality CEQA Thresholds of Significance

Criteria Pollutants	Construction-Related	Operational-Related	
Criteria Air Pollutants and Precursors (regional)	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tpy)
ROG	54	54	10
NO_x	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	

Reference: **1125 Arguello Street Mixed-Use Development Project – Air Quality Methodology and Assumptions**

Criteria Pollutants	Construction-Related	Operational-Related
GHGs (projects other than stationary sources)	None	Compliance with Qualified GHG Reduction Strategy OR 1,100 $MTCO_2e$/yr OR 4.6 $MTCO_2e$/SP/yr (residents + employees)
GHGs – Stationary Sources	None	10,000 $MTCO_2e$/yr
Risk and Hazards for new sources and receptors (Individual Project)	Same as operational thresholds	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM2.5 increase: > 0.3 µg/m^3 annual average Zone of Influence: 1,000-foot radius from property line of source or receptor
Risk and Hazards for new sources and receptors (Cumulative Threshold)	Same as operational thresholds	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >100.0 in a million Increased non-cancer risk of > 10.0 Hazard Index (Chronic or Acute) Ambient PM2.5 increase: > 0.8 µg/m^3 annual average Zone of Influence: 1,000-foot radius from
Accidental Release of Acutely Hazardous Air Pollutants	Non	Storage or use of acutely hazardous materials locating near receptors or new receptors locating near stored or used acutely hazardous materials considered significant.
Odors	None	Five confirmed complaints per year averaged over three years.

Notes:

CO = carbon monoxide

GHG = greenhouse gases

lbs/day = pounds per day

$MTCO_2e$/yr = metric tons of carbon dioxide equivalent per year

$MTCO_2e$/SP/yr = metric tons of carbon dioxide equivalent per service population per year

NOx = nitrogen oxide

$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

PM_{10} = particulate matter 10 microns or less in diameter

ppm = parts per million

ROG = reactive organic gas

tpy = tons per year

Source: BAAQMD 2017

Reference: **1125 Arguello Street Mixed-Use Development Project – Air Quality Methodology and Assumptions**

ASSUMPTIONS

LAND USE

CalEEMod Modeling Inputs

Table 2 provides a summary of the land use inputs included in the CalEEMod modeling.

Table 2: CalEEMod Land Use Development Summary Table for the Proposed Project

Project Component	CalEEMod Land Use Type	Land Use Unit Amount (Size)	Land Use Size Metric	Total Square Footage (Building Square Footage is Used for Buildings)	Land Use Acreage
Affordable Housing – Residential	Residential – Apartments Mid-Rise	33	Dwelling units	55,052	0.43
Offices	Commercial – General Office	301.261	ksf	301,261	1.8
Daycare	Educational – Daycare	4.225	ksf	4,225	0.1
Underground Parking Garage	Parking – Enclosed Parking with Elevator	746	spaces	299,310	0.05
Surface Parking	Parking – Parking Lot	5	spaces	2,000	0.05
Roadways/Offsite Improvements	Parking – Other Asphalt Surfaces	0.93	acres	40,510.8	0.93
Landscaping	Parking – Non-asphalt surfaces	17	ksf	17,000	0.39

Notes:
sq ft = square feet
AC = acre

CONSTRUCTION MODELING ASSUMPTIONS

The construction schedule utilized in the analysis represents a “worst-case” analysis scenario since emission factors for construction equipment decrease as the analysis year increases, due to improvements in technology and more stringent regulatory requirements. Therefore, construction emissions would decrease if the construction occurs in later years. The duration of construction activity and associated equipment represent a reasonable approximation of the expected

construction fleet as required per CEQA guidelines. Site specific construction fleet may vary due to specific project needs at the time of construction.

Table 2 provides the construction schedule and off-road equipment list for the construction of the project. Construction schedule is based on the Applicant's assumption that construction will take place over a 32-month period (November 2022 to January 2025).

Table 3 provides the number of vehicle trips to and from the project site during each phase of construction as well as the number of construction workers during each phase. According to the Applicant, the project's construction is expected to require approximately 230 workers during peak construction stage (exterior envelope and interior buildout operations) in late fourth quarter of 2023 and first quarter of 2024. Peak construction traffic is anticipated to occur during first quarter 2023 which would be during mass excavation operations. During this time, approximately 180 off-haul truck trips per day are expected to occur.

The project's construction would result in the export of approximately 124,433 cubic yards of materials from the site that would be disposed at landfills located in Alameda County, the Altamont Landfill was selected to represent the "worst-case" distance of 56 miles.

Fill material imported to the site is anticipated to be 4,100 cubic yards. Maximum depth of excavation for the Project would be 33.5 feet, and the total amount of demolition expected to occur on-site would be 26,000 sf, which includes existing industrial/commercial structures and a residential house with garage to clear the site. On-site area of disturbance for the project is expected to be 3.5 acres, and off-site disturbance would be approximately 0.25 acre.

Construction emissions will be totaled for each calendar year and divided by the total number of construction days to arrive at the average daily emissions. The average daily emissions will be compared to the BAAQMD thresholds of significance.

Reference: **1125 Arguello Street Mixed-Use Development Project – Air Quality Methodology and Assumptions**

Table 3: Project Construction Schedule and Equipment List

Phase	Start Date	End Date	Total Workdays	Construction Equipment	CalEEMod Equipment	QTY	HP	Load Factor	Hours of Use per Day	Total Hours of Use
Site Demolition	11/7/2022	1/7/2023	45	Excavators	Excavators	2	158	0.38	8	720
				Generators	Generator	1	84	0.74	8	360
				Compressors	Air Compressor	1	78	0.48	8	360
				Backhoe	Tractor/Loader/Backhoe	2	97	0.37	8	720
				Bobcat Loader	Tractor/Loader/Backhoe	1	97	0.37	8	360
Site Preparation	11/7/2022	3/2/2023	84	Excavators	Excavator	2	158	0.38	8	1344
				Generators	Generator	1	84	0.74	8	672
				Compressors	Air Compressor	1	78	0.48	8	672
				Backhoe	Tractor/Loader/Backhoe	2	97	0.37	8	1344
				Bobcat Loader	Tractor/Loader/Backhoe	1	97	0.37	8	672
Grading/Excavation	2/20/23	9/8/2023	145	Bulldozer	Rubber Tired Dozers	1	247	0.40	8	1160
				Bobcat Loader	Tractor/Loader/Backhoe	1	97	0.37	8	1160
				Drill Rig	Bore/Drill Rigs	2	221	0.50	8	2320
				Tieback Drill Rig	Bore/Drill Rigs	2	221	0.50	8	2320
				Mobile Crane	Cranes	1	231	0.29	8	1160
				Excavators	Excavators	2	158	0.38	8	2320
				Backhoe	Tractor/Loader/Backhoe	1	97	0.37	8	1160
				Grout Pump	Pumps	2	48	0.74	24	3480
				Generator	Generator Set	1	84	0.74	8	1160
				Street Sweeper	Sweepers/Scrubbers	1	270	0.46	4	580
				Roller / Compactor	Rollers	1	80	0.38	4	580

Reference: **1125 Arguello Street Mixed-Use Development Project – Air Quality Methodology and Assumptions**

Phase	Start Date	End Date	Total Workdays	Construction Equipment	CalEEMod Equipment	QTY	HP	Load Factor	Hours of Use per Day	Total Hours of Use
				Compressor	Air Compressor	1	78	0.48	8	1160
Building Construction	8/21/2023	1/14/2025	367	Mobile Crane	Crane	1	231	0.29	8	2936
				Sky Jack Lift	Aerial Lift	2	63	0.31	8	5872
				Compressor (electric)	Air Compressor	1	78	0.48	4	1468
				Mini Tower Crane (electric)	Crane	1	231	0.29	8	2936
				Tower Crane (electric)	Crane	2	231	0.29	8	5872
				Welding Machine (electric)	Welders	6	46	0.45	8	17616
				Backhoe	Tractor/Loader/Backhoe	1	97	0.37	4	1468
				Personnel Hoist (electric)	Not included	1			8	2936
Paving	9/15/2024	10/30/2024	33	Backhoe	Tractor/Loader/Backhoe	1	97	0.37	8	264
				Bobcat Loader	Tractor/Loader/Backhoe	1	97	0.37	8	264
				Asphalt Paver	Paving Equipment	1	132	0.36	8	264
				Roller	Rollers	1	80	0.38	8	264
				Sky Jack Lift	Aerial Lift	1	63	0.31	8	264
				Compressor	Air Compressor	1	40	0.48	4	132
Architectural Coating	Included with Building Construction									

Table 4: Construction Vehicle Trips

Phase	Number of Workers[1]	Worker Trips per Day	Vendor Trips per Day	Total Number of Hauling Trips	Worker Trip Length	Vendor Trip Length	Hauling Trip Length[2]
Site Demolition	9	18	0	2,016	10.8	7.3	56
Site Preparation	9	18	0	2,016	10.8	7.3	56
Grading	20	40	0	23,760	10.8	7.3	56
Building Construction	163	326	112	0	10.8	7.3	56
Paving	10	20	0	0	10.8	7.3	56
Architectural Coating	Included with building construction.						

Notes

1 – Based on average of 163 workers during building construction, max would be 230 workers. arch coating trips included with building construction. trips for other phases besides building construction based on 1.25 workers per equipment x 2 trips.

2 – Construction waste/soil will be hauled to Waste Management's Altmont facility, located approximately56 miles from the project site.

Reference: **1125 Arguello Street Mixed-Use Development Project – Air Quality Methodology and Assumptions**

OPERATIONAL MODELING ASSUMPTIONS

Operational emissions are those emissions that occur during operation of the proposed project. Operational emissions will be estimated for 2025, the first full year of operation. The sources are summarized below.

Motor Vehicles

On-road

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the proposed project site. The trip generation rates for each phase of the project are shown in 4. Mobile on-road emissions will be estimated using CalEEMod.

Table 5: Trip Generation Rates

ITE Land Use Code	Land Use Type	CalEEMod Land Use Type	Unit	Weekday Average Daily Trip Rate[1]	Saturday Average Daily Trip Rate	Sunday Average Daily Trip Rate
221	Residential	Residential - Apartment Mid Rise	33 du	3.0	4.91	4.09
710	Office	Commercial – General Office	301.261 ksf	5.72	2.21	0.7
565	Childcare	Educational – Day-Care Center	4.225 ksf	26.50	6.22	5.84
Total Trips				1,934	0	0

Notes:
ksf = 1,000 square feet
du = dwelling unit
1. Accounts for allocation of Internal Capture, Transit Reduction, and TDM Reduction based on weighted trip generation.

Trip Lengths

The CalEEMod default round trip lengths for an urban setting will be used in this analysis. Commercial trip types are defined as Commercial to Commercial (C-C), Commercial to Work (C-W) and Commercial to Non-Work (C-NW). Residential trip types are defined as Home to Work (H-W), Home to Shop (H-S) and Home to Other (H-O). The CalEEMod defaults for each of the land uses were used for this analysis. The default trips lengths of 7.3 for C-C trips, 9.5 for C-W trips, 7.3 for C-NW, 10.8 for H-W, 4.8 for H-S, and 5.7 for H-O were used. Trip lengths are for primary trips. Trip purposes are primary, diverted, and pass-by trips. Diverted trips are assumed to take a slightly different path than a primary trip. All trips for the project were assumed to be primary trips.

Vehicle Fleet Mix

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the proposed project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline- and diesel-powered vehicles). The CalEEMod default fleet mix was used to estimate the trips to the site and the associated emissions. Table 5 provides the fleet mix used in the operational analysis.

Table 6: CalEEMod Fleet Mix for San Mateo County – Year 2025

Vehicle Category	Default
LDA	0.47
LDT1	0.07
LDT2	0.24
MDV	0.15
LHD1	0.03
LHD2	0.01
MHD	0.1
HHD	0.00
OBUS	0.00
UBUS	0.00
MCY	0.03
SBUS	0.00
MH	0.00
Total	1

Note: Numbers may not add to 1 due to rounding.

Area Sources

Consumer Products

Consumer products are various solvents used in non-industrial applications that emit ROGs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics and toiletries. The default CalEEMod value was used for this project for a light industrial land use.

General Category

Emission Factor (lb ROG/sqft/day): 0.0000214

Parking

Degreaser Emission Factor (lb ROG/sqft/day): 0.0000003542

Architectural Coatings (Painting)

Paints release VOC emissions. The building would be repainted on occasion. CalEEMod assumes a 10 percent reapplication rate per year and an emission factor of 100 grams of ROG per liter for non-residential interior surfaces and 150 grams of ROG per liter for non-residential exterior surfaces.

Energy Use

The emissions associated with the building electricity and natural gas usage (non-hearth) are estimated based on the land use type and size. The electricity energy use is in units of kilowatt hours per size metric for each land use type. Natural gas use is in units of a thousand British Thermal Units per size metric for each land use type. Table 7 provides a summary of the energy use of the building to be constructed onsite.

Table 7: Operational Energy Use – Main Building

Land Use Subtype	Title 24 Electricity Energy Intensity KWhr/size/year)	Nontitle-24 Electricity Energy Intensity (KWhr/size/year)	Lighting Energy Intensity (KWhr/size/year)	Title-24 Natural Gas Energy Intensity (KBTU/size/year)	Nontitle-24 Natural Gas Energy Intensity (KBUT/size/year)
Apartment Mid Rise	90.83	3,054.1	741.44	5,828.01	2,615
Office	3.66	4.8	3.58	18.14	1.01
Day-Care Center	0.59	1.27	2.51	14.7	1.62
Parking Garage	3.5	0.19	1.75	0	0

Water and Wastewater Use

Supplying and treating water for the project generates GHG emissions. Depending on the specific water supply used or treatment method used these numbers can vary over a wide range. Supplying water is bringing the water from its primary source such as the ground, river, or snowpack to the treatment plant. Distributing the water is bringing the water from the treatment plant to the end users. The electricity intensity factors are multiplied by the utility GHG emissions intensity factors for the GHGs and are classified as indirect emissions. The default electricity intensity is from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California.

Wastewater may also have direct emissions of GHGs. These depend on the type of wastewater treatment system (e.g., septic, aerobic, or lagoons).

CalEEMod includes default water use estimates based on land use type. Table 8 provides the estimated water use. Table 9 provides a summary of the water and wastewater energy use for the project.

Table 8: Water Usage

Land Use Type	Indoor Water Use gallons/year	Outdoor Water Use gallons/year
Apartments Mid Rise	2,150,082.85	1,355,487.01
General Office	53,544,068.92	465,413.08
Day-Care Center	180,993.97	32,817,332.56
Parking Garage	0	0

Table 9: Water and Wastewater Energy Use

Source	CalEEMod Default
Electricity Intensity Factor to Supply (kWhr/Mgal)	2,117
Electricity Intensity Factor to Treat (kWhr/Mgal)	111
Electricity Intensity Factor to Distribute (kWhr/Mgal)	1,272
Electricity Intensity Factor for Wastewater (kWhr/Mgal)	1,911

Solid Waste

GHG emissions are associated with the disposal of solid waste generated by the vehicle trips to transport solid waste from the proposed project into landfills. Project generated construction waste would need to be in coordination with diversion requirements of the City.

During operation, the CalEEMod default solid waste generation rates were used for each land use. Waste disposal rates by land use and overall composition of municipal solid waste in California is primarily based on CalRecycle data. Table 10 provides the default solid waste generation rate.

Table 10: Solid Waste Generation Rate

Land Use	Size Metric	Solid Waste Generation Rate (tons/year)
Apartments Mid Rise	33 du	15.18
Office	301.261 ksf	280.17
Day-Care Center	4.225 ksf	5.49

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	33.00	Dwelling Unit	0.43	55,052.00	94
General Office Building	301.26	1000sqft	1.80	301,261.00	0
Day-Care Center	4.23	1000sqft	0.10	4,225.00	0
Enclosed Parking with Elevator	746.00	Space	6.71	299,310.00	0
Parking Lot	5.00	Space	0.05	2,000.00	0
Other Asphalt Surfaces	0.93	Acre	0.93	40,510.80	0
Other Non-Asphalt Surfaces	17.00	1000sqft	0.39	17,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project specific land uses and sizes.

Construction Phase - Construction is anticipated to take place over a 32-month period.

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment -

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Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided by applicant.

Grading - Export and import amounts provided by applicant.

Demolition -

Trips and VMT - Hauling debris conservatively modeled to be disposed of at the Altamont Landfill (56 miles from the site).

Vehicle Trips - Weekday trip rates updated per the Transportation Study.

Woodstoves - Per BAAQMD Regulation 6, Rule 3 Wood Burning Devices, no person or builder shall install a wood-burning devive in a new building construction (6-3-306)

Construction Off-road Equipment Mitigation - Pieces of construction equipment that are electric were provided by applicant.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstructionPhase	NumDays	300.00	367.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	30.00	145.00
tblConstructionPhase	NumDays	20.00	33.00
tblConstructionPhase	NumDays	10.00	84.00
tblConstructionPhase	PhaseEndDate	3/22/2024	1/14/2025
tblConstructionPhase	PhaseEndDate	12/2/2022	1/6/2023
tblConstructionPhase	PhaseEndDate	1/27/2023	9/8/2023
tblConstructionPhase	PhaseEndDate	4/19/2024	10/30/2024
tblConstructionPhase	PhaseEndDate	12/16/2022	3/2/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	8/21/2023

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tblConstructionPhase	PhaseStartDate	12/17/2022	2/20/2023
tblConstructionPhase	PhaseStartDate	3/23/2024	9/15/2024
tblConstructionPhase	PhaseStartDate	12/3/2022	11/7/2022
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	5.61	0.00
tblGrading	AcresOfGrading	72.50	3.75
tblGrading	MaterialExported	0.00	108,433.00
tblGrading	MaterialExported	0.00	16,000.00
tblGrading	MaterialImported	0.00	4,100.00
tblLandUse	LandUseSquareFeet	33,000.00	55,052.00
tblLandUse	LandUseSquareFeet	298,400.00	299,310.00
tblLandUse	LotAcreage	0.87	0.43
tblLandUse	LotAcreage	6.92	1.80
tblOffRoadEquipment	HorsePower	84.00	48.00
tblOffRoadEquipment	HorsePower	64.00	270.00
tblOffRoadEquipment	HorsePower	78.00	40.00
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Cranes

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tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00

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tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	HaulingTripNumber	118.00	2,016.00
tblTripsAndVMT	HaulingTripNumber	1,582.00	2,016.00
tblTripsAndVMT	HaulingTripNumber	14,067.00	23,760.00
tblTripsAndVMT	WorkerTripNumber	273.00	326.00
tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblVehicleTrips	WD_TR	5.44	3.00
tblVehicleTrips	WD_TR	47.62	26.50
tblVehicleTrips	WD_TR	9.74	5.72
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0787	1.2442	0.9727	3.8100e-003	0.0816	0.0337	0.1153	0.0210	0.0320	0.0530	0.0000	378.3674	378.3674	0.0501	0.0433	392.5345
2023	0.6894	10.2135	6.9050	0.0351	1.2171	0.2366	1.4537	0.4524	0.2252	0.6775	0.0000	3,463.9490	3,463.9490	0.4665	0.3962	3,593.6723
2024	0.5279	4.2323	4.2077	0.0121	0.4346	0.1418	0.5764	0.1179	0.1345	0.2524	0.0000	1,088.3424	1,088.3424	0.1544	0.0511	1,107.4309
2025	0.0184	0.1474	0.1502	4.5000e-004	0.0165	4.6800e-003	0.0212	4.4700e-003	4.4400e-003	8.9100e-003	0.0000	40.0153	40.0153	5.5700e-003	1.9000e-003	40.7216
Maximum	**0.6894**	**10.2135**	**6.9050**	**0.0351**	**1.2171**	**0.2366**	**1.4537**	**0.4524**	**0.2252**	**0.6775**	**0.0000**	**3,463.9490**	**3,463.9490**	**0.4665**	**0.3962**	**3,593.6723**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0765	1.2292	0.9533	3.7800e-003	0.0754	0.0328	0.1082	0.0200	0.0311	0.0512	0.0000	375.6438	375.6438	0.0500	0.0433	389.8065
2023	0.5542	9.1575	6.0680	0.0333	0.9716	0.1930	1.1646	0.3196	0.1837	0.5033	0.0000	3,320.6217	3,320.6217	0.4343	0.3962	3,449.5383
2024	0.2311	1.9984	2.2734	8.2100e-003	0.4346	0.0564	0.4910	0.1179	0.0527	0.1706	0.0000	771.5229	771.5229	0.0871	0.0511	788.9310
2025	7.8200e-003	0.0676	0.0774	3.0000e-004	0.0165	1.7700e-003	0.0183	4.4700e-003	1.6500e-003	6.1300e-003	0.0000	27.9447	27.9447	3.0500e-003	1.9000e-003	28.5879
Maximum	**0.5542**	**9.1575**	**6.0680**	**0.0333**	**0.9716**	**0.1930**	**1.1646**	**0.3196**	**0.1837**	**0.5033**	**0.0000**	**3,320.6217**	**3,320.6217**	**0.4343**	**0.3962**	**3,449.5383**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**33.84**	**21.37**	**23.40**	**11.38**	**14.39**	**31.85**	**17.75**	**22.45**	**32.05**	**26.28**	**0.00**	**9.55**	**9.55**	**15.10**	**0.00**	**9.30**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-7-2022**	**2-6-2023**	1.6932	1.6702
2	**2-7-2023**	**5-6-2023**	3.3835	3.3014
3	**5-7-2023**	**8-6-2023**	3.7890	3.6938
4	**8-7-2023**	**11-6-2023**	2.3959	1.7921
5	**11-7-2023**	**2-6-2024**	1.2037	0.5473
6	**2-7-2024**	**5-6-2024**	1.1336	0.5139
7	**5-7-2024**	**8-6-2024**	1.1506	0.5171
8	**8-7-2024**	**11-6-2024**	1.2999	0.6614

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9	**11-7-2024**	**2-6-2025**	0.8628	0.3938
		Highest	3.7890	3.6938

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5802	0.5324	5.5709	0.0116	1.3219	7.5900e-003	1.3295	0.3531	7.0500e-003	0.3601	0.0000	1,067.4950	1,067.4950	0.0724	0.0472	1,083.3565
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2583**	**0.8349**	**6.0716**	**0.0134**	**1.3219**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,934.0259**	**2,012.8203**	**5.5960**	**0.1067**	**2,184.5201**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5802	0.5324	5.5709	0.0116	1.3219	7.5900e-003	1.3295	0.3531	7.0500e-003	0.3601	0.0000	1,067.4950	1,067.4950	0.0724	0.0472	1,083.3565
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2583**	**0.8349**	**6.0716**	**0.0134**	**1.3219**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,934.0259**	**2,012.8203**	**5.5960**	**0.1067**	**2,184.5201**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Demolition	Demolition	11/7/2022	1/6/2023	5	45	
2	Site Preparation	Site Preparation	11/7/2022	3/2/2023	5	84	
3	Grading/Excavation	Grading	2/20/2023	9/8/2023	5	145	

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4	Building Construction	Building Construction	8/21/2023	1/14/2025	5	367	
5	Paving	Paving	9/15/2024	10/30/2024	5	33	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.75

Acres of Paving: 8.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Demolition	Generator Sets	1	8.00	84	0.74
Site Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Cranes	4	8.00	231	0.29
Site Demolition	Excavators	2	8.00	158	0.38
Grading/Excavation	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Grading/Excavation	Graders	0	8.00	187	0.41
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Site Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading/Excavation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Grading/Excavation	Scrapers	0	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Grading/Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37

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Building Construction	Welders	6	8.00	46	0.45
Site Demolition	Air Compressors	1	8.00	78	0.48
Site Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Excavators	2	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Air Compressors	1	8.00	78	0.48
Grading/Excavation	Bore/Drill Rigs	4	8.00	221	0.50
Grading/Excavation	Cranes	1	8.00	231	0.29
Grading/Excavation	Pumps	2	24.00	48	0.74
Grading/Excavation	Generator Sets	1	8.00	84	0.74
Grading/Excavation	Sweepers/Scrubbers	1	4.00	270	0.46
Grading/Excavation	Rollers	1	4.00	80	0.38
Grading/Excavation	Air Compressors	1	8.00	78	0.48
Building Construction	Aerial Lifts	2	8.00	63	0.31
Building Construction	Air Compressors	1	8.00	78	0.48
Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Aerial Lifts	1	8.00	63	0.31
Paving	Air Compressors	1	8.00	40	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Demolition	7	18.00	0.00	2,016.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	2,016.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation	16	40.00	0.00	23,760.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	326.00	112.00	0.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT
Paving	6	20.00	0.00	0.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Alternative Fuel for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0114	0.0000	0.0114	1.7200e-003	0.0000	1.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.2677	0.3864	6.0000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**0.0300**	**0.2677**	**0.3864**	**6.0000e-004**	**0.0114**	**0.0140**	**0.0253**	**1.7200e-003**	**0.0133**	**0.0150**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0110	0.4608	0.1205	1.6600e-003	0.0421	3.7300e-003	0.0458	0.0116	3.5700e-003	0.0151	0.0000	174.9729	174.9729	0.0167	0.0281	183.7783
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**0.0119**	**0.4613**	**0.1279**	**1.6800e-003**	**0.0449**	**3.7400e-003**	**0.0486**	**0.0123**	**3.5800e-003**	**0.0159**	**0.0000**	**177.1486**	**177.1486**	**0.0168**	**0.0282**	**185.9725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1200e-003	0.0000	5.1200e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0289	0.2602	0.3767	5.9000e-004		0.0135	0.0135		0.0128	0.0128	0.0000	51.2920	51.2920	0.0121	0.0000	51.5936
Total	**0.0289**	**0.2602**	**0.3767**	**5.9000e-004**	**5.1200e-003**	**0.0135**	**0.0187**	**7.8000e-004**	**0.0128**	**0.0136**	**0.0000**	**51.2920**	**51.2920**	**0.0121**	**0.0000**	**51.5936**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0110	0.4608	0.1205	1.6600e-003	0.0421	3.7300e-003	0.0458	0.0116	3.5700e-003	0.0151	0.0000	174.9729	174.9729	0.0167	0.0281	183.7783
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**0.0119**	**0.4613**	**0.1279**	**1.6800e-003**	**0.0449**	**3.7400e-003**	**0.0486**	**0.0123**	**3.5800e-003**	**0.0159**	**0.0000**	**177.1486**	**177.1486**	**0.0168**	**0.0282**	**185.9725**

3.2 Site Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4200e-003	0.0000	1.4200e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.0304	0.0482	8.0000e-005		1.5000e-003	1.5000e-003		1.4300e-003	1.4300e-003	0.0000	6.5844	6.5844	1.5100e-003	0.0000	6.6222
Total	**3.4800e-003**	**0.0304**	**0.0482**	**8.0000e-005**	**1.4200e-003**	**1.5000e-003**	**2.9200e-003**	**2.2000e-004**	**1.4300e-003**	**1.6500e-003**	**0.0000**	**6.5844**	**6.5844**	**1.5100e-003**	**0.0000**	**6.6222**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0457	0.0138	2.0000e-004	5.2600e-003	3.2000e-004	5.5800e-003	1.4400e-003	3.1000e-004	1.7500e-003	0.0000	20.9136	20.9136	2.1200e-003	3.3700e-003	21.9710
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	8.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2633	0.2633	1.0000e-005	1.0000e-005	0.2654
Total	**6.7000e-004**	**0.0458**	**0.0146**	**2.0000e-004**	**5.6100e-003**	**3.2000e-004**	**5.9400e-003**	**1.5300e-003**	**3.1000e-004**	**1.8500e-003**	**0.0000**	**21.1769**	**21.1769**	**2.1300e-003**	**3.3800e-003**	**22.2365**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.4000e-004	0.0000	6.4000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0295	0.0470	7.0000e-005		1.4600e-003	1.4600e-003		1.3800e-003	1.3800e-003	0.0000	6.4142	6.4142	1.5000e-003	0.0000	6.4517
Total	**3.3500e-003**	**0.0295**	**0.0470**	**7.0000e-005**	**6.4000e-004**	**1.4600e-003**	**2.1000e-003**	**1.0000e-004**	**1.3800e-003**	**1.4800e-003**	**0.0000**	**6.4142**	**6.4142**	**1.5000e-003**	**0.0000**	**6.4517**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0457	0.0138	2.0000e-004	5.2600e-003	3.2000e-004	5.5800e-003	1.4400e-003	3.1000e-004	1.7500e-003	0.0000	20.9136	20.9136	2.1200e-003	3.3700e-003	21.9710
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	8.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2633	0.2633	1.0000e-005	1.0000e-005	0.2654
Total	**6.7000e-004**	**0.0458**	**0.0146**	**2.0000e-004**	**5.6100e-003**	**3.2000e-004**	**5.9400e-003**	**1.5300e-003**	**3.1000e-004**	**1.8500e-003**	**0.0000**	**21.1769**	**21.1769**	**2.1300e-003**	**3.3800e-003**	**22.2365**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.2677	0.3864	6.0000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**0.0300**	**0.2677**	**0.3864**	**6.0000e-004**	**0.0000**	**0.0140**	**0.0140**	**0.0000**	**0.0133**	**0.0133**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9100e-003	0.2468	0.0645	8.9000e-004	0.0225	2.0000e-003	0.0245	6.1900e-003	1.9100e-003	8.1000e-003	0.0000	93.7355	93.7355	8.9700e-003	0.0151	98.4526
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**6.7300e-003**	**0.2474**	**0.0720**	**9.1000e-004**	**0.0254**	**2.0100e-003**	**0.0274**	**6.9400e-003**	**1.9200e-003**	**8.8700e-003**	**0.0000**	**95.9112**	**95.9112**	**9.0300e-003**	**0.0151**	**100.6468**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0289	0.2602	0.3767	5.9000e-004		0.0135	0.0135		0.0128	0.0128	0.0000	51.2920	51.2920	0.0121	0.0000	51.5936
Total	**0.0289**	**0.2602**	**0.3767**	**5.9000e-004**	**0.0000**	**0.0135**	**0.0135**	**0.0000**	**0.0128**	**0.0128**	**0.0000**	**51.2920**	**51.2920**	**0.0121**	**0.0000**	**51.5936**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9100e-003	0.2468	0.0645	8.9000e-004	0.0225	2.0000e-003	0.0245	6.1900e-003	1.9100e-003	8.1000e-003	0.0000	93.7355	93.7355	8.9700e-003	0.0151	98.4526
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**6.7300e-003**	**0.2474**	**0.0720**	**9.1000e-004**	**0.0254**	**2.0100e-003**	**0.0274**	**6.9400e-003**	**1.9200e-003**	**8.8700e-003**	**0.0000**	**95.9112**	**95.9112**	**9.0300e-003**	**0.0151**	**100.6468**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0306	0.2675	0.4245	6.6000e-004		0.0132	0.0132		0.0126	0.0126	0.0000	57.9430	57.9430	0.0133	0.0000	58.2753
Total	**0.0306**	**0.2675**	**0.4245**	**6.6000e-004**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**0.0126**	**0.0126**	**0.0000**	**57.9430**	**57.9430**	**0.0133**	**0.0000**	**58.2753**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6900e-003	0.2155	0.0648	9.3000e-004	0.0248	1.5100e-003	0.0263	6.8100e-003	1.4400e-003	8.2500e-003	0.0000	98.5928	98.5928	0.0100	0.0159	103.5777
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	5.6000e-004	7.6800e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1300e-003	8.3000e-004	1.0000e-005	8.4000e-004	0.0000	2.3170	2.3170	6.0000e-005	6.0000e-005	2.3358
Total	**3.5400e-003**	**0.2160**	**0.0725**	**9.6000e-004**	**0.0279**	**1.5300e-003**	**0.0294**	**7.6400e-003**	**1.4500e-003**	**9.0900e-003**	**0.0000**	**100.9098**	**100.9098**	**0.0101**	**0.0160**	**105.9136**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0295	0.2598	0.4138	6.5000e-004		0.0128	0.0128		0.0122	0.0122	0.0000	56.4451	56.4451	0.0132	0.0000	56.7751
Total	**0.0295**	**0.2598**	**0.4138**	**6.5000e-004**	**0.0000**	**0.0128**	**0.0128**	**0.0000**	**0.0122**	**0.0122**	**0.0000**	**56.4451**	**56.4451**	**0.0132**	**0.0000**	**56.7751**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6900e-003	0.2155	0.0648	9.3000e-004	0.0248	1.5100e-003	0.0263	6.8100e-003	1.4400e-003	8.2500e-003	0.0000	98.5928	98.5928	0.0100	0.0159	103.5777
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	5.6000e-004	7.6800e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1300e-003	8.3000e-004	1.0000e-005	8.4000e-004	0.0000	2.3170	2.3170	6.0000e-005	6.0000e-005	2.3358
Total	**3.5400e-003**	**0.2160**	**0.0725**	**9.6000e-004**	**0.0279**	**1.5300e-003**	**0.0294**	**7.6400e-003**	**1.4500e-003**	**9.0900e-003**	**0.0000**	**100.9098**	**100.9098**	**0.0101**	**0.0160**	**105.9136**

3.4 Grading/Excavation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4450	0.0000	0.4450	0.2412	0.0000	0.2412	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3870	3.2301	3.3430	7.7500e-003		0.1310	0.1310		0.1246	0.1246	0.0000	651.8332	651.8332	0.1600	0.0000	655.8339
Total	**0.3870**	**3.2301**	**3.3430**	**7.7500e-003**	**0.4450**	**0.1310**	**0.5759**	**0.2412**	**0.1246**	**0.3658**	**0.0000**	**651.8332**	**651.8332**	**0.1600**	**0.0000**	**655.8339**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading/Excavation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0606	4.8482	1.4583	0.0209	0.5577	0.0339	0.5916	0.1532	0.0324	0.1856	0.0000	2,218.3371	2,218.3371	0.2252	0.3575	2,330.4991
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2500e-003	4.0800e-003	0.0562	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0800e-003	1.0000e-004	6.1800e-003	0.0000	16.9681	16.9681	4.3000e-004	4.3000e-004	17.1058
Total	**0.0668**	**4.8523**	**1.5145**	**0.0211**	**0.5806**	**0.0340**	**0.6146**	**0.1593**	**0.0325**	**0.1918**	**0.0000**	**2,235.3052**	**2,235.3052**	**0.2257**	**0.3579**	**2,347.6049**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2002	0.0000	0.2002	0.1085	0.0000	0.1085	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3680	3.0389	3.2282	7.4400e-003		0.1227	0.1227		0.1169	0.1169	0.0000	624.8437	624.8437	0.1526	0.0000	628.6588
Total	**0.3680**	**3.0389**	**3.2282**	**7.4400e-003**	**0.2002**	**0.1227**	**0.3229**	**0.1085**	**0.1169**	**0.2254**	**0.0000**	**624.8437**	**624.8437**	**0.1526**	**0.0000**	**628.6588**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading/Excavation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0606	4.8482	1.4583	0.0209	0.5577	0.0339	0.5916	0.1532	0.0324	0.1856	0.0000	2,218.3371	2,218.3371	0.2252	0.3575	2,330.4991
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2500e-003	4.0800e-003	0.0562	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0800e-003	1.0000e-004	6.1800e-003	0.0000	16.9681	16.9681	4.3000e-004	4.3000e-004	17.1058
Total	**0.0668**	**4.8523**	**1.5145**	**0.0211**	**0.5806**	**0.0340**	**0.6146**	**0.1593**	**0.0325**	**0.1918**	**0.0000**	**2,235.3052**	**2,235.3052**	**0.2257**	**0.3579**	**2,347.6049**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1583	1.2992	1.0976	2.2500e-003		0.0531	0.0531		0.0505	0.0505	0.0000	186.5657	186.5657	0.0446	0.0000	187.6802
Total	**0.1583**	**1.2992**	**1.0976**	**2.2500e-003**		**0.0531**	**0.0531**		**0.0505**	**0.0505**	**0.0000**	**186.5657**	**186.5657**	**0.0446**	**0.0000**	**187.6802**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6600e-003	0.2505	0.0898	1.1100e-003	0.0347	1.2900e-003	0.0360	0.0100	1.2300e-003	0.0113	0.0000	113.0273	113.0273	6.9500e-003	0.0167	118.1666
Worker	0.0334	0.0218	0.3002	9.9000e-004	0.1219	5.9000e-004	0.1225	0.0324	5.4000e-004	0.0330	0.0000	90.6036	90.6036	2.3100e-003	2.2700e-003	91.3392
Total	**0.0390**	**0.2723**	**0.3901**	**2.1000e-003**	**0.1566**	**1.8800e-003**	**0.1585**	**0.0425**	**1.7700e-003**	**0.0443**	**0.0000**	**203.6308**	**203.6308**	**9.2600e-003**	**0.0189**	**209.5057**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0433	0.4428	0.3873	8.2000e-004		0.0184	0.0184		0.0172	0.0172	0.0000	71.8961	71.8961	0.0198	0.0000	72.3921
Total	**0.0433**	**0.4428**	**0.3873**	**8.2000e-004**		**0.0184**	**0.0184**		**0.0172**	**0.0172**	**0.0000**	**71.8961**	**71.8961**	**0.0198**	**0.0000**	**72.3921**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6600e-003	0.2505	0.0898	1.1100e-003	0.0347	1.2900e-003	0.0360	0.0100	1.2300e-003	0.0113	0.0000	113.0273	113.0273	6.9500e-003	0.0167	118.1666
Worker	0.0334	0.0218	0.3002	9.9000e-004	0.1219	5.9000e-004	0.1225	0.0324	5.4000e-004	0.0330	0.0000	90.6036	90.6036	2.3100e-003	2.2700e-003	91.3392
Total	**0.0390**	**0.2723**	**0.3901**	**2.1000e-003**	**0.1566**	**1.8800e-003**	**0.1585**	**0.0425**	**1.7700e-003**	**0.0443**	**0.0000**	**203.6308**	**203.6308**	**9.2600e-003**	**0.0189**	**209.5057**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4092	3.3664	2.9849	6.1900e-003		0.1311	0.1311		0.1244	0.1244	0.0000	514.5342	514.5342	0.1218	0.0000	517.5779
Total	**0.4092**	**3.3664**	**2.9849**	**6.1900e-003**		**0.1311**	**0.1311**		**0.1244**	**0.1244**	**0.0000**	**514.5342**	**514.5342**	**0.1218**	**0.0000**	**517.5779**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.6840	0.2469	3.0100e-003	0.0958	3.5700e-003	0.0994	0.0277	3.4200e-003	0.0311	0.0000	306.1830	306.1830	0.0196	0.0452	320.1430
Worker	0.0873	0.0539	0.7784	2.6400e-003	0.3362	1.5400e-003	0.3378	0.0895	1.4200e-003	0.0909	0.0000	241.7504	241.7504	5.7800e-003	5.8600e-003	243.6417
Total	**0.1024**	**0.7379**	**1.0252**	**5.6500e-003**	**0.4320**	**5.1100e-003**	**0.4371**	**0.1172**	**4.8400e-003**	**0.1220**	**0.0000**	**547.9334**	**547.9334**	**0.0254**	**0.0511**	**563.7846**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1132	1.1368	1.0560	2.2700e-003		0.0458	0.0458		0.0428	0.0428	0.0000	198.2908	198.2908	0.0546	0.0000	199.6558
Total	**0.1132**	**1.1368**	**1.0560**	**2.2700e-003**		**0.0458**	**0.0458**		**0.0428**	**0.0428**	**0.0000**	**198.2908**	**198.2908**	**0.0546**	**0.0000**	**199.6558**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.6840	0.2469	3.0100e-003	0.0958	3.5700e-003	0.0994	0.0277	3.4200e-003	0.0311	0.0000	306.1830	306.1830	0.0196	0.0452	320.1430
Worker	0.0873	0.0539	0.7784	2.6400e-003	0.3362	1.5400e-003	0.3378	0.0895	1.4200e-003	0.0909	0.0000	241.7504	241.7504	5.7800e-003	5.8600e-003	243.6417
Total	**0.1024**	**0.7379**	**1.0252**	**5.6500e-003**	**0.4320**	**5.1100e-003**	**0.4371**	**0.1172**	**4.8400e-003**	**0.1220**	**0.0000**	**547.9334**	**547.9334**	**0.0254**	**0.0511**	**563.7846**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0147	0.1198	0.1128	2.4000e-004		4.4900e-003	4.4900e-003		4.2500e-003	4.2500e-003	0.0000	19.6397	19.6397	4.6000e-003	0.0000	19.7548
Total	**0.0147**	**0.1198**	**0.1128**	**2.4000e-004**		**4.4900e-003**	**4.4900e-003**		**4.2500e-003**	**4.2500e-003**	**0.0000**	**19.6397**	**19.6397**	**4.6000e-003**	**0.0000**	**19.7548**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0258	9.4200e-003	1.1000e-004	3.6600e-003	1.4000e-004	3.7900e-003	1.0600e-003	1.3000e-004	1.1900e-003	0.0000	11.4568	11.4568	7.6000e-004	1.6900e-003	11.9803
Worker	3.1800e-003	1.8600e-003	0.0280	1.0000e-004	0.0128	6.0000e-005	0.0129	3.4100e-003	5.0000e-005	3.4700e-003	0.0000	8.9188	8.9188	2.0000e-004	2.1000e-004	8.9864
Total	**3.7400e-003**	**0.0277**	**0.0374**	**2.1000e-004**	**0.0165**	**2.0000e-004**	**0.0167**	**4.4700e-003**	**1.8000e-004**	**4.6600e-003**	**0.0000**	**20.3755**	**20.3755**	**9.6000e-004**	**1.9000e-003**	**20.9668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0800e-003	0.0400	0.0400	9.0000e-005		1.5800e-003	1.5800e-003		1.4700e-003	1.4700e-003	0.0000	7.5691	7.5691	2.0800e-003	0.0000	7.6212
Total	**4.0800e-003**	**0.0400**	**0.0400**	**9.0000e-005**		**1.5800e-003**	**1.5800e-003**		**1.4700e-003**	**1.4700e-003**	**0.0000**	**7.5691**	**7.5691**	**2.0800e-003**	**0.0000**	**7.6212**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0258	9.4200e-003	1.1000e-004	3.6600e-003	1.4000e-004	3.7900e-003	1.0600e-003	1.3000e-004	1.1900e-003	0.0000	11.4568	11.4568	7.6000e-004	1.6900e-003	11.9803
Worker	3.1800e-003	1.8600e-003	0.0280	1.0000e-004	0.0128	6.0000e-005	0.0129	3.4100e-003	5.0000e-005	3.4700e-003	0.0000	8.9188	8.9188	2.0000e-004	2.1000e-004	8.9864
Total	**3.7400e-003**	**0.0277**	**0.0374**	**2.1000e-004**	**0.0165**	**2.0000e-004**	**0.0167**	**4.4700e-003**	**1.8000e-004**	**4.6600e-003**	**0.0000**	**20.3755**	**20.3755**	**9.6000e-004**	**1.9000e-003**	**20.9668**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0143	0.1277	0.1916	2.8000e-004		5.6100e-003	5.6100e-003		5.2200e-003	5.2200e-003	0.0000	24.0068	24.0068	7.1500e-003	0.0000	24.1856
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0156**	**0.1277**	**0.1916**	**2.8000e-004**		**5.6100e-003**	**5.6100e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**24.0068**	**24.0068**	**7.1500e-003**	**0.0000**	**24.1856**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	6.0100e-003	2.0000e-005	2.6000e-003	1.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.8681	1.8681	4.0000e-005	5.0000e-005	1.8827
Total	**6.7000e-004**	**4.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.6000e-003**	**1.0000e-005**	**2.6100e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.8681**	**1.8681**	**4.0000e-005**	**5.0000e-005**	**1.8827**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1233	0.1861	2.7000e-004		5.4600e-003	5.4600e-003		5.0700e-003	5.0700e-003	0.0000	23.4307	23.4307	7.0900e-003	0.0000	23.6079
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0148**	**0.1233**	**0.1861**	**2.7000e-004**		**5.4600e-003**	**5.4600e-003**		**5.0700e-003**	**5.0700e-003**	**0.0000**	**23.4307**	**23.4307**	**7.0900e-003**	**0.0000**	**23.6079**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	6.0100e-003	2.0000e-005	2.6000e-003	1.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.8681	1.8681	4.0000e-005	5.0000e-005	1.8827
Total	**6.7000e-004**	**4.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.6000e-003**	**1.0000e-005**	**2.6100e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.8681**	**1.8681**	**4.0000e-005**	**5.0000e-005**	**1.8827**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5802	0.5324	5.5709	0.0116	1.3219	7.5900e-003	1.3295	0.3531	7.0500e-003	0.3601	0.0000	1,067.4950	1,067.4950	0.0724	0.0472	1,083.3565
Unmitigated	0.5802	0.5324	5.5709	0.0116	1.3219	7.5900e-003	1.3295	0.3531	7.0500e-003	0.3601	0.0000	1,067.4950	1,067.4950	0.0724	0.0472	1,083.3565

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	99.00	162.03	134.97	261,316	261,316
Day-Care Center	111.96	26.28	24.67	102,751	102,751
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	1,723.21	665.79	210.88	3,240,755	3,240,755
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,934.18	854.10	370.53	3,604,822	3,604,822

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Day-Care Center	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Enclosed Parking with Elevator	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
General Office Building	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Non-Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Parking Lot	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
NaturalGas Mitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512
NaturalGas Unmitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Unmitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	56.9173	1.8270	0.0438	115.6333
Unmitigated	56.9173	1.8270	0.0438	115.6333

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	61.0678	3.6090	0.0000	151.2929
Unmitigated	61.0678	3.6090	0.0000	151.2929

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1125 Arguello Redwood City (mitigated)

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	301.26	1000sqft	1.80	301,261.00	0
Day-Care Center	4.22	1000sqft	0.10	4,225.00	0
Enclosed Parking with Elevator	746.00	Space	6.71	299,310.00	0
Other Asphalt Surfaces	0.93	Acre	0.93	40,510.80	0
Other Non-Asphalt Surfaces	17.00	1000sqft	0.39	17,000.00	0
Parking Lot	5.00	Space	0.05	2,000.00	0
Apartments Mid Rise	33.00	Dwelling Unit	0.43	55,052.00	94

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project specific land uses and sizes.

Construction Phase - Construction is anticipated to take place over a 32-month period.

Off-road Equipment - Construction equipment list provided by applicant. Electric equipment modeled seperately

Off-road Equipment -

Off-road Equipment - Construction equipment list provided by applicant.

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided by applicant.

Trips and VMT - Hauling debris conservatively modeled to be disposed of at the Altamont Landfill (56 miles from the site).

Demolition -

Grading - Export and import amounts provided by applicant.

Vehicle Trips - Weekday trip rates updated per the Transportation Study.

Woodstoves - Per BAAQMD Regulation 6, Rule 3 Wood Burning Devices, no person or builder shall install a wood-burning devive in a new building construction (6-3-306)

Construction Off-road Equipment Mitigation - Construction equipment mitigated to Tier 4 Final. Electric equipment used during Building Construction modeled seperately.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	10.00	84.00
tblConstructionPhase	NumDays	30.00	145.00
tblConstructionPhase	NumDays	300.00	367.00
tblConstructionPhase	NumDays	20.00	33.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	5.61	0.00
tblGrading	AcresOfGrading	72.50	3.75
tblGrading	MaterialExported	0.00	108,433.00
tblGrading	MaterialExported	0.00	16,000.00
tblGrading	MaterialImported	0.00	4,100.00
tblLandUse	LandUseSquareFeet	301,260.00	301,261.00
tblLandUse	LandUseSquareFeet	4,220.00	4,225.00
tblLandUse	LandUseSquareFeet	298,400.00	299,310.00
tblLandUse	LandUseSquareFeet	33,000.00	55,052.00
tblLandUse	LotAcreage	6.92	1.80
tblLandUse	LotAcreage	0.87	0.43
tblOffRoadEquipment	HorsePower	78.00	40.00
tblOffRoadEquipment	HorsePower	84.00	48.00
tblOffRoadEquipment	HorsePower	64.00	270.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	HaulingTripNumber	118.00	2,016.00
tblTripsAndVMT	HaulingTripNumber	1,582.00	2,016.00
tblTripsAndVMT	HaulingTripNumber	14,067.00	23,760.00
tblTripsAndVMT	WorkerTripNumber	273.00	326.00
tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblVehicleTrips	WD_TR	5.44	3.00
tblVehicleTrips	WD_TR	47.62	26.50
tblVehicleTrips	WD_TR	9.74	5.72
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0787	1.2442	0.9727	3.8100e-003	0.0816	0.0337	0.1153	0.0210	0.0320	0.0530	0.0000	378.3674	378.3674	0.0501	0.0433	392.5345
2023	0.5548	9.1834	6.0521	0.0334	1.2171	0.1937	1.4108	0.4524	0.1842	0.6365	0.0000	3,322.0818	3,322.0818	0.4364	0.3962	3,451.0519
2024	0.1787	1.5472	1.8748	7.3300e-003	0.4346	0.0362	0.4708	0.1179	0.0335	0.1513	0.0000	695.4111	695.4111	0.0722	0.0511	712.4466
2025	5.9700e-003	0.0521	0.0626	2.6000e-004	0.0165	1.0900e-003	0.0176	4.4700e-003	1.0100e-003	5.4800e-003	0.0000	25.0707	25.0707	2.4800e-003	1.9000e-003	25.6998
Maximum	**0.5548**	**9.1834**	**6.0521**	**0.0334**	**1.2171**	**0.1937**	**1.4108**	**0.4524**	**0.1842**	**0.6365**	**0.0000**	**3,322.0818**	**3,322.0818**	**0.4364**	**0.3962**	**3,451.0519**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0325	0.7688	1.0544	3.8100e-003	0.0754	7.6100e-003	0.0830	0.0200	7.3600e-003	0.0274	0.0000	378.3673	378.3673	0.0501	0.0433	392.5344
2023	0.2296	6.5848	7.0931	0.0334	0.9716	0.0512	1.0228	0.3196	0.0496	0.3691	0.0000	3,322.0809	3,322.0809	0.4364	0.3962	3,451.0510
2024	0.1306	1.0712	2.0527	7.3300e-003	0.4346	7.8400e-003	0.4424	0.1179	7.5600e-003	0.1254	0.0000	695.4109	695.4109	0.0722	0.0511	712.4464
2025	4.6000e-003	0.0391	0.0690	2.6000e-004	0.0165	2.8000e-004	0.0168	4.4700e-003	2.7000e-004	4.7400e-003	0.0000	25.0706	25.0706	2.4800e-003	1.9000e-003	25.6998
Maximum	**0.2296**	**6.5848**	**7.0931**	**0.0334**	**0.9716**	**0.0512**	**1.0228**	**0.3196**	**0.0496**	**0.3691**	**0.0000**	**3,322.0809**	**3,322.0809**	**0.4364**	**0.3962**	**3,451.0510**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**51.45**	**29.63**	**-14.58**	**0.00**	**14.39**	**74.71**	**22.31**	**22.45**	**74.17**	**37.77**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-7-2022**	**2-6-2023**	1.6932	1.0011
2	**2-7-2023**	**5-6-2023**	3.3838	2.3620
3	**5-7-2023**	**8-6-2023**	3.7894	2.6738
4	**8-7-2023**	**11-6-2023**	1.7125	1.2093
5	**11-7-2023**	**2-6-2024**	0.4169	0.3006
6	**2-7-2024**	**5-6-2024**	0.3922	0.2860
7	**5-7-2024**	**8-6-2024**	0.3927	0.2841
8	**8-7-2024**	**11-6-2024**	0.5295	0.3301

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9	**11-7-2024**	**2-6-2025**	0.3019	0.2227
		Highest	3.7894	2.6738

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2582**	**0.8349**	**6.0714**	**0.0134**	**1.3218**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,933.9857**	**2,012.7801**	**5.5960**	**0.1067**	**2,184.4792**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2582**	**0.8349**	**6.0714**	**0.0134**	**1.3218**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,933.9857**	**2,012.7801**	**5.5960**	**0.1067**	**2,184.4792**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Demolition	Demolition	11/7/2022	1/6/2023	5	45	
2	Site Preparation	Site Preparation	11/7/2022	3/2/2023	5	84	
3	Grading/Excavation	Grading	2/20/2023	9/8/2023	5	145	

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4	Building Construction	Building Construction	8/21/2023	1/14/2025	5	367	
5	Paving	Paving	9/15/2024	10/30/2024	5	33	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.75

Acres of Paving: 8.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Demolition	Air Compressors	1	8.00	78	0.48
Site Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Site Demolition	Excavators	2	8.00	158	0.38
Site Demolition	Generator Sets	1	8.00	84	0.74
Site Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	2	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading/Excavation	Air Compressors	1	8.00	78	0.48
Grading/Excavation	Bore/Drill Rigs	4	8.00	221	0.50
Grading/Excavation	Cranes	1	8.00	231	0.29
Grading/Excavation	Excavators	2	8.00	158	0.38
Grading/Excavation	Generator Sets	1	8.00	84	0.74
Grading/Excavation	Graders	0	8.00	187	0.41
Grading/Excavation	Pumps	2	24.00	48	0.74

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading/Excavation	Rollers	1	4.00	80	0.38
Grading/Excavation	Rubber Tired Dozers	1	8.00	247	0.40
Grading/Excavation	Scrapers	0	8.00	367	0.48
Grading/Excavation	Sweepers/Scrubbers	1	4.00	270	0.46
Grading/Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Aerial Lifts	2	8.00	63	0.31
Building Construction	Air Compressors	0	8.00	78	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Aerial Lifts	1	8.00	63	0.31
Paving	Air Compressors	1	4.00	40	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Demolition	7	18.00	0.00	2,016.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	2,016.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation	16	40.00	0.00	23,760.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	326.00	112.00	0.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT
Paving	6	20.00	0.00	0.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0114	0.0000	0.0114	1.7200e-003	0.0000	1.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.2677	0.3864	6.0000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**0.0300**	**0.2677**	**0.3864**	**6.0000e-004**	**0.0114**	**0.0140**	**0.0253**	**1.7200e-003**	**0.0133**	**0.0150**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0110	0.4608	0.1205	1.6600e-003	0.0421	3.7300e-003	0.0458	0.0116	3.5700e-003	0.0151	0.0000	174.9729	174.9729	0.0167	0.0281	183.7783
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**0.0119**	**0.4613**	**0.1279**	**1.6800e-003**	**0.0449**	**3.7400e-003**	**0.0486**	**0.0123**	**3.5800e-003**	**0.0159**	**0.0000**	**177.1486**	**177.1486**	**0.0168**	**0.0282**	**185.9725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1200e-003	0.0000	5.1200e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9300e-003	0.0300	0.4272	6.0000e-004		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**6.9300e-003**	**0.0300**	**0.4272**	**6.0000e-004**	**5.1200e-003**	**9.2000e-004**	**6.0400e-003**	**7.8000e-004**	**9.2000e-004**	**1.7000e-003**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0110	0.4608	0.1205	1.6600e-003	0.0421	3.7300e-003	0.0458	0.0116	3.5700e-003	0.0151	0.0000	174.9729	174.9729	0.0167	0.0281	183.7783
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**0.0119**	**0.4613**	**0.1279**	**1.6800e-003**	**0.0449**	**3.7400e-003**	**0.0486**	**0.0123**	**3.5800e-003**	**0.0159**	**0.0000**	**177.1486**	**177.1486**	**0.0168**	**0.0282**	**185.9725**

3.2 Site Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4200e-003	0.0000	1.4200e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.0304	0.0482	8.0000e-005		1.5000e-003	1.5000e-003		1.4300e-003	1.4300e-003	0.0000	6.5844	6.5844	1.5100e-003	0.0000	6.6222
Total	**3.4800e-003**	**0.0304**	**0.0482**	**8.0000e-005**	**1.4200e-003**	**1.5000e-003**	**2.9200e-003**	**2.2000e-004**	**1.4300e-003**	**1.6500e-003**	**0.0000**	**6.5844**	**6.5844**	**1.5100e-003**	**0.0000**	**6.6222**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0457	0.0138	2.0000e-004	5.2600e-003	3.2000e-004	5.5800e-003	1.4400e-003	3.1000e-004	1.7500e-003	0.0000	20.9136	20.9136	2.1200e-003	3.3700e-003	21.9710
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	8.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2633	0.2633	1.0000e-005	1.0000e-005	0.2654
Total	**6.7000e-004**	**0.0458**	**0.0146**	**2.0000e-004**	**5.6100e-003**	**3.2000e-004**	**5.9400e-003**	**1.5300e-003**	**3.1000e-004**	**1.8500e-003**	**0.0000**	**21.1769**	**21.1769**	**2.1300e-003**	**3.3800e-003**	**22.2365**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.4000e-004	0.0000	6.4000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-004	3.7500e-003	0.0534	8.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	6.5844	6.5844	1.5100e-003	0.0000	6.6222
Total	**8.7000e-004**	**3.7500e-003**	**0.0534**	**8.0000e-005**	**6.4000e-004**	**1.2000e-004**	**7.6000e-004**	**1.0000e-004**	**1.2000e-004**	**2.2000e-004**	**0.0000**	**6.5844**	**6.5844**	**1.5100e-003**	**0.0000**	**6.6222**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0457	0.0138	2.0000e-004	5.2600e-003	3.2000e-004	5.5800e-003	1.4400e-003	3.1000e-004	1.7500e-003	0.0000	20.9136	20.9136	2.1200e-003	3.3700e-003	21.9710
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	8.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2633	0.2633	1.0000e-005	1.0000e-005	0.2654
Total	**6.7000e-004**	**0.0458**	**0.0146**	**2.0000e-004**	**5.6100e-003**	**3.2000e-004**	**5.9400e-003**	**1.5300e-003**	**3.1000e-004**	**1.8500e-003**	**0.0000**	**21.1769**	**21.1769**	**2.1300e-003**	**3.3800e-003**	**22.2365**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.2677	0.3864	6.0000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**0.0300**	**0.2677**	**0.3864**	**6.0000e-004**	**0.0000**	**0.0140**	**0.0140**	**0.0000**	**0.0133**	**0.0133**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9100e-003	0.2468	0.0645	8.9000e-004	0.0225	2.0000e-003	0.0245	6.1900e-003	1.9100e-003	8.1000e-003	0.0000	93.7355	93.7355	8.9700e-003	0.0151	98.4526
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**6.7300e-003**	**0.2474**	**0.0720**	**9.1000e-004**	**0.0254**	**2.0100e-003**	**0.0274**	**6.9400e-003**	**1.9200e-003**	**8.8700e-003**	**0.0000**	**95.9112**	**95.9112**	**9.0300e-003**	**0.0151**	**100.6468**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9300e-003	0.0300	0.4272	6.0000e-004		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**6.9300e-003**	**0.0300**	**0.4272**	**6.0000e-004**	**0.0000**	**9.2000e-004**	**9.2000e-004**	**0.0000**	**9.2000e-004**	**9.2000e-004**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9100e-003	0.2468	0.0645	8.9000e-004	0.0225	2.0000e-003	0.0245	6.1900e-003	1.9100e-003	8.1000e-003	0.0000	93.7355	93.7355	8.9700e-003	0.0151	98.4526
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**6.7300e-003**	**0.2474**	**0.0720**	**9.1000e-004**	**0.0254**	**2.0100e-003**	**0.0274**	**6.9400e-003**	**1.9200e-003**	**8.8700e-003**	**0.0000**	**95.9112**	**95.9112**	**9.0300e-003**	**0.0151**	**100.6468**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0306	0.2675	0.4245	6.6000e-004		0.0132	0.0132		0.0126	0.0126	0.0000	57.9430	57.9430	0.0133	0.0000	58.2753
Total	**0.0306**	**0.2675**	**0.4245**	**6.6000e-004**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**0.0126**	**0.0126**	**0.0000**	**57.9430**	**57.9430**	**0.0133**	**0.0000**	**58.2753**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6900e-003	0.2155	0.0648	9.3000e-004	0.0248	1.5100e-003	0.0263	6.8100e-003	1.4400e-003	8.2500e-003	0.0000	98.5928	98.5928	0.0100	0.0159	103.5777
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	5.6000e-004	7.6800e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1300e-003	8.3000e-004	1.0000e-005	8.4000e-004	0.0000	2.3170	2.3170	6.0000e-005	6.0000e-005	2.3358
Total	**3.5400e-003**	**0.2160**	**0.0725**	**9.6000e-004**	**0.0279**	**1.5300e-003**	**0.0294**	**7.6400e-003**	**1.4500e-003**	**9.0900e-003**	**0.0000**	**100.9098**	**100.9098**	**0.0101**	**0.0160**	**105.9136**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.6200e-003	0.0330	0.4700	6.6000e-004		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	57.9430	57.9430	0.0133	0.0000	58.2753
Total	**7.6200e-003**	**0.0330**	**0.4700**	**6.6000e-004**	**0.0000**	**1.0200e-003**	**1.0200e-003**	**0.0000**	**1.0200e-003**	**1.0200e-003**	**0.0000**	**57.9430**	**57.9430**	**0.0133**	**0.0000**	**58.2753**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6900e-003	0.2155	0.0648	9.3000e-004	0.0248	1.5100e-003	0.0263	6.8100e-003	1.4400e-003	8.2500e-003	0.0000	98.5928	98.5928	0.0100	0.0159	103.5777
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	5.6000e-004	7.6800e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1300e-003	8.3000e-004	1.0000e-005	8.4000e-004	0.0000	2.3170	2.3170	6.0000e-005	6.0000e-005	2.3358
Total	**3.5400e-003**	**0.2160**	**0.0725**	**9.6000e-004**	**0.0279**	**1.5300e-003**	**0.0294**	**7.6400e-003**	**1.4500e-003**	**9.0900e-003**	**0.0000**	**100.9098**	**100.9098**	**0.0101**	**0.0160**	**105.9136**

3.4 Grading/Excavation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4450	0.0000	0.4450	0.2412	0.0000	0.2412	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3871	3.2308	3.3439	7.7500e-003		0.1310	0.1310		0.1247	0.1247	0.0000	651.9387	651.9387	0.1601	0.0000	655.9403
Total	**0.3871**	**3.2308**	**3.3439**	**7.7500e-003**	**0.4450**	**0.1310**	**0.5760**	**0.2412**	**0.1247**	**0.3659**	**0.0000**	**651.9387**	**651.9387**	**0.1601**	**0.0000**	**655.9403**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading/Excavation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0606	4.8482	1.4583	0.0209	0.5577	0.0339	0.5916	0.1532	0.0324	0.1856	0.0000	2,218.3371	2,218.3371	0.2252	0.3575	2,330.4991
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2500e-003	4.0800e-003	0.0562	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0800e-003	1.0000e-004	6.1800e-003	0.0000	16.9681	16.9681	4.3000e-004	4.3000e-004	17.1058
Total	**0.0668**	**4.8523**	**1.5145**	**0.0211**	**0.5806**	**0.0340**	**0.6146**	**0.1593**	**0.0325**	**0.1918**	**0.0000**	**2,235.3052**	**2,235.3052**	**0.2257**	**0.3579**	**2,347.6049**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2002	0.0000	0.2002	0.1085	0.0000	0.1085	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1029	1.0534	4.2779	7.7500e-003		0.0115	0.0115		0.0115	0.0115	0.0000	651.9380	651.9380	0.1601	0.0000	655.9396
Total	**0.1029**	**1.0534**	**4.2779**	**7.7500e-003**	**0.2002**	**0.0115**	**0.2118**	**0.1085**	**0.0115**	**0.1201**	**0.0000**	**651.9380**	**651.9380**	**0.1601**	**0.0000**	**655.9396**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading/Excavation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0606	4.8482	1.4583	0.0209	0.5577	0.0339	0.5916	0.1532	0.0324	0.1856	0.0000	2,218.3371	2,218.3371	0.2252	0.3575	2,330.4991
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2500e-003	4.0800e-003	0.0562	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0800e-003	1.0000e-004	6.1800e-003	0.0000	16.9681	16.9681	4.3000e-004	4.3000e-004	17.1058
Total	**0.0668**	**4.8523**	**1.5145**	**0.0211**	**0.5806**	**0.0340**	**0.6146**	**0.1593**	**0.0325**	**0.1918**	**0.0000**	**2,235.3052**	**2,235.3052**	**0.2257**	**0.3579**	**2,347.6049**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0236	0.2684	0.2439	5.1000e-004		0.0102	0.0102		9.4200e-003	9.4200e-003	0.0000	44.5929	44.5929	0.0144	0.0000	44.9534
Total	**0.0236**	**0.2684**	**0.2439**	**5.1000e-004**		**0.0102**	**0.0102**		**9.4200e-003**	**9.4200e-003**	**0.0000**	**44.5929**	**44.5929**	**0.0144**	**0.0000**	**44.9534**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6600e-003	0.2505	0.0898	1.1100e-003	0.0347	1.2900e-003	0.0360	0.0100	1.2300e-003	0.0113	0.0000	113.0273	113.0273	6.9500e-003	0.0167	118.1666
Worker	0.0334	0.0218	0.3002	9.9000e-004	0.1219	5.9000e-004	0.1225	0.0324	5.4000e-004	0.0330	0.0000	90.6036	90.6036	2.3100e-003	2.2700e-003	91.3392
Total	**0.0390**	**0.2723**	**0.3901**	**2.1000e-003**	**0.1566**	**1.8800e-003**	**0.1585**	**0.0425**	**1.7700e-003**	**0.0443**	**0.0000**	**203.6308**	**203.6308**	**9.2600e-003**	**0.0189**	**209.5057**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2000e-003	0.1082	0.3002	5.1000e-004		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	44.5928	44.5928	0.0144	0.0000	44.9534
Total	**8.2000e-003**	**0.1082**	**0.3002**	**5.1000e-004**		**8.3000e-004**	**8.3000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**44.5928**	**44.5928**	**0.0144**	**0.0000**	**44.9534**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6600e-003	0.2505	0.0898	1.1100e-003	0.0347	1.2900e-003	0.0360	0.0100	1.2300e-003	0.0113	0.0000	113.0273	113.0273	6.9500e-003	0.0167	118.1666
Worker	0.0334	0.0218	0.3002	9.9000e-004	0.1219	5.9000e-004	0.1225	0.0324	5.4000e-004	0.0330	0.0000	90.6036	90.6036	2.3100e-003	2.2700e-003	91.3392
Total	**0.0390**	**0.2723**	**0.3901**	**2.1000e-003**	**0.1566**	**1.8800e-003**	**0.1585**	**0.0425**	**1.7700e-003**	**0.0443**	**0.0000**	**203.6308**	**203.6308**	**9.2600e-003**	**0.0189**	**209.5057**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0620	0.6918	0.6652	1.4000e-003		0.0258	0.0258		0.0238	0.0238	0.0000	122.9924	122.9924	0.0398	0.0000	123.9868
Total	**0.0620**	**0.6918**	**0.6652**	**1.4000e-003**		**0.0258**	**0.0258**		**0.0238**	**0.0238**	**0.0000**	**122.9924**	**122.9924**	**0.0398**	**0.0000**	**123.9868**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.6840	0.2469	3.0100e-003	0.0958	3.5700e-003	0.0994	0.0277	3.4200e-003	0.0311	0.0000	306.1830	306.1830	0.0196	0.0452	320.1430
Worker	0.0873	0.0539	0.7784	2.6400e-003	0.3362	1.5400e-003	0.3378	0.0895	1.4200e-003	0.0909	0.0000	241.7504	241.7504	5.7800e-003	5.8600e-003	243.6417
Total	**0.1024**	**0.7379**	**1.0252**	**5.6500e-003**	**0.4320**	**5.1100e-003**	**0.4371**	**0.1172**	**4.8400e-003**	**0.1220**	**0.0000**	**547.9334**	**547.9334**	**0.0254**	**0.0511**	**563.7846**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0226	0.2983	0.8278	1.4000e-003		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	122.9922	122.9922	0.0398	0.0000	123.9867
Total	**0.0226**	**0.2983**	**0.8278**	**1.4000e-003**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**122.9922**	**122.9922**	**0.0398**	**0.0000**	**123.9867**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.6840	0.2469	3.0100e-003	0.0958	3.5700e-003	0.0994	0.0277	3.4200e-003	0.0311	0.0000	306.1830	306.1830	0.0196	0.0452	320.1430
Worker	0.0873	0.0539	0.7784	2.6400e-003	0.3362	1.5400e-003	0.3378	0.0895	1.4200e-003	0.0909	0.0000	241.7504	241.7504	5.7800e-003	5.8600e-003	243.6417
Total	**0.1024**	**0.7379**	**1.0252**	**5.6500e-003**	**0.4320**	**5.1100e-003**	**0.4371**	**0.1172**	**4.8400e-003**	**0.1220**	**0.0000**	**547.9334**	**547.9334**	**0.0254**	**0.0511**	**563.7846**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2300e-003	0.0244	0.0252	5.0000e-005		9.0000e-004	9.0000e-004		8.3000e-004	8.3000e-004	0.0000	4.6951	4.6951	1.5200e-003	0.0000	4.7331
Total	**2.2300e-003**	**0.0244**	**0.0252**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**4.6951**	**4.6951**	**1.5200e-003**	**0.0000**	**4.7331**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0258	9.4200e-003	1.1000e-004	3.6600e-003	1.4000e-004	3.7900e-003	1.0600e-003	1.3000e-004	1.1900e-003	0.0000	11.4568	11.4568	7.6000e-004	1.6900e-003	11.9803
Worker	3.1800e-003	1.8600e-003	0.0280	1.0000e-004	0.0128	6.0000e-005	0.0129	3.4100e-003	5.0000e-005	3.4700e-003	0.0000	8.9188	8.9188	2.0000e-004	2.1000e-004	8.9864
Total	**3.7400e-003**	**0.0277**	**0.0374**	**2.1000e-004**	**0.0165**	**2.0000e-004**	**0.0167**	**4.4700e-003**	**1.8000e-004**	**4.6600e-003**	**0.0000**	**20.3755**	**20.3755**	**9.6000e-004**	**1.9000e-003**	**20.9668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.6000e-004	0.0114	0.0316	5.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	4.6951	4.6951	1.5200e-003	0.0000	4.7331
Total	**8.6000e-004**	**0.0114**	**0.0316**	**5.0000e-005**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**4.6951**	**4.6951**	**1.5200e-003**	**0.0000**	**4.7331**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0258	9.4200e-003	1.1000e-004	3.6600e-003	1.4000e-004	3.7900e-003	1.0600e-003	1.3000e-004	1.1900e-003	0.0000	11.4568	11.4568	7.6000e-004	1.6900e-003	11.9803
Worker	3.1800e-003	1.8600e-003	0.0280	1.0000e-004	0.0128	6.0000e-005	0.0129	3.4100e-003	5.0000e-005	3.4700e-003	0.0000	8.9188	8.9188	2.0000e-004	2.1000e-004	8.9864
Total	**3.7400e-003**	**0.0277**	**0.0374**	**2.1000e-004**	**0.0165**	**2.0000e-004**	**0.0167**	**4.4700e-003**	**1.8000e-004**	**4.6600e-003**	**0.0000**	**20.3755**	**20.3755**	**9.6000e-004**	**1.9000e-003**	**20.9668**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0124	0.1171	0.1784	2.6000e-004		5.2400e-003	5.2400e-003		4.8500e-003	4.8500e-003	0.0000	22.6173	22.6173	7.0100e-003	0.0000	22.7925
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0137**	**0.1171**	**0.1784**	**2.6000e-004**		**5.2400e-003**	**5.2400e-003**		**4.8500e-003**	**4.8500e-003**	**0.0000**	**22.6173**	**22.6173**	**7.0100e-003**	**0.0000**	**22.7925**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	6.0100e-003	2.0000e-005	2.6000e-003	1.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.8681	1.8681	4.0000e-005	5.0000e-005	1.8827
Total	**6.7000e-004**	**4.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.6000e-003**	**1.0000e-005**	**2.6100e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.8681**	**1.8681**	**4.0000e-005**	**5.0000e-005**	**1.8827**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6300e-003	0.0346	0.1937	2.6000e-004		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	22.6172	22.6172	7.0100e-003	0.0000	22.7925
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9100e-003**	**0.0346**	**0.1937**	**2.6000e-004**		**4.2000e-004**	**4.2000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**22.6172**	**22.6172**	**7.0100e-003**	**0.0000**	**22.7925**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	6.0100e-003	2.0000e-005	2.6000e-003	1.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.8681	1.8681	4.0000e-005	5.0000e-005	1.8827
Total	**6.7000e-004**	**4.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.6000e-003**	**1.0000e-005**	**2.6100e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.8681**	**1.8681**	**4.0000e-005**	**5.0000e-005**	**1.8827**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Unmitigated	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	99.00	162.03	134.97	261,316	261,316
Day-Care Center	111.83	26.25	24.64	102,629	102,629
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	1,723.21	665.78	210.88	3,240,745	3,240,745
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,934.04	854.06	370.50	3,604,689	3,604,689

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Day-Care Center	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Enclosed Parking with Elevator	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
General Office Building	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Non-Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Parking Lot	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
NaturalGas Mitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512
NaturalGas Unmitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Unmitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

7.0 Water Detail

7.1 Mitigation Measures Water

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	56.9173	1.8270	0.0438	115.6333
Unmitigated	56.9173	1.8270	0.0438	115.6333

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

8.0 Waste Detail

8.1 Mitigation Measures Waste

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	61.0678	3.6090	0.0000	151.2929
Unmitigated	61.0678	3.6090	0.0000	151.2929

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

1125 Arguello - Water Line - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1125 Arguello - Water Line

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	57.63	1000sqft	1.32	57,630.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - construction anticipated to take 6 months

Off-road Equipment - Construction equipment provided

Grading -

Trips and VMT - HHD trips based on construction TIA

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4.00	132.00
tblConstructionPhase	PhaseEndDate	1/15/2025	6/12/2025
tblConstructionPhase	PhaseStartDate	1/10/2025	12/11/2024
tblGrading	MaterialExported	0.00	5,626.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	HaulingTripNumber	703.00	8,160.00
tblTripsAndVMT	WorkerTripNumber	10.00	40.00

2.0 Emissions Summary

1125 Arguello - Water Line - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	6.7000e-003	0.1134	0.1185	4.5000e-004	0.0105	2.4900e-003	0.0130	2.8200e-003	2.3100e-003	5.1200e-003	0.0000	44.8011	44.8011	7.1900e-003	5.0500e-003	46.4854
2025	0.0490	0.8363	0.9247	3.4300e-003	0.0795	0.0171	0.0966	0.0216	0.0159	0.0375	0.0000	344.0880	344.0880	0.0567	0.0386	357.0075
Maximum	**0.0490**	**0.8363**	**0.9247**	**3.4300e-003**	**0.0795**	**0.0171**	**0.0966**	**0.0216**	**0.0159**	**0.0375**	**0.0000**	**344.0880**	**344.0880**	**0.0567**	**0.0386**	**357.0075**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	6.7000e-003	0.1134	0.1185	4.5000e-004	0.0105	2.4900e-003	0.0130	2.8200e-003	2.3100e-003	5.1200e-003	0.0000	44.8011	44.8011	7.1900e-003	5.0500e-003	46.4854
2025	0.0490	0.8363	0.9247	3.4300e-003	0.0795	0.0171	0.0966	0.0216	0.0159	0.0375	0.0000	344.0879	344.0879	0.0567	0.0386	357.0074
Maximum	**0.0490**	**0.8363**	**0.9247**	**3.4300e-003**	**0.0795**	**0.0171**	**0.0966**	**0.0216**	**0.0159**	**0.0375**	**0.0000**	**344.0879**	**344.0879**	**0.0567**	**0.0386**	**357.0074**

1125 Arguello - Water Line - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-11-2024**	**3-10-2025**	0.4986	0.4986
2	**3-11-2025**	**6-10-2025**	0.4901	0.4901
3	**6-11-2025**	**9-10-2025**	0.0106	0.0106
		Highest	0.4986	0.4986

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	12/11/2024	6/12/2025	5	132	

Acres of Grading (Site Preparation Phase): 0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.32

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	3	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	40.00	0.00	8,160.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0412	0.0885	1.4000e-004		2.0000e-003	2.0000e-003		1.8400e-003	1.8400e-003	0.0000	12.0588	12.0588	3.9000e-003	0.0000	12.1563
Total	**5.0200e-003**	**0.0412**	**0.0885**	**1.4000e-004**	**3.2000e-004**	**2.0000e-003**	**2.3200e-003**	**5.0000e-005**	**1.8400e-003**	**1.8900e-003**	**0.0000**	**12.0588**	**12.0588**	**3.9000e-003**	**0.0000**	**12.1563**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0700e-003	0.0718	0.0245	2.9000e-004	7.7800e-003	4.8000e-004	8.2600e-003	2.1400e-003	4.6000e-004	2.6000e-003	0.0000	31.0440	31.0440	3.2500e-003	5.0100e-003	32.6175
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.8000e-004	5.4700e-003	2.0000e-005	2.3600e-003	1.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.6982	1.6982	4.0000e-005	4.0000e-005	1.7115
Total	**1.6800e-003**	**0.0722**	**0.0300**	**3.1000e-004**	**0.0101**	**4.9000e-004**	**0.0106**	**2.7700e-003**	**4.7000e-004**	**3.2400e-003**	**0.0000**	**32.7423**	**32.7423**	**3.2900e-003**	**5.0500e-003**	**34.3291**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0412	0.0885	1.4000e-004		2.0000e-003	2.0000e-003		1.8400e-003	1.8400e-003	0.0000	12.0588	12.0588	3.9000e-003	0.0000	12.1563
Total	**5.0200e-003**	**0.0412**	**0.0885**	**1.4000e-004**	**3.2000e-004**	**2.0000e-003**	**2.3200e-003**	**5.0000e-005**	**1.8400e-003**	**1.8900e-003**	**0.0000**	**12.0588**	**12.0588**	**3.9000e-003**	**0.0000**	**12.1563**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0700e-003	0.0718	0.0245	2.9000e-004	7.7800e-003	4.8000e-004	8.2600e-003	2.1400e-003	4.6000e-004	2.6000e-003	0.0000	31.0440	31.0440	3.2500e-003	5.0100e-003	32.6175
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.8000e-004	5.4700e-003	2.0000e-005	2.3600e-003	1.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.6982	1.6982	4.0000e-005	4.0000e-005	1.7115
Total	**1.6800e-003**	**0.0722**	**0.0300**	**3.1000e-004**	**0.0101**	**4.9000e-004**	**0.0106**	**2.7700e-003**	**4.7000e-004**	**3.2400e-003**	**0.0000**	**32.7423**	**32.7423**	**3.2900e-003**	**5.0500e-003**	**34.3291**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0362	0.2838	0.6890	1.0700e-003		0.0133	0.0133		0.0123	0.0123	0.0000	94.0840	94.0840	0.0304	0.0000	94.8447
Total	**0.0362**	**0.2838**	**0.6890**	**1.0700e-003**	**3.2000e-004**	**0.0133**	**0.0137**	**5.0000e-005**	**0.0123**	**0.0123**	**0.0000**	**94.0840**	**94.0840**	**0.0304**	**0.0000**	**94.8447**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.2400e-003	0.5498	0.1955	2.2200e-003	0.0607	3.7300e-003	0.0644	0.0167	3.5600e-003	0.0203	0.0000	237.2005	237.2005	0.0259	0.0383	249.2620
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.6800e-003	0.0402	1.4000e-004	0.0184	8.0000e-005	0.0185	4.9000e-003	7.0000e-005	4.9800e-003	0.0000	12.8036	12.8036	2.9000e-004	3.0000e-004	12.9008
Total	**0.0128**	**0.5525**	**0.2357**	**2.3600e-003**	**0.0791**	**3.8100e-003**	**0.0829**	**0.0216**	**3.6300e-003**	**0.0252**	**0.0000**	**250.0041**	**250.0041**	**0.0262**	**0.0386**	**262.1628**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0362	0.2838	0.6890	1.0700e-003		0.0133	0.0133		0.0123	0.0123	0.0000	94.0839	94.0839	0.0304	0.0000	94.8446
Total	**0.0362**	**0.2838**	**0.6890**	**1.0700e-003**	**3.2000e-004**	**0.0133**	**0.0137**	**5.0000e-005**	**0.0123**	**0.0123**	**0.0000**	**94.0839**	**94.0839**	**0.0304**	**0.0000**	**94.8446**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.2400e-003	0.5498	0.1955	2.2200e-003	0.0607	3.7300e-003	0.0644	0.0167	3.5600e-003	0.0203	0.0000	237.2005	237.2005	0.0259	0.0383	249.2620
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.6800e-003	0.0402	1.4000e-004	0.0184	8.0000e-005	0.0185	4.9000e-003	7.0000e-005	4.9800e-003	0.0000	12.8036	12.8036	2.9000e-004	3.0000e-004	12.9008
Total	**0.0128**	**0.5525**	**0.2357**	**2.3600e-003**	**0.0791**	**3.8100e-003**	**0.0829**	**0.0216**	**3.6300e-003**	**0.0252**	**0.0000**	**250.0041**	**250.0041**	**0.0262**	**0.0386**	**262.1628**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Unmitigated	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

1125 Arguello - Water Line_Mitigated - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1125 Arguello - Water Line_Mitigated

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	57.63	1000sqft	1.32	57,630.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - construction anticipated to take 6 months

Off-road Equipment - Construction equipment provided

Grading -

Trips and VMT - HHD trips based on construction TIA

Construction Off-road Equipment Mitigation - MM AQ-2

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

1125 Arguello - Water Line_Mitigated - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	4.00	132.00
tblConstructionPhase	PhaseEndDate	1/15/2025	6/12/2025
tblConstructionPhase	PhaseStartDate	1/10/2025	12/11/2024
tblGrading	MaterialExported	0.00	5,626.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	HaulingTripNumber	703.00	8,160.00
tblTripsAndVMT	WorkerTripNumber	10.00	40.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	6.7000e-003	0.1134	0.1185	4.5000e-004	0.0105	2.4900e-003	0.0130	2.8200e-003	2.3100e-003	5.1200e-003	0.0000	44.8011	44.8011	7.1900e-003	5.0500e-003	46.4854
2025	0.0490	0.8363	0.9247	3.4300e-003	0.0795	0.0171	0.0966	0.0216	0.0159	0.0375	0.0000	344.0880	344.0880	0.0567	0.0386	357.0075
Maximum	**0.0490**	**0.8363**	**0.9247**	**3.4300e-003**	**0.0795**	**0.0171**	**0.0966**	**0.0216**	**0.0159**	**0.0375**	**0.0000**	**344.0880**	**344.0880**	**0.0567**	**0.0386**	**357.0075**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	3.3700e-003	0.0795	0.1339	4.5000e-004	0.0105	7.1000e-004	0.0112	2.8200e-003	6.9000e-004	3.5100e-003	0.0000	44.8011	44.8011	7.1900e-003	5.0500e-003	46.4854
2025	0.0260	0.6094	1.0466	3.4300e-003	0.0795	5.5600e-003	0.0850	0.0216	5.3900e-003	0.0270	0.0000	344.0879	344.0879	0.0567	0.0386	357.0074
Maximum	**0.0260**	**0.6094**	**1.0466**	**3.4300e-003**	**0.0795**	**5.5600e-003**	**0.0850**	**0.0216**	**5.3900e-003**	**0.0270**	**0.0000**	**344.0879**	**344.0879**	**0.0567**	**0.0386**	**357.0074**

1125 Arguello - Water Line_Mitigated - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**47.38**	**27.46**	**-13.17**	**0.00**	**0.00**	**68.06**	**12.19**	**0.00**	**66.63**	**28.41**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-11-2024**	**3-10-2025**	0.4986	0.3561
2	**3-11-2025**	**6-10-2025**	0.4901	0.3497
3	**6-11-2025**	**9-10-2025**	0.0106	0.0075
		Highest	0.4986	0.3561

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	12/11/2024	6/12/2025	5	132	

Acres of Grading (Site Preparation Phase): 0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.32

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	3	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	40.00	0.00	8,160.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0412	0.0885	1.4000e-004		2.0000e-003	2.0000e-003		1.8400e-003	1.8400e-003	0.0000	12.0588	12.0588	3.9000e-003	0.0000	12.1563
Total	**5.0200e-003**	**0.0412**	**0.0885**	**1.4000e-004**	**3.2000e-004**	**2.0000e-003**	**2.3200e-003**	**5.0000e-005**	**1.8400e-003**	**1.8900e-003**	**0.0000**	**12.0588**	**12.0588**	**3.9000e-003**	**0.0000**	**12.1563**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0700e-003	0.0718	0.0245	2.9000e-004	7.7800e-003	4.8000e-004	8.2600e-003	2.1400e-003	4.6000e-004	2.6000e-003	0.0000	31.0440	31.0440	3.2500e-003	5.0100e-003	32.6175
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.8000e-004	5.4700e-003	2.0000e-005	2.3600e-003	1.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.6982	1.6982	4.0000e-005	4.0000e-005	1.7115
Total	**1.6800e-003**	**0.0722**	**0.0300**	**3.1000e-004**	**0.0101**	**4.9000e-004**	**0.0106**	**2.7700e-003**	**4.7000e-004**	**3.2400e-003**	**0.0000**	**32.7423**	**32.7423**	**3.2900e-003**	**5.0500e-003**	**34.3291**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6900e-003	7.3100e-003	0.1040	1.4000e-004		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	12.0588	12.0588	3.9000e-003	0.0000	12.1563
Total	**1.6900e-003**	**7.3100e-003**	**0.1040**	**1.4000e-004**	**3.2000e-004**	**2.2000e-004**	**5.4000e-004**	**5.0000e-005**	**2.2000e-004**	**2.7000e-004**	**0.0000**	**12.0588**	**12.0588**	**3.9000e-003**	**0.0000**	**12.1563**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0700e-003	0.0718	0.0245	2.9000e-004	7.7800e-003	4.8000e-004	8.2600e-003	2.1400e-003	4.6000e-004	2.6000e-003	0.0000	31.0440	31.0440	3.2500e-003	5.0100e-003	32.6175
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.8000e-004	5.4700e-003	2.0000e-005	2.3600e-003	1.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.6982	1.6982	4.0000e-005	4.0000e-005	1.7115
Total	**1.6800e-003**	**0.0722**	**0.0300**	**3.1000e-004**	**0.0101**	**4.9000e-004**	**0.0106**	**2.7700e-003**	**4.7000e-004**	**3.2400e-003**	**0.0000**	**32.7423**	**32.7423**	**3.2900e-003**	**5.0500e-003**	**34.3291**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0362	0.2838	0.6890	1.0700e-003		0.0133	0.0133		0.0123	0.0123	0.0000	94.0840	94.0840	0.0304	0.0000	94.8447
Total	**0.0362**	**0.2838**	**0.6890**	**1.0700e-003**	**3.2000e-004**	**0.0133**	**0.0137**	**5.0000e-005**	**0.0123**	**0.0123**	**0.0000**	**94.0840**	**94.0840**	**0.0304**	**0.0000**	**94.8447**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.2400e-003	0.5498	0.1955	2.2200e-003	0.0607	3.7300e-003	0.0644	0.0167	3.5600e-003	0.0203	0.0000	237.2005	237.2005	0.0259	0.0383	249.2620
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.6800e-003	0.0402	1.4000e-004	0.0184	8.0000e-005	0.0185	4.9000e-003	7.0000e-005	4.9800e-003	0.0000	12.8036	12.8036	2.9000e-004	3.0000e-004	12.9008
Total	**0.0128**	**0.5525**	**0.2357**	**2.3600e-003**	**0.0791**	**3.8100e-003**	**0.0829**	**0.0216**	**3.6300e-003**	**0.0252**	**0.0000**	**250.0041**	**250.0041**	**0.0262**	**0.0386**	**262.1628**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.0570	0.8109	1.0700e-003		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	94.0839	94.0839	0.0304	0.0000	94.8446
Total	**0.0132**	**0.0570**	**0.8109**	**1.0700e-003**	**3.2000e-004**	**1.7500e-003**	**2.0700e-003**	**5.0000e-005**	**1.7500e-003**	**1.8000e-003**	**0.0000**	**94.0839**	**94.0839**	**0.0304**	**0.0000**	**94.8446**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.2400e-003	0.5498	0.1955	2.2200e-003	0.0607	3.7300e-003	0.0644	0.0167	3.5600e-003	0.0203	0.0000	237.2005	237.2005	0.0259	0.0383	249.2620
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.6800e-003	0.0402	1.4000e-004	0.0184	8.0000e-005	0.0185	4.9000e-003	7.0000e-005	4.9800e-003	0.0000	12.8036	12.8036	2.9000e-004	3.0000e-004	12.9008
Total	**0.0128**	**0.5525**	**0.2357**	**2.3600e-003**	**0.0791**	**3.8100e-003**	**0.0829**	**0.0216**	**3.6300e-003**	**0.0252**	**0.0000**	**250.0041**	**250.0041**	**0.0262**	**0.0386**	**262.1628**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Unmitigated	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Health Risk Assessment Modeling - CalEEMod, AERMOD, and HARP2

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	301.26	1000sqft	1.80	301,261.00	0
Day-Care Center	4.22	1000sqft	0.10	4,225.00	0
Enclosed Parking with Elevator	746.00	Space	6.71	299,310.00	0
Other Asphalt Surfaces	0.93	Acre	0.93	40,510.80	0
Other Non-Asphalt Surfaces	17.00	1000sqft	0.39	17,000.00	0
Parking Lot	5.00	Space	0.05	2,000.00	0
Apartments Mid Rise	33.00	Dwelling Unit	0.43	55,052.00	94

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project specific land uses and sizes.

Construction Phase - Construction is anticipated to take place over a 32-month period.

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment -

Off-road Equipment - Construction equipment list provided by applicant.

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided by applicant.

Trips and VMT - Hauling debris conservatively modeled to be disposed of at the Altamont Landfill (56 miles from the site).

Demolition -

Grading - Export and import amounts provided by applicant.

Vehicle Trips - Weekday trip rates updated per the Transportation Study.

Woodstoves - Per BAAQMD Regulation 6, Rule 3 Wood Burning Devices, no person or builder shall install a wood-burning devive in a new building construction (6-3-306)

Construction Off-road Equipment Mitigation - Pieces of construction equipment that are electric were provided by applicant.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstructionPhase	NumDays	300.00	367.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	30.00	145.00
tblConstructionPhase	NumDays	20.00	33.00
tblConstructionPhase	NumDays	10.00	84.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	5.61	0.00
tblGrading	AcresOfGrading	72.50	3.75
tblGrading	MaterialExported	0.00	108,433.00
tblGrading	MaterialExported	0.00	16,000.00
tblGrading	MaterialImported	0.00	4,100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LandUseSquareFeet	301,260.00	301,261.00
tblLandUse	LandUseSquareFeet	4,220.00	4,225.00
tblLandUse	LandUseSquareFeet	298,400.00	299,310.00
tblLandUse	LandUseSquareFeet	33,000.00	55,052.00
tblLandUse	LotAcreage	6.92	1.80
tblLandUse	LotAcreage	0.87	0.43
tblOffRoadEquipment	HorsePower	78.00	40.00
tblOffRoadEquipment	HorsePower	84.00	48.00
tblOffRoadEquipment	HorsePower	64.00	270.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	118.00	2,016.00
tblTripsAndVMT	HaulingTripNumber	1,582.00	2,016.00
tblTripsAndVMT	HaulingTripNumber	14,067.00	23,760.00
tblTripsAndVMT	WorkerTripNumber	273.00	326.00
tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblVehicleTrips	WD_TR	5.44	3.00
tblVehicleTrips	WD_TR	47.62	26.50
tblVehicleTrips	WD_TR	9.74	5.72
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0631	0.5741	0.8058	1.3300e-003	0.0182	0.0281	0.0463	3.5600e-003	0.0267	0.0302	0.0000	117.5901	117.5901	0.0250	1.3900e-003	118.6284
2023	0.6367	5.4155	5.5415	0.0137	0.6401	0.2017	0.8418	0.2938	0.1919	0.4857	0.0000	1,195.5771	1,195.5771	0.2347	0.0306	1,210.5502
2024	0.5280	4.2334	4.2098	0.0121	0.4346	0.1418	0.5764	0.1179	0.1345	0.2524	0.0000	1,088.6176	1,088.6176	0.1544	0.0511	1,107.7083
2025	0.0184	0.1475	0.1502	4.5000e-004	0.0165	4.6800e-003	0.0212	4.4700e-003	4.4400e-003	8.9100e-003	0.0000	40.0238	40.0238	5.5700e-003	1.9000e-003	40.7302
Maximum	**0.6367**	**5.4155**	**5.5415**	**0.0137**	**0.6401**	**0.2017**	**0.8418**	**0.2938**	**0.1919**	**0.4857**	**0.0000**	**1,195.5771**	**1,195.5771**	**0.2347**	**0.0511**	**1,210.5502**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0609	0.5591	0.7865	1.3000e-003	0.0120	0.0272	0.0392	2.6100e-003	0.0258	0.0284	0.0000	114.8665	114.8665	0.0248	1.3900e-003	115.9004
2023	0.5014	4.3594	4.7046	0.0120	0.3946	0.1582	0.5527	0.1611	0.1503	0.3114	0.0000	1,052.2498	1,052.2498	0.2024	0.0306	1,066.4162
2024	0.2312	1.9995	2.2755	8.2100e-003	0.4346	0.0564	0.4910	0.1179	0.0528	0.1706	0.0000	771.7980	771.7980	0.0872	0.0511	789.2084
2025	7.8200e-003	0.0677	0.0774	3.0000e-004	0.0165	1.7700e-003	0.0183	4.4700e-003	1.6500e-003	6.1300e-003	0.0000	27.9533	27.9533	3.0500e-003	1.9000e-003	28.5966
Maximum	**0.5014**	**4.3594**	**4.7046**	**0.0120**	**0.4346**	**0.1582**	**0.5527**	**0.1611**	**0.1503**	**0.3114**	**0.0000**	**1,052.2498**	**1,052.2498**	**0.2024**	**0.0511**	**1,066.4162**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**35.69**	**32.64**	**26.74**	**21.21**	**22.69**	**35.28**	**25.88**	**31.86**	**35.52**	**33.54**	**0.00**	**19.45**	**19.45**	**24.35**	**0.00**	**19.27**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-7-2022**	**2-6-2023**	0.8467	0.8236
2	**2-7-2023**	**5-6-2023**	1.5948	1.5127
3	**5-7-2023**	**8-6-2023**	1.7791	1.6839
4	**8-7-2023**	**11-6-2023**	1.6751	1.0713
5	**11-7-2023**	**2-6-2024**	1.2039	0.5475
6	**2-7-2024**	**5-6-2024**	1.1338	0.5141
7	**5-7-2024**	**8-6-2024**	1.1508	0.5173
8	**8-7-2024**	**11-6-2024**	1.3004	0.6618

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9	**11-7-2024**	**2-6-2025**	0.8630	0.3939
		Highest	1.7791	1.6839

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2582**	**0.8349**	**6.0714**	**0.0134**	**1.3218**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,933.9857**	**2,012.7801**	**5.5960**	**0.1067**	**2,184.4792**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2582**	**0.8349**	**6.0714**	**0.0134**	**1.3218**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,933.9857**	**2,012.7801**	**5.5960**	**0.1067**	**2,184.4792**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Demolition	Demolition	11/7/2022	1/6/2023	5	45	
2	Site Preparation	Site Preparation	11/7/2022	3/2/2023	5	84	
3	Grading/Excavation	Grading	2/20/2023	9/8/2023	5	145	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	8/21/2023	1/14/2025	5	367	
5	Paving	Paving	9/15/2024	10/30/2024	5	33	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.75

Acres of Paving: 8.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Demolition	Air Compressors	1	8.00	78	0.48
Site Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Site Demolition	Excavators	2	8.00	158	0.38
Site Demolition	Generator Sets	1	8.00	84	0.74
Site Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	2	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading/Excavation	Air Compressors	1	8.00	78	0.48
Grading/Excavation	Bore/Drill Rigs	4	8.00	221	0.50
Grading/Excavation	Cranes	1	8.00	231	0.29
Grading/Excavation	Excavators	2	8.00	158	0.38
Grading/Excavation	Generator Sets	1	8.00	84	0.74
Grading/Excavation	Graders	0	8.00	187	0.41
Grading/Excavation	Pumps	2	24.00	48	0.74

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading/Excavation	Rollers	1	4.00	80	0.38
Grading/Excavation	Rubber Tired Dozers	1	8.00	247	0.40
Grading/Excavation	Scrapers	0	8.00	367	0.48
Grading/Excavation	Sweepers/Scrubbers	1	4.00	270	0.46
Grading/Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Aerial Lifts	2	8.00	63	0.31
Building Construction	Air Compressors	1	8.00	78	0.48
Building Construction	Cranes	4	8.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Building Construction	Welders	6	8.00	46	0.45
Paving	Aerial Lifts	1	8.00	63	0.31
Paving	Air Compressors	1	8.00	40	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Demolition	7	18.00	0.00	2,016.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	2,016.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation	16	40.00	0.00	23,760.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	326.00	112.00	0.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT
Paving	6	20.00	0.00	0.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Alternative Fuel for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0114	0.0000	0.0114	1.7200e-003	0.0000	1.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.2677	0.3864	6.0000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**0.0300**	**0.2677**	**0.3864**	**6.0000e-004**	**0.0114**	**0.0140**	**0.0253**	**1.7200e-003**	**0.0133**	**0.0150**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.1000e-004	0.0244	0.0118	5.0000e-005	7.7000e-004	8.0000e-005	8.5000e-004	2.1000e-004	8.0000e-005	2.9000e-004	0.0000	5.1644	5.1644	3.8000e-004	8.3000e-004	5.4208
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**1.7300e-003**	**0.0250**	**0.0193**	**7.0000e-005**	**3.6000e-003**	**9.0000e-005**	**3.7000e-003**	**9.6000e-004**	**9.0000e-005**	**1.0600e-003**	**0.0000**	**7.3401**	**7.3401**	**4.4000e-004**	**8.9000e-004**	**7.6150**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1200e-003	0.0000	5.1200e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0289	0.2602	0.3767	5.9000e-004		0.0135	0.0135		0.0128	0.0128	0.0000	51.2920	51.2920	0.0121	0.0000	51.5936
Total	**0.0289**	**0.2602**	**0.3767**	**5.9000e-004**	**5.1200e-003**	**0.0135**	**0.0187**	**7.8000e-004**	**0.0128**	**0.0136**	**0.0000**	**51.2920**	**51.2920**	**0.0121**	**0.0000**	**51.5936**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.1000e-004	0.0244	0.0118	5.0000e-005	7.7000e-004	8.0000e-005	8.5000e-004	2.1000e-004	8.0000e-005	2.9000e-004	0.0000	5.1644	5.1644	3.8000e-004	8.3000e-004	5.4208
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**1.7300e-003**	**0.0250**	**0.0193**	**7.0000e-005**	**3.6000e-003**	**9.0000e-005**	**3.7000e-003**	**9.6000e-004**	**9.0000e-005**	**1.0600e-003**	**0.0000**	**7.3401**	**7.3401**	**4.4000e-004**	**8.9000e-004**	**7.6150**

3.2 Site Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4200e-003	0.0000	1.4200e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.0304	0.0482	8.0000e-005		1.5000e-003	1.5000e-003		1.4300e-003	1.4300e-003	0.0000	6.5844	6.5844	1.5100e-003	0.0000	6.6222
Total	**3.4800e-003**	**0.0304**	**0.0482**	**8.0000e-005**	**1.4200e-003**	**1.5000e-003**	**2.9200e-003**	**2.2000e-004**	**1.4300e-003**	**1.6500e-003**	**0.0000**	**6.5844**	**6.5844**	**1.5100e-003**	**0.0000**	**6.6222**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	2.7800e-003	1.5400e-003	1.0000e-005	1.0000e-004	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.6198	0.6198	5.0000e-005	1.0000e-004	0.6507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	8.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2633	0.2633	1.0000e-005	1.0000e-005	0.2654
Total	**2.0000e-004**	**2.8400e-003**	**2.4100e-003**	**1.0000e-005**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**1.2000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**0.8831**	**0.8831**	**6.0000e-005**	**1.1000e-004**	**0.9161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.4000e-004	0.0000	6.4000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0295	0.0470	7.0000e-005		1.4600e-003	1.4600e-003		1.3800e-003	1.3800e-003	0.0000	6.4142	6.4142	1.5000e-003	0.0000	6.4517
Total	**3.3500e-003**	**0.0295**	**0.0470**	**7.0000e-005**	**6.4000e-004**	**1.4600e-003**	**2.1000e-003**	**1.0000e-004**	**1.3800e-003**	**1.4800e-003**	**0.0000**	**6.4142**	**6.4142**	**1.5000e-003**	**0.0000**	**6.4517**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	2.7800e-003	1.5400e-003	1.0000e-005	1.0000e-004	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.6198	0.6198	5.0000e-005	1.0000e-004	0.6507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	8.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2633	0.2633	1.0000e-005	1.0000e-005	0.2654
Total	**2.0000e-004**	**2.8400e-003**	**2.4100e-003**	**1.0000e-005**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**1.2000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**0.8831**	**0.8831**	**6.0000e-005**	**1.1000e-004**	**0.9161**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.2677	0.3864	6.0000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**0.0300**	**0.2677**	**0.3864**	**6.0000e-004**	**0.0000**	**0.0140**	**0.0140**	**0.0000**	**0.0133**	**0.0133**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0131	6.3400e-003	3.0000e-005	4.1000e-004	4.0000e-005	4.6000e-004	1.1000e-004	4.0000e-005	1.6000e-004	0.0000	2.7666	2.7666	2.1000e-004	4.4000e-004	2.9040
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**1.3100e-003**	**0.0136**	**0.0138**	**5.0000e-005**	**3.2400e-003**	**5.0000e-005**	**3.3100e-003**	**8.6000e-004**	**5.0000e-005**	**9.3000e-004**	**0.0000**	**4.9423**	**4.9423**	**2.7000e-004**	**5.0000e-004**	**5.0982**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0289	0.2602	0.3767	5.9000e-004		0.0135	0.0135		0.0128	0.0128	0.0000	51.2920	51.2920	0.0121	0.0000	51.5936
Total	**0.0289**	**0.2602**	**0.3767**	**5.9000e-004**	**0.0000**	**0.0135**	**0.0135**	**0.0000**	**0.0128**	**0.0128**	**0.0000**	**51.2920**	**51.2920**	**0.0121**	**0.0000**	**51.5936**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0131	6.3400e-003	3.0000e-005	4.1000e-004	4.0000e-005	4.6000e-004	1.1000e-004	4.0000e-005	1.6000e-004	0.0000	2.7666	2.7666	2.1000e-004	4.4000e-004	2.9040
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**1.3100e-003**	**0.0136**	**0.0138**	**5.0000e-005**	**3.2400e-003**	**5.0000e-005**	**3.3100e-003**	**8.6000e-004**	**5.0000e-005**	**9.3000e-004**	**0.0000**	**4.9423**	**4.9423**	**2.7000e-004**	**5.0000e-004**	**5.0982**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0306	0.2675	0.4245	6.6000e-004		0.0132	0.0132		0.0126	0.0126	0.0000	57.9430	57.9430	0.0133	0.0000	58.2753
Total	**0.0306**	**0.2675**	**0.4245**	**6.6000e-004**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**0.0126**	**0.0126**	**0.0000**	**57.9430**	**57.9430**	**0.0133**	**0.0000**	**58.2753**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-004	0.0131	7.2500e-003	3.0000e-005	4.5000e-004	3.0000e-005	4.9000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	2.9219	2.9219	2.3000e-004	4.7000e-004	3.0675
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	5.6000e-004	7.6800e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1300e-003	8.3000e-004	1.0000e-005	8.4000e-004	0.0000	2.3170	2.3170	6.0000e-005	6.0000e-005	2.3358
Total	**1.3100e-003**	**0.0137**	**0.0149**	**6.0000e-005**	**3.5700e-003**	**5.0000e-005**	**3.6200e-003**	**9.6000e-004**	**4.0000e-005**	**1.0000e-003**	**0.0000**	**5.2389**	**5.2389**	**2.9000e-004**	**5.3000e-004**	**5.4034**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0295	0.2598	0.4138	6.5000e-004		0.0128	0.0128		0.0122	0.0122	0.0000	56.4451	56.4451	0.0132	0.0000	56.7751
Total	**0.0295**	**0.2598**	**0.4138**	**6.5000e-004**	**0.0000**	**0.0128**	**0.0128**	**0.0000**	**0.0122**	**0.0122**	**0.0000**	**56.4451**	**56.4451**	**0.0132**	**0.0000**	**56.7751**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-004	0.0131	7.2500e-003	3.0000e-005	4.5000e-004	3.0000e-005	4.9000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	2.9219	2.9219	2.3000e-004	4.7000e-004	3.0675
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	5.6000e-004	7.6800e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1300e-003	8.3000e-004	1.0000e-005	8.4000e-004	0.0000	2.3170	2.3170	6.0000e-005	6.0000e-005	2.3358
Total	**1.3100e-003**	**0.0137**	**0.0149**	**6.0000e-005**	**3.5700e-003**	**5.0000e-005**	**3.6200e-003**	**9.6000e-004**	**4.0000e-005**	**1.0000e-003**	**0.0000**	**5.2389**	**5.2389**	**2.9000e-004**	**5.3000e-004**	**5.4034**

3.4 Grading/Excavation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4450	0.0000	0.4450	0.2412	0.0000	0.2412	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3871	3.2308	3.3439	7.7500e-003		0.1310	0.1310		0.1247	0.1247	0.0000	651.9387	651.9387	0.1601	0.0000	655.9403
Total	**0.3871**	**3.2308**	**3.3439**	**7.7500e-003**	**0.4450**	**0.1310**	**0.5760**	**0.2412**	**0.1247**	**0.3659**	**0.0000**	**651.9387**	**651.9387**	**0.1601**	**0.0000**	**655.9403**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading/Excavation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0104	0.2945	0.1631	6.3000e-004	0.0102	7.7000e-004	0.0110	2.8200e-003	7.4000e-004	3.5600e-003	0.0000	65.7429	65.7429	5.1600e-003	0.0106	69.0191
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2500e-003	4.0800e-003	0.0562	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0800e-003	1.0000e-004	6.1800e-003	0.0000	16.9681	16.9681	4.3000e-004	4.3000e-004	17.1058
Total	**0.0166**	**0.2986**	**0.2194**	**8.2000e-004**	**0.0330**	**8.8000e-004**	**0.0339**	**8.9000e-003**	**8.4000e-004**	**9.7400e-003**	**0.0000**	**82.7110**	**82.7110**	**5.5900e-003**	**0.0110**	**86.1249**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2002	0.0000	0.2002	0.1085	0.0000	0.1085	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3681	3.0396	3.2290	7.4400e-003		0.1227	0.1227		0.1169	0.1169	0.0000	624.9493	624.9493	0.1526	0.0000	628.7652
Total	**0.3681**	**3.0396**	**3.2290**	**7.4400e-003**	**0.2002**	**0.1227**	**0.3229**	**0.1085**	**0.1169**	**0.2255**	**0.0000**	**624.9493**	**624.9493**	**0.1526**	**0.0000**	**628.7652**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading/Excavation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0104	0.2945	0.1631	6.3000e-004	0.0102	7.7000e-004	0.0110	2.8200e-003	7.4000e-004	3.5600e-003	0.0000	65.7429	65.7429	5.1600e-003	0.0106	69.0191
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2500e-003	4.0800e-003	0.0562	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0800e-003	1.0000e-004	6.1800e-003	0.0000	16.9681	16.9681	4.3000e-004	4.3000e-004	17.1058
Total	**0.0166**	**0.2986**	**0.2194**	**8.2000e-004**	**0.0330**	**8.8000e-004**	**0.0339**	**8.9000e-003**	**8.4000e-004**	**9.7400e-003**	**0.0000**	**82.7110**	**82.7110**	**5.5900e-003**	**0.0110**	**86.1249**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1583	1.2995	1.0982	2.2500e-003		0.0532	0.0532		0.0505	0.0505	0.0000	186.6471	186.6471	0.0446	0.0000	187.7622
Total	**0.1583**	**1.2995**	**1.0982**	**2.2500e-003**		**0.0532**	**0.0532**		**0.0505**	**0.0505**	**0.0000**	**186.6471**	**186.6471**	**0.0446**	**0.0000**	**187.7622**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6600e-003	0.2505	0.0898	1.1100e-003	0.0347	1.2900e-003	0.0360	0.0100	1.2300e-003	0.0113	0.0000	113.0273	113.0273	6.9500e-003	0.0167	118.1666
Worker	0.0334	0.0218	0.3002	9.9000e-004	0.1219	5.9000e-004	0.1225	0.0324	5.4000e-004	0.0330	0.0000	90.6036	90.6036	2.3100e-003	2.2700e-003	91.3392
Total	**0.0390**	**0.2723**	**0.3901**	**2.1000e-003**	**0.1566**	**1.8800e-003**	**0.1585**	**0.0425**	**1.7700e-003**	**0.0443**	**0.0000**	**203.6308**	**203.6308**	**9.2600e-003**	**0.0189**	**209.5057**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0433	0.4431	0.3879	8.2000e-004		0.0184	0.0184		0.0172	0.0172	0.0000	71.9774	71.9774	0.0199	0.0000	72.4742
Total	**0.0433**	**0.4431**	**0.3879**	**8.2000e-004**		**0.0184**	**0.0184**		**0.0172**	**0.0172**	**0.0000**	**71.9774**	**71.9774**	**0.0199**	**0.0000**	**72.4742**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6600e-003	0.2505	0.0898	1.1100e-003	0.0347	1.2900e-003	0.0360	0.0100	1.2300e-003	0.0113	0.0000	113.0273	113.0273	6.9500e-003	0.0167	118.1666
Worker	0.0334	0.0218	0.3002	9.9000e-004	0.1219	5.9000e-004	0.1225	0.0324	5.4000e-004	0.0330	0.0000	90.6036	90.6036	2.3100e-003	2.2700e-003	91.3392
Total	**0.0390**	**0.2723**	**0.3901**	**2.1000e-003**	**0.1566**	**1.8800e-003**	**0.1585**	**0.0425**	**1.7700e-003**	**0.0443**	**0.0000**	**203.6308**	**203.6308**	**9.2600e-003**	**0.0189**	**209.5057**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4093	3.3672	2.9865	6.2000e-003		0.1311	0.1311		0.1244	0.1244	0.0000	514.7586	514.7586	0.1218	0.0000	517.8042
Total	**0.4093**	**3.3672**	**2.9865**	**6.2000e-003**		**0.1311**	**0.1311**		**0.1244**	**0.1244**	**0.0000**	**514.7586**	**514.7586**	**0.1218**	**0.0000**	**517.8042**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.6840	0.2469	3.0100e-003	0.0958	3.5700e-003	0.0994	0.0277	3.4200e-003	0.0311	0.0000	306.1830	306.1830	0.0196	0.0452	320.1430
Worker	0.0873	0.0539	0.7784	2.6400e-003	0.3362	1.5400e-003	0.3378	0.0895	1.4200e-003	0.0909	0.0000	241.7504	241.7504	5.7800e-003	5.8600e-003	243.6417
Total	**0.1024**	**0.7379**	**1.0252**	**5.6500e-003**	**0.4320**	**5.1100e-003**	**0.4371**	**0.1172**	**4.8400e-003**	**0.1220**	**0.0000**	**547.9334**	**547.9334**	**0.0254**	**0.0511**	**563.7846**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1133	1.1376	1.0577	2.2700e-003		0.0458	0.0458		0.0428	0.0428	0.0000	198.5152	198.5152	0.0547	0.0000	199.8821
Total	**0.1133**	**1.1376**	**1.0577**	**2.2700e-003**		**0.0458**	**0.0458**		**0.0428**	**0.0428**	**0.0000**	**198.5152**	**198.5152**	**0.0547**	**0.0000**	**199.8821**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.6840	0.2469	3.0100e-003	0.0958	3.5700e-003	0.0994	0.0277	3.4200e-003	0.0311	0.0000	306.1830	306.1830	0.0196	0.0452	320.1430
Worker	0.0873	0.0539	0.7784	2.6400e-003	0.3362	1.5400e-003	0.3378	0.0895	1.4200e-003	0.0909	0.0000	241.7504	241.7504	5.7800e-003	5.8600e-003	243.6417
Total	**0.1024**	**0.7379**	**1.0252**	**5.6500e-003**	**0.4320**	**5.1100e-003**	**0.4371**	**0.1172**	**4.8400e-003**	**0.1220**	**0.0000**	**547.9334**	**547.9334**	**0.0254**	**0.0511**	**563.7846**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0147	0.1198	0.1128	2.4000e-004		4.4900e-003	4.4900e-003		4.2500e-003	4.2500e-003	0.0000	19.6483	19.6483	4.6100e-003	0.0000	19.7635
Total	**0.0147**	**0.1198**	**0.1128**	**2.4000e-004**		**4.4900e-003**	**4.4900e-003**		**4.2500e-003**	**4.2500e-003**	**0.0000**	**19.6483**	**19.6483**	**4.6100e-003**	**0.0000**	**19.7635**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0258	9.4200e-003	1.1000e-004	3.6600e-003	1.4000e-004	3.7900e-003	1.0600e-003	1.3000e-004	1.1900e-003	0.0000	11.4568	11.4568	7.6000e-004	1.6900e-003	11.9803
Worker	3.1800e-003	1.8600e-003	0.0280	1.0000e-004	0.0128	6.0000e-005	0.0129	3.4100e-003	5.0000e-005	3.4700e-003	0.0000	8.9188	8.9188	2.0000e-004	2.1000e-004	8.9864
Total	**3.7400e-003**	**0.0277**	**0.0374**	**2.1000e-004**	**0.0165**	**2.0000e-004**	**0.0167**	**4.4700e-003**	**1.8000e-004**	**4.6600e-003**	**0.0000**	**20.3755**	**20.3755**	**9.6000e-004**	**1.9000e-003**	**20.9668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0800e-003	0.0400	0.0400	9.0000e-005		1.5800e-003	1.5800e-003		1.4700e-003	1.4700e-003	0.0000	7.5777	7.5777	2.0800e-003	0.0000	7.6298
Total	**4.0800e-003**	**0.0400**	**0.0400**	**9.0000e-005**		**1.5800e-003**	**1.5800e-003**		**1.4700e-003**	**1.4700e-003**	**0.0000**	**7.5777**	**7.5777**	**2.0800e-003**	**0.0000**	**7.6298**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0258	9.4200e-003	1.1000e-004	3.6600e-003	1.4000e-004	3.7900e-003	1.0600e-003	1.3000e-004	1.1900e-003	0.0000	11.4568	11.4568	7.6000e-004	1.6900e-003	11.9803
Worker	3.1800e-003	1.8600e-003	0.0280	1.0000e-004	0.0128	6.0000e-005	0.0129	3.4100e-003	5.0000e-005	3.4700e-003	0.0000	8.9188	8.9188	2.0000e-004	2.1000e-004	8.9864
Total	**3.7400e-003**	**0.0277**	**0.0374**	**2.1000e-004**	**0.0165**	**2.0000e-004**	**0.0167**	**4.4700e-003**	**1.8000e-004**	**4.6600e-003**	**0.0000**	**20.3755**	**20.3755**	**9.6000e-004**	**1.9000e-003**	**20.9668**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0144	0.1279	0.1920	2.8000e-004		5.6200e-003	5.6200e-003		5.2300e-003	5.2300e-003	0.0000	24.0576	24.0576	7.1700e-003	0.0000	24.2368
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0157**	**0.1279**	**0.1920**	**2.8000e-004**		**5.6200e-003**	**5.6200e-003**		**5.2300e-003**	**5.2300e-003**	**0.0000**	**24.0576**	**24.0576**	**7.1700e-003**	**0.0000**	**24.2368**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	6.0100e-003	2.0000e-005	2.6000e-003	1.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.8681	1.8681	4.0000e-005	5.0000e-005	1.8827
Total	**6.7000e-004**	**4.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.6000e-003**	**1.0000e-005**	**2.6100e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.8681**	**1.8681**	**4.0000e-005**	**5.0000e-005**	**1.8827**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1236	0.1866	2.7000e-004		5.4700e-003	5.4700e-003		5.0800e-003	5.0800e-003	0.0000	23.4814	23.4814	7.1000e-003	0.0000	23.6590
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0149**	**0.1236**	**0.1866**	**2.7000e-004**		**5.4700e-003**	**5.4700e-003**		**5.0800e-003**	**5.0800e-003**	**0.0000**	**23.4814**	**23.4814**	**7.1000e-003**	**0.0000**	**23.6590**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	6.0100e-003	2.0000e-005	2.6000e-003	1.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.8681	1.8681	4.0000e-005	5.0000e-005	1.8827
Total	**6.7000e-004**	**4.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.6000e-003**	**1.0000e-005**	**2.6100e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.8681**	**1.8681**	**4.0000e-005**	**5.0000e-005**	**1.8827**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Unmitigated	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	99.00	162.03	134.97	261,316	261,316
Day-Care Center	111.83	26.25	24.64	102,629	102,629
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	1,723.21	665.78	210.88	3,240,745	3,240,745
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,934.04	854.06	370.50	3,604,689	3,604,689

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Day-Care Center	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Enclosed Parking with Elevator	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
General Office Building	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Non-Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Parking Lot	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
NaturalGas Mitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512
NaturalGas Unmitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Unmitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	56.9173	1.8270	0.0438	115.6333
Unmitigated	56.9173	1.8270	0.0438	115.6333

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	61.0678	3.6090	0.0000	151.2929
Unmitigated	61.0678	3.6090	0.0000	151.2929

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1125 Arguello Redwood City (mitigated, Building Construction only)

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	301.26	1000sqft	1.80	301,261.00	0
Day-Care Center	4.22	1000sqft	0.10	4,225.00	0
Enclosed Parking with Elevator	746.00	Space	6.71	299,310.00	0
Other Asphalt Surfaces	0.93	Acre	0.93	40,510.80	0
Other Non-Asphalt Surfaces	17.00	1000sqft	0.39	17,000.00	0
Parking Lot	5.00	Space	0.05	2,000.00	0
Apartments Mid Rise	33.00	Dwelling Unit	0.43	55,052.00	94

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project specific land uses and sizes.

Construction Phase - Construction is anticipated to take place over a 32-month period.

Off-road Equipment - Construction equipment list provided by applicant. Electric equipment only.

Off-road Equipment -

Trips and VMT - Electric equipment modeled only.

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition -

Grading - Export and import amounts provided by applicant.

Vehicle Trips - Weekday trip rates updated per the Transportation Study.

Woodstoves - Per BAAQMD Regulation 6, Rule 3 Wood Burning Devices, no person or builder shall install a wood-burning devive in a new building construction (6-3-306)

Construction Off-road Equipment Mitigation - Electric equipment modeled only.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstructionPhase	NumDays	300.00	367.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	5.61	0.00
tblLandUse	LandUseSquareFeet	301,260.00	301,261.00
tblLandUse	LandUseSquareFeet	4,220.00	4,225.00
tblLandUse	LandUseSquareFeet	298,400.00	299,310.00
tblLandUse	LandUseSquareFeet	33,000.00	55,052.00
tblLandUse	LotAcreage	6.92	1.80
tblLandUse	LotAcreage	0.87	0.43
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	7.00	4.00
tblTripsAndVMT	HaulingTripLength	20.00	56.00
tblTripsAndVMT	VendorTripNumber	112.00	0.00
tblTripsAndVMT	WorkerTripNumber	273.00	0.00
tblVehicleTrips	WD_TR	5.44	3.00
tblVehicleTrips	WD_TR	47.62	26.50
tblVehicleTrips	WD_TR	9.74	5.72
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1347	1.0311	0.8543	1.7400e-003	0.0000	0.0429	0.0429	0.0000	0.0411	0.0411	0.0000	142.0542	142.0542	0.0302	0.0000	142.8088
2024	0.3473	2.6753	2.3213	4.8000e-003	0.0000	0.1053	0.1053	0.0000	0.1007	0.1007	0.0000	391.7663	391.7663	0.0820	0.0000	393.8174
2025	0.0124	0.0954	0.0877	1.8000e-004	0.0000	3.5900e-003	3.5900e-003	0.0000	3.4300e-003	3.4300e-003	0.0000	14.9532	14.9532	3.0900e-003	0.0000	15.0304
Maximum	**0.3473**	**2.6753**	**2.3213**	**4.8000e-003**	**0.0000**	**0.1053**	**0.1053**	**0.0000**	**0.1007**	**0.1007**	**0.0000**	**391.7663**	**391.7663**	**0.0820**	**0.0000**	**393.8174**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**100.00**	**100.00**	**100.00**	**100.00**	**0.00**	**100.00**	**100.00**	**0.00**	**100.00**	**100.00**	**0.00**	**100.00**	**100.00**	**100.00**	**0.00**	**100.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
4	**8-7-2023**	**11-6-2023**	0.6837	0.0000
5	**11-7-2023**	**2-6-2024**	0.7870	0.0000
6	**2-7-2024**	**5-6-2024**	0.7417	0.0000
7	**5-7-2024**	**8-6-2024**	0.7581	0.0000
8	**8-7-2024**	**11-6-2024**	0.7581	0.0000
9	**11-7-2024**	**2-6-2025**	0.5611	0.0000
		Highest	0.7870	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2582**	**0.8349**	**6.0714**	**0.0134**	**1.3218**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,933.9857**	**2,012.7801**	**5.5960**	**0.1067**	**2,184.4792**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2582**	**0.8349**	**6.0714**	**0.0134**	**1.3218**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,933.9857**	**2,012.7801**	**5.5960**	**0.1067**	**2,184.4792**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	8/21/2023	1/14/2025	5	367	

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0

Acres of Paving: 8.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Aerial Lifts	0	8.00	63	0.31
Building Construction	Air Compressors	1	8.00	78	0.48
Building Construction	Cranes	3	8.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	4.00	97	0.37
Building Construction	Welders	6	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	10	0.00	0.00	0.00	10.80	7.30	56.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1347	1.0311	0.8543	1.7400e-003		0.0429	0.0429		0.0411	0.0411	0.0000	142.0542	142.0542	0.0302	0.0000	142.8088
Total	**0.1347**	**1.0311**	**0.8543**	**1.7400e-003**		**0.0429**	**0.0429**		**0.0411**	**0.0411**	**0.0000**	**142.0542**	**142.0542**	**0.0302**	**0.0000**	**142.8088**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3473	2.6753	2.3213	4.8000e-003		0.1053	0.1053		0.1007	0.1007	0.0000	391.7663	391.7663	0.0820	0.0000	393.8174
Total	**0.3473**	**2.6753**	**2.3213**	**4.8000e-003**		**0.1053**	**0.1053**		**0.1007**	**0.1007**	**0.0000**	**391.7663**	**391.7663**	**0.0820**	**0.0000**	**393.8174**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0124	0.0954	0.0877	1.8000e-004		3.5900e-003	3.5900e-003		3.4300e-003	3.4300e-003	0.0000	14.9532	14.9532	3.0900e-003	0.0000	15.0304
Total	**0.0124**	**0.0954**	**0.0877**	**1.8000e-004**		**3.5900e-003**	**3.5900e-003**		**3.4300e-003**	**3.4300e-003**	**0.0000**	**14.9532**	**14.9532**	**3.0900e-003**	**0.0000**	**15.0304**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

1125 Arguello Redwood City (mitigated, Building Construction only) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

1125 Arguello Redwood City (mitigated, Building Construction only) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Unmitigated	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	99.00	162.03	134.97	261,316	261,316
Day-Care Center	111.83	26.25	24.64	102,629	102,629
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	1,723.21	665.78	210.88	3,240,745	3,240,745
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,934.04	854.06	370.50	3,604,689	3,604,689

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Day-Care Center	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Enclosed Parking with Elevator	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
General Office Building	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Non-Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Parking Lot	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
NaturalGas Mitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512
NaturalGas Unmitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512

1125 Arguello Redwood City (mitigated, Building Construction only) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

1125 Arguello Redwood City (mitigated, Building Construction only) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

1125 Arguello Redwood City (mitigated, Building Construction only) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

6.0 Area Detail

6.1 Mitigation Measures Area

1125 Arguello Redwood City (mitigated, Building Construction only) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Unmitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

7.0 Water Detail

7.1 Mitigation Measures Water

1125 Arguello Redwood City (mitigated, Building Construction only) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	56.9173	1.8270	0.0438	115.6333
Unmitigated	56.9173	1.8270	0.0438	115.6333

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

8.0 Waste Detail

8.1 Mitigation Measures Waste

1125 Arguello Redwood City (mitigated, Building Construction only) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	61.0678	3.6090	0.0000	151.2929
Unmitigated	61.0678	3.6090	0.0000	151.2929

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1125 Arguello Redwood City (mitigated)

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	301.26	1000sqft	1.80	301,261.00	0
Day-Care Center	4.22	1000sqft	0.10	4,225.00	0
Enclosed Parking with Elevator	746.00	Space	6.71	299,310.00	0
Other Asphalt Surfaces	0.93	Acre	0.93	40,510.80	0
Other Non-Asphalt Surfaces	17.00	1000sqft	0.39	17,000.00	0
Parking Lot	5.00	Space	0.05	2,000.00	0
Apartments Mid Rise	33.00	Dwelling Unit	0.43	55,052.00	94

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project specific land uses and sizes.

Construction Phase - Construction is anticipated to take place over a 32-month period.

Off-road Equipment - Construction equipment list provided by applicant. Electric equipment modeled seperately

Off-road Equipment -

Off-road Equipment - Construction equipment list provided by applicant.

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided by applicant.

Trips and VMT - Health risk modeling to assess risk to MEI, reduced mileage to one mile to account for DPM that will impact MEI.

Demolition -

Grading - Export and import amounts provided by applicant.

Vehicle Trips - Weekday trip rates updated per the Transportation Study.

Woodstoves - Per BAAQMD Regulation 6, Rule 3 Wood Burning Devices, no person or builder shall install a wood-burning devive in a new building construction (6-3-306)

Construction Off-road Equipment Mitigation - Construction equipment mitigated to Tier 4 Final. Electric equipment used during Building Construction modeled seperately.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	300.00	367.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	30.00	145.00
tblConstructionPhase	NumDays	20.00	33.00
tblConstructionPhase	NumDays	10.00	84.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	5.61	0.00
tblGrading	AcresOfGrading	72.50	3.75
tblGrading	MaterialExported	0.00	108,433.00
tblGrading	MaterialExported	0.00	16,000.00
tblGrading	MaterialImported	0.00	4,100.00
tblLandUse	LandUseSquareFeet	301,260.00	301,261.00
tblLandUse	LandUseSquareFeet	4,220.00	4,225.00
tblLandUse	LandUseSquareFeet	298,400.00	299,310.00
tblLandUse	LandUseSquareFeet	33,000.00	55,052.00
tblLandUse	LotAcreage	6.92	1.80
tblLandUse	LotAcreage	0.87	0.43
tblOffRoadEquipment	HorsePower	78.00	40.00
tblOffRoadEquipment	HorsePower	84.00	48.00
tblOffRoadEquipment	HorsePower	64.00	270.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	118.00	2,016.00
tblTripsAndVMT	HaulingTripNumber	1,582.00	2,016.00
tblTripsAndVMT	HaulingTripNumber	14,067.00	23,760.00
tblTripsAndVMT	WorkerTripNumber	273.00	326.00
tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblVehicleTrips	WD_TR	5.44	3.00
tblVehicleTrips	WD_TR	47.62	26.50
tblVehicleTrips	WD_TR	9.74	5.72
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0631	0.5741	0.8058	1.3300e-003	0.0182	0.0281	0.0463	3.5600e-003	0.0267	0.0302	0.0000	117.5901	117.5901	0.0250	1.3900e-003	118.6284
2023	0.5019	4.3844	4.6872	0.0120	0.6401	0.1588	0.7989	0.2938	0.1508	0.4446	0.0000	1,053.5229	1,053.5229	0.2045	0.0306	1,067.7414
2024	0.1787	1.5472	1.8748	7.3300e-003	0.4346	0.0362	0.4708	0.1179	0.0335	0.1513	0.0000	695.4111	695.4111	0.0722	0.0511	712.4466
2025	5.9700e-003	0.0521	0.0626	2.6000e-004	0.0165	1.0900e-003	0.0176	4.4700e-003	1.0100e-003	5.4800e-003	0.0000	25.0707	25.0707	2.4800e-003	1.9000e-003	25.6998
Maximum	**0.5019**	**4.3844**	**4.6872**	**0.0120**	**0.6401**	**0.1588**	**0.7989**	**0.2938**	**0.1508**	**0.4446**	**0.0000**	**1,053.5229**	**1,053.5229**	**0.2045**	**0.0511**	**1,067.7414**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0169	0.0986	0.8876	1.3300e-003	0.0120	2.0000e-003	0.0140	2.6100e-003	2.0000e-003	4.6100e-003	0.0000	117.5900	117.5900	0.0250	1.3900e-003	118.6283
2023	0.1767	1.7857	5.7282	0.0120	0.3946	0.0163	0.4109	0.1611	0.0162	0.1773	0.0000	1,053.5220	1,053.5220	0.2045	0.0306	1,067.7405
2024	0.1306	1.0712	2.0527	7.3300e-003	0.4346	7.8400e-003	0.4424	0.1179	7.5600e-003	0.1254	0.0000	695.4109	695.4109	0.0722	0.0511	712.4464
2025	4.6000e-003	0.0391	0.0690	2.6000e-004	0.0165	2.8000e-004	0.0168	4.4700e-003	2.7000e-004	4.7400e-003	0.0000	25.0706	25.0706	2.4800e-003	1.9000e-003	25.6998
Maximum	**0.1767**	**1.7857**	**5.7282**	**0.0120**	**0.4346**	**0.0163**	**0.4424**	**0.1611**	**0.0162**	**0.1773**	**0.0000**	**1,053.5220**	**1,053.5220**	**0.2045**	**0.0511**	**1,067.7405**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**56.15**	**54.33**	**-17.59**	**0.00**	**22.69**	**88.21**	**33.71**	**31.86**	**87.73**	**50.60**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-7-2022**	**2-6-2023**	0.8467	0.1546
2	**2-7-2023**	**5-6-2023**	1.5948	0.5729
3	**5-7-2023**	**8-6-2023**	1.7791	0.6635
4	**8-7-2023**	**11-6-2023**	0.9914	0.4883
5	**11-7-2023**	**2-6-2024**	0.4169	0.3006
6	**2-7-2024**	**5-6-2024**	0.3922	0.2860
7	**5-7-2024**	**8-6-2024**	0.3927	0.2841
8	**8-7-2024**	**11-6-2024**	0.5295	0.3301

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9	**11-7-2024**	**2-6-2025**	0.3019	0.2227
		Highest	1.7791	0.6635

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2582**	**0.8349**	**6.0714**	**0.0134**	**1.3218**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,933.9857**	**2,012.7801**	**5.5960**	**0.1067**	**2,184.4792**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Energy	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	826.3028	826.3028	0.0871	0.0158	833.1855
Mobile	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Waste						0.0000	0.0000		0.0000	0.0000	61.0678	0.0000	61.0678	3.6090	0.0000	151.2929
Water						0.0000	0.0000		0.0000	0.0000	17.7266	39.1907	56.9173	1.8270	0.0438	115.6333
Total	**2.2582**	**0.8349**	**6.0714**	**0.0134**	**1.3218**	**0.0318**	**1.3537**	**0.3531**	**0.0313**	**0.3843**	**78.7944**	**1,933.9857**	**2,012.7801**	**5.5960**	**0.1067**	**2,184.4792**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Demolition	Demolition	11/7/2022	1/6/2023	5	45	
2	Site Preparation	Site Preparation	11/7/2022	3/2/2023	5	84	
3	Grading/Excavation	Grading	2/20/2023	9/8/2023	5	145	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	8/21/2023	1/14/2025	5	367	
5	Paving	Paving	9/15/2024	10/30/2024	5	33	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.75

Acres of Paving: 8.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Demolition	Air Compressors	1	8.00	78	0.48
Site Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Site Demolition	Excavators	2	8.00	158	0.38
Site Demolition	Generator Sets	1	8.00	84	0.74
Site Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Air Compressors	1	8.00	78	0.48
Site Preparation	Excavators	2	8.00	158	0.38
Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading/Excavation	Air Compressors	1	8.00	78	0.48
Grading/Excavation	Bore/Drill Rigs	4	8.00	221	0.50
Grading/Excavation	Cranes	1	8.00	231	0.29
Grading/Excavation	Excavators	2	8.00	158	0.38
Grading/Excavation	Generator Sets	1	8.00	84	0.74
Grading/Excavation	Graders	0	8.00	187	0.41
Grading/Excavation	Pumps	2	24.00	48	0.74

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading/Excavation	Rollers	1	4.00	80	0.38
Grading/Excavation	Rubber Tired Dozers	1	8.00	247	0.40
Grading/Excavation	Scrapers	0	8.00	367	0.48
Grading/Excavation	Sweepers/Scrubbers	1	4.00	270	0.46
Grading/Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Aerial Lifts	2	8.00	63	0.31
Building Construction	Air Compressors	0	8.00	78	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Aerial Lifts	1	8.00	63	0.31
Paving	Air Compressors	1	4.00	40	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Demolition	7	18.00	0.00	2,016.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	2,016.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation	16	40.00	0.00	23,760.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	326.00	112.00	0.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT
Paving	6	20.00	0.00	0.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0114	0.0000	0.0114	1.7200e-003	0.0000	1.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.2677	0.3864	6.0000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**0.0300**	**0.2677**	**0.3864**	**6.0000e-004**	**0.0114**	**0.0140**	**0.0253**	**1.7200e-003**	**0.0133**	**0.0150**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.1000e-004	0.0244	0.0118	5.0000e-005	7.7000e-004	8.0000e-005	8.5000e-004	2.1000e-004	8.0000e-005	2.9000e-004	0.0000	5.1644	5.1644	3.8000e-004	8.3000e-004	5.4208
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**1.7300e-003**	**0.0250**	**0.0193**	**7.0000e-005**	**3.6000e-003**	**9.0000e-005**	**3.7000e-003**	**9.6000e-004**	**9.0000e-005**	**1.0600e-003**	**0.0000**	**7.3401**	**7.3401**	**4.4000e-004**	**8.9000e-004**	**7.6150**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1200e-003	0.0000	5.1200e-003	7.8000e-004	0.0000	7.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9300e-003	0.0300	0.4272	6.0000e-004		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**6.9300e-003**	**0.0300**	**0.4272**	**6.0000e-004**	**5.1200e-003**	**9.2000e-004**	**6.0400e-003**	**7.8000e-004**	**9.2000e-004**	**1.7000e-003**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.1000e-004	0.0244	0.0118	5.0000e-005	7.7000e-004	8.0000e-005	8.5000e-004	2.1000e-004	8.0000e-005	2.9000e-004	0.0000	5.1644	5.1644	3.8000e-004	8.3000e-004	5.4208
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**1.7300e-003**	**0.0250**	**0.0193**	**7.0000e-005**	**3.6000e-003**	**9.0000e-005**	**3.7000e-003**	**9.6000e-004**	**9.0000e-005**	**1.0600e-003**	**0.0000**	**7.3401**	**7.3401**	**4.4000e-004**	**8.9000e-004**	**7.6150**

3.2 Site Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4200e-003	0.0000	1.4200e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.0304	0.0482	8.0000e-005		1.5000e-003	1.5000e-003		1.4300e-003	1.4300e-003	0.0000	6.5844	6.5844	1.5100e-003	0.0000	6.6222
Total	**3.4800e-003**	**0.0304**	**0.0482**	**8.0000e-005**	**1.4200e-003**	**1.5000e-003**	**2.9200e-003**	**2.2000e-004**	**1.4300e-003**	**1.6500e-003**	**0.0000**	**6.5844**	**6.5844**	**1.5100e-003**	**0.0000**	**6.6222**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	2.7800e-003	1.5400e-003	1.0000e-005	1.0000e-004	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.6198	0.6198	5.0000e-005	1.0000e-004	0.6507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	8.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2633	0.2633	1.0000e-005	1.0000e-005	0.2654
Total	**2.0000e-004**	**2.8400e-003**	**2.4100e-003**	**1.0000e-005**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**1.2000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**0.8831**	**0.8831**	**6.0000e-005**	**1.1000e-004**	**0.9161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.4000e-004	0.0000	6.4000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-004	3.7500e-003	0.0534	8.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	6.5844	6.5844	1.5100e-003	0.0000	6.6222
Total	**8.7000e-004**	**3.7500e-003**	**0.0534**	**8.0000e-005**	**6.4000e-004**	**1.2000e-004**	**7.6000e-004**	**1.0000e-004**	**1.2000e-004**	**2.2000e-004**	**0.0000**	**6.5844**	**6.5844**	**1.5100e-003**	**0.0000**	**6.6222**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	2.7800e-003	1.5400e-003	1.0000e-005	1.0000e-004	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.6198	0.6198	5.0000e-005	1.0000e-004	0.6507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	8.7000e-004	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2633	0.2633	1.0000e-005	1.0000e-005	0.2654
Total	**2.0000e-004**	**2.8400e-003**	**2.4100e-003**	**1.0000e-005**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**1.2000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**0.8831**	**0.8831**	**6.0000e-005**	**1.1000e-004**	**0.9161**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.2677	0.3864	6.0000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**0.0300**	**0.2677**	**0.3864**	**6.0000e-004**	**0.0000**	**0.0140**	**0.0140**	**0.0000**	**0.0133**	**0.0133**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0131	6.3400e-003	3.0000e-005	4.1000e-004	4.0000e-005	4.6000e-004	1.1000e-004	4.0000e-005	1.6000e-004	0.0000	2.7666	2.7666	2.1000e-004	4.4000e-004	2.9040
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**1.3100e-003**	**0.0136**	**0.0138**	**5.0000e-005**	**3.2400e-003**	**5.0000e-005**	**3.3100e-003**	**8.6000e-004**	**5.0000e-005**	**9.3000e-004**	**0.0000**	**4.9423**	**4.9423**	**2.7000e-004**	**5.0000e-004**	**5.0982**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9300e-003	0.0300	0.4272	6.0000e-004		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	52.6538	52.6538	0.0122	0.0000	52.9576
Total	**6.9300e-003**	**0.0300**	**0.4272**	**6.0000e-004**	**0.0000**	**9.2000e-004**	**9.2000e-004**	**0.0000**	**9.2000e-004**	**9.2000e-004**	**0.0000**	**52.6538**	**52.6538**	**0.0122**	**0.0000**	**52.9576**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0131	6.3400e-003	3.0000e-005	4.1000e-004	4.0000e-005	4.6000e-004	1.1000e-004	4.0000e-005	1.6000e-004	0.0000	2.7666	2.7666	2.1000e-004	4.4000e-004	2.9040
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.7000e-004	7.4700e-003	2.0000e-005	2.8300e-003	1.0000e-005	2.8500e-003	7.5000e-004	1.0000e-005	7.7000e-004	0.0000	2.1757	2.1757	6.0000e-005	6.0000e-005	2.1942
Total	**1.3100e-003**	**0.0136**	**0.0138**	**5.0000e-005**	**3.2400e-003**	**5.0000e-005**	**3.3100e-003**	**8.6000e-004**	**5.0000e-005**	**9.3000e-004**	**0.0000**	**4.9423**	**4.9423**	**2.7000e-004**	**5.0000e-004**	**5.0982**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0306	0.2675	0.4245	6.6000e-004		0.0132	0.0132		0.0126	0.0126	0.0000	57.9430	57.9430	0.0133	0.0000	58.2753
Total	**0.0306**	**0.2675**	**0.4245**	**6.6000e-004**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**0.0126**	**0.0126**	**0.0000**	**57.9430**	**57.9430**	**0.0133**	**0.0000**	**58.2753**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-004	0.0131	7.2500e-003	3.0000e-005	4.5000e-004	3.0000e-005	4.9000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	2.9219	2.9219	2.3000e-004	4.7000e-004	3.0675
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	5.6000e-004	7.6800e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1300e-003	8.3000e-004	1.0000e-005	8.4000e-004	0.0000	2.3170	2.3170	6.0000e-005	6.0000e-005	2.3358
Total	**1.3100e-003**	**0.0137**	**0.0149**	**6.0000e-005**	**3.5700e-003**	**5.0000e-005**	**3.6200e-003**	**9.6000e-004**	**4.0000e-005**	**1.0000e-003**	**0.0000**	**5.2389**	**5.2389**	**2.9000e-004**	**5.3000e-004**	**5.4034**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.6200e-003	0.0330	0.4700	6.6000e-004		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	57.9430	57.9430	0.0133	0.0000	58.2753
Total	**7.6200e-003**	**0.0330**	**0.4700**	**6.6000e-004**	**0.0000**	**1.0200e-003**	**1.0200e-003**	**0.0000**	**1.0200e-003**	**1.0200e-003**	**0.0000**	**57.9430**	**57.9430**	**0.0133**	**0.0000**	**58.2753**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-004	0.0131	7.2500e-003	3.0000e-005	4.5000e-004	3.0000e-005	4.9000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	2.9219	2.9219	2.3000e-004	4.7000e-004	3.0675
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	5.6000e-004	7.6800e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1300e-003	8.3000e-004	1.0000e-005	8.4000e-004	0.0000	2.3170	2.3170	6.0000e-005	6.0000e-005	2.3358
Total	**1.3100e-003**	**0.0137**	**0.0149**	**6.0000e-005**	**3.5700e-003**	**5.0000e-005**	**3.6200e-003**	**9.6000e-004**	**4.0000e-005**	**1.0000e-003**	**0.0000**	**5.2389**	**5.2389**	**2.9000e-004**	**5.3000e-004**	**5.4034**

3.4 Grading/Excavation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4450	0.0000	0.4450	0.2412	0.0000	0.2412	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3871	3.2308	3.3439	7.7500e-003		0.1310	0.1310		0.1247	0.1247	0.0000	651.9387	651.9387	0.1601	0.0000	655.9403
Total	**0.3871**	**3.2308**	**3.3439**	**7.7500e-003**	**0.4450**	**0.1310**	**0.5760**	**0.2412**	**0.1247**	**0.3659**	**0.0000**	**651.9387**	**651.9387**	**0.1601**	**0.0000**	**655.9403**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading/Excavation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0104	0.2945	0.1631	6.3000e-004	0.0102	7.7000e-004	0.0110	2.8200e-003	7.4000e-004	3.5600e-003	0.0000	65.7429	65.7429	5.1600e-003	0.0106	69.0191
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2500e-003	4.0800e-003	0.0562	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0800e-003	1.0000e-004	6.1800e-003	0.0000	16.9681	16.9681	4.3000e-004	4.3000e-004	17.1058
Total	**0.0166**	**0.2986**	**0.2194**	**8.2000e-004**	**0.0330**	**8.8000e-004**	**0.0339**	**8.9000e-003**	**8.4000e-004**	**9.7400e-003**	**0.0000**	**82.7110**	**82.7110**	**5.5900e-003**	**0.0110**	**86.1249**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2002	0.0000	0.2002	0.1085	0.0000	0.1085	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1029	1.0534	4.2779	7.7500e-003		0.0115	0.0115		0.0115	0.0115	0.0000	651.9380	651.9380	0.1601	0.0000	655.9396
Total	**0.1029**	**1.0534**	**4.2779**	**7.7500e-003**	**0.2002**	**0.0115**	**0.2118**	**0.1085**	**0.0115**	**0.1201**	**0.0000**	**651.9380**	**651.9380**	**0.1601**	**0.0000**	**655.9396**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading/Excavation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0104	0.2945	0.1631	6.3000e-004	0.0102	7.7000e-004	0.0110	2.8200e-003	7.4000e-004	3.5600e-003	0.0000	65.7429	65.7429	5.1600e-003	0.0106	69.0191
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2500e-003	4.0800e-003	0.0562	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0800e-003	1.0000e-004	6.1800e-003	0.0000	16.9681	16.9681	4.3000e-004	4.3000e-004	17.1058
Total	**0.0166**	**0.2986**	**0.2194**	**8.2000e-004**	**0.0330**	**8.8000e-004**	**0.0339**	**8.9000e-003**	**8.4000e-004**	**9.7400e-003**	**0.0000**	**82.7110**	**82.7110**	**5.5900e-003**	**0.0110**	**86.1249**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0236	0.2684	0.2439	5.1000e-004		0.0102	0.0102		9.4200e-003	9.4200e-003	0.0000	44.5929	44.5929	0.0144	0.0000	44.9534
Total	**0.0236**	**0.2684**	**0.2439**	**5.1000e-004**		**0.0102**	**0.0102**		**9.4200e-003**	**9.4200e-003**	**0.0000**	**44.5929**	**44.5929**	**0.0144**	**0.0000**	**44.9534**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6600e-003	0.2505	0.0898	1.1100e-003	0.0347	1.2900e-003	0.0360	0.0100	1.2300e-003	0.0113	0.0000	113.0273	113.0273	6.9500e-003	0.0167	118.1666
Worker	0.0334	0.0218	0.3002	9.9000e-004	0.1219	5.9000e-004	0.1225	0.0324	5.4000e-004	0.0330	0.0000	90.6036	90.6036	2.3100e-003	2.2700e-003	91.3392
Total	**0.0390**	**0.2723**	**0.3901**	**2.1000e-003**	**0.1566**	**1.8800e-003**	**0.1585**	**0.0425**	**1.7700e-003**	**0.0443**	**0.0000**	**203.6308**	**203.6308**	**9.2600e-003**	**0.0189**	**209.5057**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2000e-003	0.1082	0.3002	5.1000e-004		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	44.5928	44.5928	0.0144	0.0000	44.9534
Total	**8.2000e-003**	**0.1082**	**0.3002**	**5.1000e-004**		**8.3000e-004**	**8.3000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**44.5928**	**44.5928**	**0.0144**	**0.0000**	**44.9534**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6600e-003	0.2505	0.0898	1.1100e-003	0.0347	1.2900e-003	0.0360	0.0100	1.2300e-003	0.0113	0.0000	113.0273	113.0273	6.9500e-003	0.0167	118.1666
Worker	0.0334	0.0218	0.3002	9.9000e-004	0.1219	5.9000e-004	0.1225	0.0324	5.4000e-004	0.0330	0.0000	90.6036	90.6036	2.3100e-003	2.2700e-003	91.3392
Total	**0.0390**	**0.2723**	**0.3901**	**2.1000e-003**	**0.1566**	**1.8800e-003**	**0.1585**	**0.0425**	**1.7700e-003**	**0.0443**	**0.0000**	**203.6308**	**203.6308**	**9.2600e-003**	**0.0189**	**209.5057**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0620	0.6918	0.6652	1.4000e-003		0.0258	0.0258		0.0238	0.0238	0.0000	122.9924	122.9924	0.0398	0.0000	123.9868
Total	**0.0620**	**0.6918**	**0.6652**	**1.4000e-003**		**0.0258**	**0.0258**		**0.0238**	**0.0238**	**0.0000**	**122.9924**	**122.9924**	**0.0398**	**0.0000**	**123.9868**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.6840	0.2469	3.0100e-003	0.0958	3.5700e-003	0.0994	0.0277	3.4200e-003	0.0311	0.0000	306.1830	306.1830	0.0196	0.0452	320.1430
Worker	0.0873	0.0539	0.7784	2.6400e-003	0.3362	1.5400e-003	0.3378	0.0895	1.4200e-003	0.0909	0.0000	241.7504	241.7504	5.7800e-003	5.8600e-003	243.6417
Total	**0.1024**	**0.7379**	**1.0252**	**5.6500e-003**	**0.4320**	**5.1100e-003**	**0.4371**	**0.1172**	**4.8400e-003**	**0.1220**	**0.0000**	**547.9334**	**547.9334**	**0.0254**	**0.0511**	**563.7846**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0226	0.2983	0.8278	1.4000e-003		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	122.9922	122.9922	0.0398	0.0000	123.9867
Total	**0.0226**	**0.2983**	**0.8278**	**1.4000e-003**		**2.2900e-003**	**2.2900e-003**		**2.2900e-003**	**2.2900e-003**	**0.0000**	**122.9922**	**122.9922**	**0.0398**	**0.0000**	**123.9867**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.6840	0.2469	3.0100e-003	0.0958	3.5700e-003	0.0994	0.0277	3.4200e-003	0.0311	0.0000	306.1830	306.1830	0.0196	0.0452	320.1430
Worker	0.0873	0.0539	0.7784	2.6400e-003	0.3362	1.5400e-003	0.3378	0.0895	1.4200e-003	0.0909	0.0000	241.7504	241.7504	5.7800e-003	5.8600e-003	243.6417
Total	**0.1024**	**0.7379**	**1.0252**	**5.6500e-003**	**0.4320**	**5.1100e-003**	**0.4371**	**0.1172**	**4.8400e-003**	**0.1220**	**0.0000**	**547.9334**	**547.9334**	**0.0254**	**0.0511**	**563.7846**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2300e-003	0.0244	0.0252	5.0000e-005		9.0000e-004	9.0000e-004		8.3000e-004	8.3000e-004	0.0000	4.6951	4.6951	1.5200e-003	0.0000	4.7331
Total	**2.2300e-003**	**0.0244**	**0.0252**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**4.6951**	**4.6951**	**1.5200e-003**	**0.0000**	**4.7331**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0258	9.4200e-003	1.1000e-004	3.6600e-003	1.4000e-004	3.7900e-003	1.0600e-003	1.3000e-004	1.1900e-003	0.0000	11.4568	11.4568	7.6000e-004	1.6900e-003	11.9803
Worker	3.1800e-003	1.8600e-003	0.0280	1.0000e-004	0.0128	6.0000e-005	0.0129	3.4100e-003	5.0000e-005	3.4700e-003	0.0000	8.9188	8.9188	2.0000e-004	2.1000e-004	8.9864
Total	**3.7400e-003**	**0.0277**	**0.0374**	**2.1000e-004**	**0.0165**	**2.0000e-004**	**0.0167**	**4.4700e-003**	**1.8000e-004**	**4.6600e-003**	**0.0000**	**20.3755**	**20.3755**	**9.6000e-004**	**1.9000e-003**	**20.9668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.6000e-004	0.0114	0.0316	5.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	4.6951	4.6951	1.5200e-003	0.0000	4.7331
Total	**8.6000e-004**	**0.0114**	**0.0316**	**5.0000e-005**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**4.6951**	**4.6951**	**1.5200e-003**	**0.0000**	**4.7331**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0258	9.4200e-003	1.1000e-004	3.6600e-003	1.4000e-004	3.7900e-003	1.0600e-003	1.3000e-004	1.1900e-003	0.0000	11.4568	11.4568	7.6000e-004	1.6900e-003	11.9803
Worker	3.1800e-003	1.8600e-003	0.0280	1.0000e-004	0.0128	6.0000e-005	0.0129	3.4100e-003	5.0000e-005	3.4700e-003	0.0000	8.9188	8.9188	2.0000e-004	2.1000e-004	8.9864
Total	**3.7400e-003**	**0.0277**	**0.0374**	**2.1000e-004**	**0.0165**	**2.0000e-004**	**0.0167**	**4.4700e-003**	**1.8000e-004**	**4.6600e-003**	**0.0000**	**20.3755**	**20.3755**	**9.6000e-004**	**1.9000e-003**	**20.9668**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0124	0.1171	0.1784	2.6000e-004		5.2400e-003	5.2400e-003		4.8500e-003	4.8500e-003	0.0000	22.6173	22.6173	7.0100e-003	0.0000	22.7925
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0137**	**0.1171**	**0.1784**	**2.6000e-004**		**5.2400e-003**	**5.2400e-003**		**4.8500e-003**	**4.8500e-003**	**0.0000**	**22.6173**	**22.6173**	**7.0100e-003**	**0.0000**	**22.7925**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	6.0100e-003	2.0000e-005	2.6000e-003	1.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.8681	1.8681	4.0000e-005	5.0000e-005	1.8827
Total	**6.7000e-004**	**4.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.6000e-003**	**1.0000e-005**	**2.6100e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.8681**	**1.8681**	**4.0000e-005**	**5.0000e-005**	**1.8827**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6300e-003	0.0346	0.1937	2.6000e-004		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	22.6172	22.6172	7.0100e-003	0.0000	22.7925
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9100e-003**	**0.0346**	**0.1937**	**2.6000e-004**		**4.2000e-004**	**4.2000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**22.6172**	**22.6172**	**7.0100e-003**	**0.0000**	**22.7925**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	6.0100e-003	2.0000e-005	2.6000e-003	1.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	1.8681	1.8681	4.0000e-005	5.0000e-005	1.8827
Total	**6.7000e-004**	**4.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.6000e-003**	**1.0000e-005**	**2.6100e-003**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**0.0000**	**1.8681**	**1.8681**	**4.0000e-005**	**5.0000e-005**	**1.8827**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156
Unmitigated	0.5801	0.5324	5.5706	0.0116	1.3218	7.5900e-003	1.3294	0.3531	7.0500e-003	0.3601	0.0000	1,067.4548	1,067.4548	0.0724	0.0472	1,083.3156

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	99.00	162.03	134.97	261,316	261,316
Day-Care Center	111.83	26.25	24.64	102,629	102,629
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	1,723.21	665.78	210.88	3,240,745	3,240,745
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,934.04	854.06	370.50	3,604,689	3,604,689

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Day-Care Center	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Enclosed Parking with Elevator	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
General Office Building	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Other Non-Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657
Parking Lot	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	499.8914	499.8914	0.0809	9.8000e-003	504.8344
NaturalGas Mitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512
NaturalGas Unmitigated	0.0330	0.2990	0.2459	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	326.4115	326.4115	6.2600e-003	5.9800e-003	328.3512

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	278619	1.5000e-003	0.0128	5.4600e-003	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8682	14.8682	2.8000e-004	2.7000e-004	14.9565
Day-Care Center	68952	3.7000e-004	3.3800e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6795	3.6795	7.0000e-005	7.0000e-005	3.7014
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	5.76915e+006	0.0311	0.2828	0.2376	1.7000e-003		0.0215	0.0215		0.0215	0.0215	0.0000	307.8637	307.8637	5.9000e-003	5.6400e-003	309.6932
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0330**	**0.2990**	**0.2459**	**1.8000e-003**		**0.0228**	**0.0228**		**0.0228**	**0.0228**	**0.0000**	**326.4115**	**326.4115**	**6.2500e-003**	**5.9800e-003**	**328.3512**

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	128250	11.8662	1.9200e-003	2.3000e-004	11.9835
Day-Care Center	18463.2	1.7083	2.8000e-004	3.0000e-005	1.7252
Enclosed Parking with Elevator	1.62825e+006	150.6515	0.0244	2.9500e-003	152.1412
General Office Building	3.62718e+006	335.6006	0.0543	6.5800e-003	338.9191
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	700	0.0648	1.0000e-005	0.0000	0.0654
Total		**499.8914**	**0.0809**	**9.7900e-003**	**504.8344**

6.0 Area Detail

6.1 Mitigation Measures Area

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519
Unmitigated	1.6451	3.4400e-003	0.2549	2.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	1.0374	1.0374	4.5000e-004	1.0000e-005	1.0519

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4313					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.0000e-005	5.3000e-004	2.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6180	0.6180	1.0000e-005	1.0000e-005	0.6216
Landscaping	8.2600e-003	2.9100e-003	0.2546	1.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	0.4195	0.4195	4.3000e-004	0.0000	0.4303
Total	**1.6451**	**3.4400e-003**	**0.2549**	**1.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**1.0374**	**1.0374**	**4.4000e-004**	**1.0000e-005**	**1.0519**

7.0 Water Detail

7.1 Mitigation Measures Water

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	56.9173	1.8270	0.0438	115.6333
Unmitigated	56.9173	1.8270	0.0438	115.6333

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.15008 / 1.35549	2.1975	0.0703	1.6800e-003	4.4570
Day-Care Center	0.180994 / 0.465413	0.2988	5.9400e-003	1.4000e-004	0.4901
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	53.5441 / 32.8173	54.4210	1.7508	0.0419	110.6862
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**56.9173**	**1.8270**	**0.0438**	**115.6333**

8.0 Waste Detail

8.1 Mitigation Measures Waste

1125 Arguello Redwood City (mitigated) - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	61.0678	3.6090	0.0000	151.2929
Unmitigated	61.0678	3.6090	0.0000	151.2929

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	15.18	3.0814	0.1821	0.0000	7.6341
Day-Care Center	5.49	1.1144	0.0659	0.0000	2.7609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	280.17	56.8720	3.3610	0.0000	140.8979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**61.0678**	**3.6090**	**0.0000**	**151.2929**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 1/9/2022
** File: C:\Lakes\AERMOD View\1125Arguello_Unmitigated\1125Arguello_Unmitigated.ADI
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** AERMOD Control Pathway
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CO STARTING
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   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   URBANOPT 86200 Redwood_City
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 1125Arguello_Unmitigated.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   567253.773  4149595.115        5.390
** Source Parameters **
   SRCPARAM PAREA1       2.0769E-07     3.658        10
   AREAVERT PAREA1       567253.773 4149595.115 567282.699 4149640.915
   AREAVERT PAREA1       567284.507 4149651.762 567308.612 4149671.649
   AREAVERT PAREA1       567447.821 4149518.580 567423.715 4149498.693
   AREAVERT PAREA1       567417.086 4149505.925 567391.776 4149484.833
   AREAVERT PAREA1       567251.362 4149595.717 567253.773 4149597.525
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
```

```
**
**
RE STARTING
   INCLUDED 1125Arguello_Unmitigated.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC"
   PROFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL"
   SURFDATA 93231 2009 San_Carlos_Airport
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 2.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 1125ARGUELLO_UNMITIGATED.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 1125ARGUELLO_UNMITIGATED.AD\AN00GALL.PLT 32
   SUMMFILE 1125Arguello_Unmitigated.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     10
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 1/9/2022
** File: C:\Lakes\AERMOD View\1125Arguello_Unmitigated\1125Arguello_Unmitigated.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\1125Arguello_Unmitigated\1125Arguello_Unmitigat
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   URBANOPT 86200 Redwood_City
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 1125Arguello_Unmitigated.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   567253.773  4149595.115        5.390
** Source Parameters **
   SRCPARAM PAREA1       2.0769E-07     3.658        10
   AREAVERT PAREA1       567253.773 4149595.115 567282.699 4149640.915
   AREAVERT PAREA1       567284.507 4149651.762 567308.612 4149671.649
   AREAVERT PAREA1       567447.821 4149518.580 567423.715 4149498.693
   AREAVERT PAREA1       567417.086 4149505.925 567391.776 4149484.833
   AREAVERT PAREA1       567251.362 4149595.717 567253.773 4149597.525
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
```

```
**
**
RE STARTING
   INCLUDED 1125Arguello_Unmitigated.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC"
   PROFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL"
   SURFDATA 93231 2009 San_Carlos_Airport
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 2.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 1125ARGUELLO_UNMITIGATED.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 1125ARGUELLO_UNMITIGATED.AD\AN00GALL.PLT 32
   SUMMFILE 1125Arguello_Unmitigated.sum
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

↟ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                         ***       18:39:24

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
```

```
 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for     1 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =     86200.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     723
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
```

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 2.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ;
Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: 1125Arguello_Unmitigated.err

**File for Summary of Results: 1125Arguello_Unmitigated.sum

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
86200.	PAREA1 ,	

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(566976.0, 4149399.0, 9.1, 9.1, 0.0); (566976.0, 4149419.0, 9.0, 9.0, 0.0);

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     ( 567056.0, 4149839.0,       5.5,       5.5,       0.0);         ( 567056.0,
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     ( 567076.0, 4149359.0,       8.0,       8.0,       0.0);         ( 567076.0,
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     ( 567076.0, 4149439.0,       7.7,       7.7,       0.0);         ( 567076.0,
4149459.0,       7.7,       7.7,       0.0);
     ( 567076.0, 4149479.0,       7.7,       7.7,       0.0);         ( 567076.0,
4149499.0,       7.7,       7.7,       0.0);
```


 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

```
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4149739.0,       5.8,       5.8,       0.0);
     ( 567116.0, 4149759.0,       5.7,       5.7,       0.0);         ( 567116.0,
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     ( 567156.0, 4149419.0,       7.1,       7.1,       0.0);         ( 567156.0,
4149439.0,       7.0,       7.0,       0.0);
     ( 567156.0, 4149459.0,       6.9,       6.9,       0.0);         ( 567156.0,
4149479.0,       6.9,       6.9,       0.0);
     ( 567156.0, 4149699.0,       5.7,       5.7,       0.0);         ( 567156.0,
4149719.0,       5.5,       5.5,       0.0);
     ( 567156.0, 4149739.0,       5.3,       5.3,       0.0);         ( 567156.0,
4149759.0,       5.1,       5.1,       0.0);
     ( 567156.0, 4149779.0,       5.0,       5.0,       0.0);         ( 567156.0,
4149799.0,       5.0,       5.0,       0.0);
     ( 567156.0, 4149819.0,       5.0,       5.0,       0.0);         ( 567156.0,
4149839.0,       5.0,       5.0,       0.0);
     ( 567156.0, 4149859.0,       4.9,       4.9,       0.0);         ( 567156.0,
4149879.0,       4.8,       4.8,       0.0);
↟ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        18:39:24

                                   PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                                 *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
```

(METERS)

(567176.0, 4149259.0, 7.9, 7.9, 0.0); (567176.0, 4149279.0, 7.9, 7.9, 0.0);
(567176.0, 4149299.0, 7.8, 7.8, 0.0); (567176.0, 4149319.0, 7.6, 7.6, 0.0);
(567176.0, 4149339.0, 7.4, 7.4, 0.0); (567176.0, 4149359.0, 7.3, 7.3, 0.0);
(567176.0, 4149379.0, 7.3, 7.3, 0.0); (567176.0, 4149399.0, 7.1, 7.1, 0.0);
(567176.0, 4149419.0, 7.0, 7.0, 0.0); (567176.0, 4149439.0, 7.0, 7.0, 0.0);
(567176.0, 4149459.0, 6.8, 6.8, 0.0); (567176.0, 4149479.0, 6.7, 6.7, 0.0);
(567176.0, 4149679.0, 5.7, 5.7, 0.0); (567176.0, 4149699.0, 5.5, 5.5, 0.0);
(567176.0, 4149719.0, 5.3, 5.3, 0.0); (567176.0, 4149739.0, 5.1, 5.1, 0.0);
(567176.0, 4149759.0, 4.9, 4.9, 0.0); (567176.0, 4149779.0, 4.8, 4.8, 0.0);
(567176.0, 4149799.0, 4.8, 4.8, 0.0); (567176.0, 4149819.0, 4.8, 4.8, 0.0);
(567176.0, 4149839.0, 4.8, 4.8, 0.0); (567176.0, 4149859.0, 4.8, 4.8, 0.0);
(567176.0, 4149879.0, 4.6, 4.6, 0.0); (567196.0, 4149239.0, 7.7, 7.7, 0.0);
(567196.0, 4149259.0, 7.7, 7.7, 0.0); (567196.0, 4149279.0, 7.7, 7.7, 0.0);
(567196.0, 4149299.0, 7.6, 7.6, 0.0); (567196.0, 4149319.0, 7.4, 7.4, 0.0);
(567196.0, 4149339.0, 7.2, 7.2, 0.0); (567196.0, 4149359.0, 7.1, 7.1, 0.0);
(567196.0, 4149379.0, 7.1, 7.1, 0.0); (567196.0, 4149399.0, 6.9, 6.9, 0.0);
(567196.0, 4149419.0, 6.8, 6.8, 0.0); (567196.0, 4149439.0, 6.8, 6.8, 0.0);
(567196.0, 4149459.0, 6.5, 6.5, 0.0); (567196.0, 4149699.0, 5.3, 5.3, 0.0);
(567196.0, 4149719.0, 5.1, 5.1, 0.0); (567196.0, 4149739.0, 4.9, 4.9, 0.0);
(567196.0, 4149759.0, 4.7, 4.7, 0.0); (567196.0, 4149779.0, 4.5, 4.5, 0.0);
(567196.0, 4149799.0, 4.4, 4.4, 0.0); (567196.0, 4149819.0, 4.4, 4.4, 0.0);
(567196.0, 4149839.0, 4.5, 4.5, 0.0); (567196.0, 4149859.0, 4.6, 4.6, 0.0);
(567196.0, 4149879.0, 4.4, 4.4, 0.0); (567216.0, 4149239.0, 7.4, 7.4, 0.0);
(567216.0, 4149259.0, 7.4, 7.4, 0.0); (567216.0, 4149279.0, 7.4, 7.4, 0.0);

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4149319.0,       7.2,       7.2,       0.0);
     ( 567216.0, 4149339.0,       7.0,       7.0,       0.0);         ( 567216.0,
4149359.0,       6.9,       6.9,       0.0);
     ( 567216.0, 4149379.0,       6.9,       6.9,       0.0);         ( 567216.0,
4149399.0,       6.6,       6.6,       0.0);
     ( 567216.0, 4149419.0,       6.6,       6.6,       0.0);         ( 567216.0,
4149439.0,       6.5,       6.5,       0.0);
     ( 567216.0, 4149719.0,       4.9,       4.9,       0.0);         ( 567216.0,
4149739.0,       4.7,       4.7,       0.0);
     ( 567216.0, 4149759.0,       4.5,       4.5,       0.0);         ( 567216.0,
4149779.0,       4.4,       4.4,       0.0);
     ( 567216.0, 4149799.0,       4.3,       4.3,       0.0);         ( 567216.0,
4149819.0,       4.2,       4.2,       0.0);
     ( 567216.0, 4149839.0,       4.2,       4.2,       0.0);         ( 567216.0,
4149859.0,       4.3,       4.3,       0.0);
     ( 567216.0, 4149879.0,       4.2,       4.2,       0.0);         ( 567236.0,
4149239.0,       7.2,       7.2,       0.0);
     ( 567236.0, 4149259.0,       7.0,       7.0,       0.0);         ( 567236.0,
4149279.0,       7.0,       7.0,       0.0);
     ( 567236.0, 4149299.0,       7.0,       7.0,       0.0);         ( 567236.0,
4149319.0,       7.0,       7.0,       0.0);
     ( 567236.0, 4149339.0,       6.8,       6.8,       0.0);         ( 567236.0,
4149359.0,       6.7,       6.7,       0.0);
     ( 567236.0, 4149379.0,       6.6,       6.6,       0.0);         ( 567236.0,
4149399.0,       6.5,       6.5,       0.0);
     ( 567236.0, 4149419.0,       6.4,       6.4,       0.0);         ( 567236.0,
4149739.0,       4.5,       4.5,       0.0);
     ( 567236.0, 4149759.0,       4.3,       4.3,       0.0);         ( 567236.0,
4149779.0,       4.3,       4.3,       0.0);
     ( 567236.0, 4149799.0,       4.2,       4.2,       0.0);         ( 567236.0,
4149819.0,       4.0,       4.0,       0.0);
     ( 567236.0, 4149839.0,       3.9,       3.9,       0.0);         ( 567236.0,
4149859.0,       3.9,       3.9,       0.0);
     ( 567236.0, 4149879.0,       3.9,       3.9,       0.0);         ( 567236.0,
4149899.0,       3.8,       3.8,       0.0);
     ( 567256.0, 4149219.0,       7.0,       7.0,       0.0);         ( 567256.0,
4149239.0,       7.0,       7.0,       0.0);
     ( 567256.0, 4149259.0,       6.8,       6.8,       0.0);         ( 567256.0,
4149279.0,       6.8,       6.8,       0.0);
     ( 567256.0, 4149299.0,       6.8,       6.8,       0.0);         ( 567256.0,
4149319.0,       6.8,       6.8,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        18:39:24

                                   PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567256.0, 4149339.0, 6.5, 6.5, 0.0); (567256.0, 4149359.0, 6.5, 6.5, 0.0);
(567256.0, 4149379.0, 6.5, 6.5, 0.0); (567256.0, 4149399.0, 6.2, 6.2, 0.0);
(567256.0, 4149759.0, 4.3, 4.3, 0.0); (567256.0, 4149779.0, 4.2, 4.2, 0.0);
(567256.0, 4149799.0, 4.0, 4.0, 0.0); (567256.0, 4149819.0, 3.8, 3.8, 0.0);
(567256.0, 4149839.0, 3.7, 3.7, 0.0); (567256.0, 4149859.0, 3.7, 3.7, 0.0);
(567256.0, 4149879.0, 3.6, 3.6, 0.0); (567256.0, 4149899.0, 3.5, 3.5, 0.0);
(567276.0, 4149219.0, 6.8, 6.8, 0.0); (567276.0, 4149239.0, 6.8, 6.8, 0.0);
(567276.0, 4149259.0, 6.7, 6.7, 0.0); (567276.0, 4149279.0, 6.7, 6.7, 0.0);
(567276.0, 4149299.0, 6.6, 6.6, 0.0); (567276.0, 4149319.0, 6.6, 6.6, 0.0);
(567276.0, 4149339.0, 6.5, 6.5, 0.0); (567276.0, 4149359.0, 6.3, 6.3, 0.0);
(567276.0, 4149379.0, 6.2, 6.2, 0.0); (567276.0, 4149759.0, 4.2, 4.2, 0.0);
(567276.0, 4149779.0, 4.0, 4.0, 0.0); (567276.0, 4149799.0, 3.8, 3.8, 0.0);
(567276.0, 4149819.0, 3.7, 3.7, 0.0); (567276.0, 4149839.0, 3.6, 3.6, 0.0);
(567276.0, 4149859.0, 3.5, 3.5, 0.0); (567276.0, 4149879.0, 3.3, 3.3, 0.0);
(567276.0, 4149899.0, 3.2, 3.2, 0.0); (567276.0, 4149919.0, 3.2, 3.2, 0.0);
(567296.0, 4149219.0, 6.6, 6.6, 0.0); (567296.0, 4149239.0, 6.7, 6.7, 0.0);
(567296.0, 4149259.0, 6.7, 6.7, 0.0); (567296.0, 4149279.0, 6.7, 6.7, 0.0);
(567296.0, 4149299.0, 6.5, 6.5, 0.0); (567296.0, 4149319.0, 6.4, 6.4, 0.0);
(567296.0, 4149339.0, 6.4, 6.4, 0.0); (567296.0, 4149359.0, 6.2, 6.2, 0.0);
(567296.0, 4149739.0, 4.2, 4.2, 0.0); (567296.0, 4149759.0, 4.0, 4.0, 0.0);
(567296.0, 4149779.0, 3.8, 3.8, 0.0); (567296.0, 4149799.0, 3.7, 3.7, 0.0);
(567296.0, 4149819.0, 3.6, 3.6, 0.0); (567296.0, 4149839.0, 3.5, 3.5, 0.0);
(567296.0, 4149859.0, 3.3, 3.3, 0.0); (567296.0, 4149879.0, 3.1, 3.1, 0.0);

```
     ( 567296.0, 4149899.0,       3.0,       3.0,       0.0);         ( 567296.0,
4149919.0,       3.0,       3.0,       0.0);
     ( 567316.0, 4149219.0,       6.4,       6.4,       0.0);         ( 567316.0,
4149239.0,       6.5,       6.5,       0.0);
     ( 567316.0, 4149259.0,       6.5,       6.5,       0.0);         ( 567316.0,
4149279.0,       6.5,       6.5,       0.0);
     ( 567316.0, 4149299.0,       6.3,       6.3,       0.0);         ( 567316.0,
4149319.0,       6.2,       6.2,       0.0);
     ( 567316.0, 4149339.0,       6.2,       6.2,       0.0);         ( 567316.0,
4149719.0,       4.2,       4.2,       0.0);
     ( 567316.0, 4149739.0,       4.0,       4.0,       0.0);         ( 567316.0,
4149759.0,       3.8,       3.8,       0.0);
     ( 567316.0, 4149779.0,       3.7,       3.7,       0.0);         ( 567316.0,
4149799.0,       3.6,       3.6,       0.0);
     ( 567316.0, 4149819.0,       3.5,       3.5,       0.0);         ( 567316.0,
4149839.0,       3.4,       3.4,       0.0);
     ( 567316.0, 4149859.0,       3.3,       3.3,       0.0);         ( 567316.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567316.0, 4149899.0,       2.9,       2.9,       0.0);         ( 567316.0,
4149919.0,       2.8,       2.8,       0.0);
     ( 567336.0, 4149219.0,       6.2,       6.2,       0.0);         ( 567336.0,
4149239.0,       6.3,       6.3,       0.0);
     ( 567336.0, 4149259.0,       6.4,       6.4,       0.0);         ( 567336.0,
4149279.0,       6.3,       6.3,       0.0);
     ( 567336.0, 4149299.0,       6.1,       6.1,       0.0);         ( 567336.0,
4149319.0,       6.0,       6.0,       0.0);
     ( 567336.0, 4149699.0,       4.2,       4.2,       0.0);         ( 567336.0,
4149719.0,       4.0,       4.0,       0.0);
     ( 567336.0, 4149739.0,       3.8,       3.8,       0.0);         ( 567336.0,
4149759.0,       3.7,       3.7,       0.0);
     ( 567336.0, 4149779.0,       3.6,       3.6,       0.0);         ( 567336.0,
4149799.0,       3.5,       3.5,       0.0);
     ( 567336.0, 4149819.0,       3.3,       3.3,       0.0);         ( 567336.0,
4149839.0,       3.2,       3.2,       0.0);
     ( 567336.0, 4149859.0,       3.2,       3.2,       0.0);         ( 567336.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567336.0, 4149899.0,       2.9,       2.9,       0.0);         ( 567336.0,
4149919.0,       2.7,       2.7,       0.0);
     ( 567356.0, 4149219.0,       6.0,       6.0,       0.0);         ( 567356.0,
4149239.0,       6.2,       6.2,       0.0);
     ( 567356.0, 4149259.0,       6.3,       6.3,       0.0);         ( 567356.0,
4149279.0,       6.1,       6.1,       0.0);
     ( 567356.0, 4149299.0,       5.9,       5.9,       0.0);         ( 567356.0,
4149659.0,       4.3,       4.3,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***       01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***       18:39:24
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567356.0, 4149679.0, 4.2, 4.2, 0.0); (567356.0, 4149699.0, 4.0, 4.0, 0.0);
(567356.0, 4149719.0, 3.8, 3.8, 0.0); (567356.0, 4149739.0, 3.7, 3.7, 0.0);
(567356.0, 4149759.0, 3.6, 3.6, 0.0); (567356.0, 4149779.0, 3.5, 3.5, 0.0);
(567356.0, 4149799.0, 3.3, 3.3, 0.0); (567356.0, 4149819.0, 3.1, 3.1, 0.0);
(567356.0, 4149839.0, 3.0, 3.0, 0.0); (567356.0, 4149859.0, 3.0, 3.0, 0.0);
(567356.0, 4149879.0, 3.0, 3.0, 0.0); (567356.0, 4149899.0, 2.9, 2.9, 0.0);
(567356.0, 4149919.0, 2.7, 2.7, 0.0); (567376.0, 4149219.0, 5.8, 5.8, 0.0);
(567376.0, 4149239.0, 6.0, 6.0, 0.0); (567376.0, 4149259.0, 6.1, 6.1, 0.0);
(567376.0, 4149279.0, 5.9, 5.9, 0.0); (567376.0, 4149659.0, 4.2, 4.2, 0.0);
(567376.0, 4149679.0, 4.0, 4.0, 0.0); (567376.0, 4149699.0, 3.8, 3.8, 0.0);
(567376.0, 4149719.0, 3.7, 3.7, 0.0); (567376.0, 4149739.0, 3.6, 3.6, 0.0);
(567376.0, 4149759.0, 3.5, 3.5, 0.0); (567376.0, 4149779.0, 3.4, 3.4, 0.0);
(567376.0, 4149799.0, 3.3, 3.3, 0.0); (567376.0, 4149819.0, 3.1, 3.1, 0.0);
(567376.0, 4149839.0, 2.9, 2.9, 0.0); (567376.0, 4149859.0, 2.8, 2.8, 0.0);
(567376.0, 4149879.0, 2.8, 2.8, 0.0); (567376.0, 4149899.0, 2.8, 2.8, 0.0);
(567376.0, 4149919.0, 2.7, 2.7, 0.0); (567396.0, 4149219.0, 5.7, 5.7, 0.0);
(567396.0, 4149239.0, 5.7, 5.7, 0.0); (567396.0, 4149259.0, 5.8, 5.8, 0.0);
(567396.0, 4149619.0, 4.1, 4.1, 0.0); (567396.0, 4149639.0, 4.1, 4.1, 0.0);
(567396.0, 4149659.0, 4.0, 4.0, 0.0); (567396.0, 4149679.0, 3.8, 3.8, 0.0);
(567396.0, 4149699.0, 3.7, 3.7, 0.0); (567396.0, 4149719.0, 3.6, 3.6, 0.0);
(567396.0, 4149739.0, 3.5, 3.5, 0.0); (567396.0, 4149759.0, 3.3, 3.3, 0.0);
(567396.0, 4149779.0, 3.2, 3.2, 0.0); (567396.0, 4149799.0, 3.2, 3.2, 0.0);

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     ( 567396.0, 4149819.0,       3.0,       3.0,       0.0);         ( 567396.0,
4149839.0,       2.8,       2.8,       0.0);
     ( 567396.0, 4149859.0,       2.7,       2.7,       0.0);         ( 567396.0,
4149879.0,       2.6,       2.6,       0.0);
     ( 567396.0, 4149899.0,       2.6,       2.6,       0.0);         ( 567396.0,
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     ( 567416.0, 4149219.0,       5.5,       5.5,       0.0);         ( 567416.0,
4149239.0,       5.5,       5.5,       0.0);
     ( 567416.0, 4149599.0,       4.1,       4.1,       0.0);         ( 567416.0,
4149619.0,       4.0,       4.0,       0.0);
     ( 567416.0, 4149639.0,       3.9,       3.9,       0.0);         ( 567416.0,
4149659.0,       3.8,       3.8,       0.0);
     ( 567416.0, 4149679.0,       3.7,       3.7,       0.0);         ( 567416.0,
4149699.0,       3.6,       3.6,       0.0);
     ( 567416.0, 4149719.0,       3.5,       3.5,       0.0);         ( 567416.0,
4149739.0,       3.3,       3.3,       0.0);
     ( 567416.0, 4149759.0,       3.1,       3.1,       0.0);         ( 567416.0,
4149779.0,       3.0,       3.0,       0.0);
     ( 567416.0, 4149799.0,       3.0,       3.0,       0.0);         ( 567416.0,
4149819.0,       2.8,       2.8,       0.0);
     ( 567416.0, 4149839.0,       2.7,       2.7,       0.0);         ( 567416.0,
4149859.0,       2.7,       2.7,       0.0);
     ( 567416.0, 4149879.0,       2.5,       2.5,       0.0);         ( 567416.0,
4149899.0,       2.4,       2.4,       0.0);
     ( 567416.0, 4149919.0,       2.4,       2.4,       0.0);         ( 567436.0,
4149219.0,       5.3,       5.3,       0.0);
     ( 567436.0, 4149579.0,       4.1,       4.1,       0.0);         ( 567436.0,
4149599.0,       4.0,       4.0,       0.0);
     ( 567436.0, 4149619.0,       3.9,       3.9,       0.0);         ( 567436.0,
4149639.0,       3.8,       3.8,       0.0);
     ( 567436.0, 4149659.0,       3.7,       3.7,       0.0);         ( 567436.0,
4149679.0,       3.6,       3.6,       0.0);
     ( 567436.0, 4149699.0,       3.5,       3.5,       0.0);         ( 567436.0,
4149719.0,       3.4,       3.4,       0.0);
     ( 567436.0, 4149739.0,       3.3,       3.3,       0.0);         ( 567436.0,
4149759.0,       3.1,       3.1,       0.0);
     ( 567436.0, 4149779.0,       3.0,       3.0,       0.0);         ( 567436.0,
4149799.0,       3.0,       3.0,       0.0);
     ( 567436.0, 4149819.0,       2.8,       2.8,       0.0);         ( 567436.0,
4149839.0,       2.7,       2.7,       0.0);
     ( 567436.0, 4149859.0,       2.7,       2.7,       0.0);         ( 567436.0,
4149879.0,       2.5,       2.5,       0.0);
     ( 567436.0, 4149899.0,       2.3,       2.3,       0.0);         ( 567436.0,
4149919.0,       2.2,       2.2,       0.0);
     ( 567456.0, 4149559.0,       4.1,       4.1,       0.0);         ( 567456.0,
4149579.0,       4.0,       4.0,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        18:39:24
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567456.0, 4149599.0, 3.9, 3.9, 0.0); (567456.0, 4149619.0, 3.8, 3.8, 0.0);
(567456.0, 4149639.0, 3.7, 3.7, 0.0); (567456.0, 4149659.0, 3.6, 3.6, 0.0);
(567456.0, 4149679.0, 3.5, 3.5, 0.0); (567456.0, 4149699.0, 3.3, 3.3, 0.0);
(567456.0, 4149719.0, 3.2, 3.2, 0.0); (567456.0, 4149739.0, 3.2, 3.2, 0.0);
(567456.0, 4149759.0, 3.0, 3.0, 0.0); (567456.0, 4149779.0, 2.9, 2.9, 0.0);
(567456.0, 4149799.0, 2.9, 2.9, 0.0); (567456.0, 4149819.0, 2.7, 2.7, 0.0);
(567456.0, 4149839.0, 2.6, 2.6, 0.0); (567456.0, 4149859.0, 2.6, 2.6, 0.0);
(567456.0, 4149879.0, 2.5, 2.5, 0.0); (567456.0, 4149899.0, 2.3, 2.3, 0.0);
(567456.0, 4149919.0, 2.1, 2.1, 0.0); (567476.0, 4149539.0, 4.1, 4.1, 0.0);
(567476.0, 4149559.0, 3.9, 3.9, 0.0); (567476.0, 4149579.0, 3.9, 3.9, 0.0);
(567476.0, 4149599.0, 3.8, 3.8, 0.0); (567476.0, 4149619.0, 3.6, 3.6, 0.0);
(567476.0, 4149639.0, 3.6, 3.6, 0.0); (567476.0, 4149659.0, 3.5, 3.5, 0.0);
(567476.0, 4149679.0, 3.3, 3.3, 0.0); (567476.0, 4149699.0, 3.1, 3.1, 0.0);
(567476.0, 4149719.0, 3.0, 3.0, 0.0); (567476.0, 4149739.0, 3.0, 3.0, 0.0);
(567476.0, 4149759.0, 2.8, 2.8, 0.0); (567476.0, 4149779.0, 2.7, 2.7, 0.0);
(567476.0, 4149799.0, 2.7, 2.7, 0.0); (567476.0, 4149819.0, 2.5, 2.5, 0.0);
(567476.0, 4149839.0, 2.4, 2.4, 0.0); (567476.0, 4149859.0, 2.4, 2.4, 0.0);
(567476.0, 4149879.0, 2.4, 2.4, 0.0); (567476.0, 4149899.0, 2.3, 2.3, 0.0);
(567476.0, 4149919.0, 2.1, 2.1, 0.0); (567496.0, 4149519.0, 4.0, 4.0, 0.0);
(567496.0, 4149539.0, 3.9, 3.9, 0.0); (567496.0, 4149559.0, 3.7, 3.7, 0.0);
(567496.0, 4149579.0, 3.6, 3.6, 0.0); (567496.0, 4149599.0, 3.5, 3.5, 0.0);

```
     ( 567496.0, 4149619.0,       3.4,       3.4,       0.0);         ( 567496.0,
4149639.0,       3.4,       3.4,       0.0);
     ( 567496.0, 4149659.0,       3.3,       3.3,       0.0);         ( 567496.0,
4149679.0,       3.1,       3.1,       0.0);
     ( 567496.0, 4149699.0,       3.1,       3.1,       0.0);         ( 567496.0,
4149719.0,       2.9,       2.9,       0.0);
     ( 567496.0, 4149739.0,       2.8,       2.8,       0.0);         ( 567496.0,
4149759.0,       2.8,       2.8,       0.0);
     ( 567496.0, 4149779.0,       2.7,       2.7,       0.0);         ( 567496.0,
4149799.0,       2.7,       2.7,       0.0);
     ( 567496.0, 4149819.0,       2.5,       2.5,       0.0);         ( 567496.0,
4149839.0,       2.4,       2.4,       0.0);
     ( 567496.0, 4149859.0,       2.4,       2.4,       0.0);         ( 567496.0,
4149879.0,       2.3,       2.3,       0.0);
     ( 567496.0, 4149899.0,       2.2,       2.2,       0.0);         ( 567516.0,
4149499.0,       3.8,       3.8,       0.0);
     ( 567516.0, 4149519.0,       3.8,       3.8,       0.0);         ( 567516.0,
4149539.0,       3.7,       3.7,       0.0);
     ( 567516.0, 4149559.0,       3.5,       3.5,       0.0);         ( 567516.0,
4149579.0,       3.3,       3.3,       0.0);
     ( 567516.0, 4149599.0,       3.2,       3.2,       0.0);         ( 567516.0,
4149619.0,       3.2,       3.2,       0.0);
     ( 567516.0, 4149639.0,       3.2,       3.2,       0.0);         ( 567516.0,
4149659.0,       3.1,       3.1,       0.0);
     ( 567516.0, 4149679.0,       3.0,       3.0,       0.0);         ( 567516.0,
4149699.0,       3.0,       3.0,       0.0);
     ( 567516.0, 4149719.0,       2.9,       2.9,       0.0);         ( 567516.0,
4149739.0,       2.7,       2.7,       0.0);
     ( 567516.0, 4149759.0,       2.7,       2.7,       0.0);         ( 567516.0,
4149779.0,       2.7,       2.7,       0.0);
     ( 567516.0, 4149799.0,       2.6,       2.6,       0.0);         ( 567516.0,
4149819.0,       2.5,       2.5,       0.0);
     ( 567516.0, 4149839.0,       2.4,       2.4,       0.0);         ( 567516.0,
4149859.0,       2.3,       2.3,       0.0);
     ( 567516.0, 4149879.0,       2.1,       2.1,       0.0);         ( 567536.0,
4149479.0,       3.8,       3.8,       0.0);
     ( 567536.0, 4149499.0,       3.7,       3.7,       0.0);         ( 567536.0,
4149519.0,       3.6,       3.6,       0.0);
     ( 567536.0, 4149539.0,       3.5,       3.5,       0.0);         ( 567536.0,
4149559.0,       3.3,       3.3,       0.0);
     ( 567536.0, 4149579.0,       3.1,       3.1,       0.0);         ( 567536.0,
4149599.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149619.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149639.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149659.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149679.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149699.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149719.0,       2.9,       2.9,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
    ( 567536.0, 4149739.0,       2.7,       2.7,      0.0);        ( 567536.0,
4149759.0,       2.7,       2.7,       0.0);
    ( 567536.0, 4149779.0,       2.6,       2.6,      0.0);        ( 567536.0,
4149799.0,       2.4,       2.4,       0.0);
    ( 567536.0, 4149819.0,       2.4,       2.4,      0.0);        ( 567536.0,
4149839.0,       2.3,       2.3,       0.0);
    ( 567536.0, 4149859.0,       2.1,       2.1,      0.0);        ( 567556.0,
4149219.0,       4.6,       4.6,       0.0);
    ( 567556.0, 4149459.0,       3.8,       3.8,      0.0);        ( 567556.0,
4149479.0,       3.7,       3.7,       0.0);
    ( 567556.0, 4149499.0,       3.6,       3.6,      0.0);        ( 567556.0,
4149519.0,       3.5,       3.5,       0.0);
    ( 567556.0, 4149539.0,       3.3,       3.3,      0.0);        ( 567556.0,
4149559.0,       3.1,       3.1,       0.0);
    ( 567556.0, 4149579.0,       3.1,       3.1,      0.0);        ( 567556.0,
4149599.0,       2.9,       2.9,       0.0);
    ( 567556.0, 4149619.0,       2.8,       2.8,      0.0);        ( 567556.0,
4149639.0,       2.8,       2.8,       0.0);
    ( 567556.0, 4149659.0,       2.8,       2.8,      0.0);        ( 567556.0,
4149679.0,       2.8,       2.8,       0.0);
    ( 567556.0, 4149699.0,       2.8,       2.8,      0.0);        ( 567556.0,
4149719.0,       2.8,       2.8,       0.0);
    ( 567556.0, 4149739.0,       2.7,       2.7,      0.0);        ( 567556.0,
4149759.0,       2.6,       2.6,       0.0);
    ( 567556.0, 4149779.0,       2.5,       2.5,      0.0);        ( 567556.0,
4149799.0,       2.4,       2.4,       0.0);
    ( 567556.0, 4149819.0,       2.3,       2.3,      0.0);        ( 567556.0,
4149839.0,       2.2,       2.2,       0.0);
    ( 567576.0, 4149219.0,       4.5,       4.5,      0.0);        ( 567576.0,
4149239.0,       4.3,       4.3,       0.0);
    ( 567576.0, 4149419.0,       4.0,       4.0,      0.0);        ( 567576.0,
4149439.0,       3.8,       3.8,       0.0);
    ( 567576.0, 4149459.0,       3.6,       3.6,      0.0);        ( 567576.0,
4149479.0,       3.5,       3.5,       0.0);
    ( 567576.0, 4149499.0,       3.4,       3.4,      0.0);        ( 567576.0,
4149519.0,       3.3,       3.3,       0.0);
    ( 567576.0, 4149539.0,       3.1,       3.1,      0.0);        ( 567576.0,
4149559.0,       3.0,       3.0,       0.0);
    ( 567576.0, 4149579.0,       2.9,       2.9,      0.0);        ( 567576.0,
4149599.0,       2.8,       2.8,       0.0);
```

```
     ( 567576.0, 4149619.0,       2.7,       2.7,       0.0);         ( 567576.0,
4149639.0,       2.7,       2.7,       0.0);
     ( 567576.0, 4149659.0,       2.7,       2.7,       0.0);         ( 567576.0,
4149679.0,       2.6,       2.6,       0.0);
     ( 567576.0, 4149699.0,       2.6,       2.6,       0.0);         ( 567576.0,
4149719.0,       2.6,       2.6,       0.0);
     ( 567576.0, 4149739.0,       2.6,       2.6,       0.0);         ( 567576.0,
4149759.0,       2.5,       2.5,       0.0);
     ( 567576.0, 4149779.0,       2.4,       2.4,       0.0);         ( 567576.0,
4149799.0,       2.3,       2.3,       0.0);
     ( 567576.0, 4149819.0,       2.2,       2.2,       0.0);         ( 567596.0,
4149219.0,       4.3,       4.3,       0.0);
     ( 567596.0, 4149239.0,       4.1,       4.1,       0.0);         ( 567596.0,
4149259.0,       4.0,       4.0,       0.0);
     ( 567596.0, 4149399.0,       3.9,       3.9,       0.0);         ( 567596.0,
4149419.0,       3.8,       3.8,       0.0);
     ( 567596.0, 4149439.0,       3.6,       3.6,       0.0);         ( 567596.0,
4149459.0,       3.4,       3.4,       0.0);
     ( 567596.0, 4149479.0,       3.2,       3.2,       0.0);         ( 567596.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567596.0, 4149519.0,       3.0,       3.0,       0.0);         ( 567596.0,
4149539.0,       3.0,       3.0,       0.0);
     ( 567596.0, 4149559.0,       3.0,       3.0,       0.0);         ( 567596.0,
4149579.0,       2.8,       2.8,       0.0);
     ( 567596.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567596.0,
4149619.0,       2.7,       2.7,       0.0);
     ( 567596.0, 4149639.0,       2.7,       2.7,       0.0);         ( 567596.0,
4149659.0,       2.6,       2.6,       0.0);
     ( 567596.0, 4149679.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149699.0,       2.4,       2.4,       0.0);
     ( 567596.0, 4149719.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149739.0,       2.4,       2.4,       0.0);
     ( 567596.0, 4149759.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149779.0,       2.3,       2.3,       0.0);
     ( 567596.0, 4149799.0,       2.1,       2.1,       0.0);         ( 567616.0,
4149219.0,       4.0,       4.0,       0.0);
     ( 567616.0, 4149239.0,       4.0,       4.0,       0.0);         ( 567616.0,
4149259.0,       4.0,       4.0,       0.0);
     ( 567616.0, 4149399.0,       3.8,       3.8,       0.0);         ( 567616.0,
4149419.0,       3.6,       3.6,       0.0);
     ( 567616.0, 4149439.0,       3.4,       3.4,       0.0);         ( 567616.0,
4149459.0,       3.4,       3.4,       0.0);
     ( 567616.0, 4149479.0,       3.2,       3.2,       0.0);         ( 567616.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567616.0, 4149519.0,       3.0,       3.0,       0.0);         ( 567616.0,
4149539.0,       2.9,       2.9,       0.0);
     ( 567616.0, 4149559.0,       2.8,       2.8,       0.0);         ( 567616.0,
4149579.0,       2.8,       2.8,       0.0);
     ( 567616.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567616.0,
4149619.0,       2.7,       2.7,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567616.0, 4149639.0, 2.7, 2.7, 0.0); (567616.0, 4149659.0, 2.6, 2.6, 0.0);
(567616.0, 4149679.0, 2.4, 2.4, 0.0); (567616.0, 4149699.0, 2.4, 2.4, 0.0);
(567616.0, 4149719.0, 2.4, 2.4, 0.0); (567616.0, 4149739.0, 2.4, 2.4, 0.0);
(567616.0, 4149759.0, 2.4, 2.4, 0.0); (567616.0, 4149779.0, 2.3, 2.3, 0.0);
(567616.0, 4149799.0, 2.1, 2.1, 0.0); (567636.0, 4149219.0, 4.0, 4.0, 0.0);
(567636.0, 4149239.0, 4.0, 4.0, 0.0); (567636.0, 4149259.0, 3.9, 3.9, 0.0);
(567636.0, 4149279.0, 3.9, 3.9, 0.0); (567636.0, 4149359.0, 3.7, 3.7, 0.0);
(567636.0, 4149379.0, 3.8, 3.8, 0.0); (567636.0, 4149399.0, 3.6, 3.6, 0.0);
(567636.0, 4149419.0, 3.5, 3.5, 0.0); (567636.0, 4149439.0, 3.3, 3.3, 0.0);
(567636.0, 4149459.0, 3.3, 3.3, 0.0); (567636.0, 4149479.0, 3.1, 3.1, 0.0);
(567636.0, 4149499.0, 3.0, 3.0, 0.0); (567636.0, 4149519.0, 2.9, 2.9, 0.0);
(567636.0, 4149539.0, 2.8, 2.8, 0.0); (567636.0, 4149559.0, 2.7, 2.7, 0.0);
(567636.0, 4149579.0, 2.7, 2.7, 0.0); (567636.0, 4149599.0, 2.7, 2.7, 0.0);
(567636.0, 4149619.0, 2.7, 2.7, 0.0); (567636.0, 4149639.0, 2.6, 2.6, 0.0);
(567636.0, 4149659.0, 2.5, 2.5, 0.0); (567636.0, 4149679.0, 2.4, 2.4, 0.0);
(567636.0, 4149699.0, 2.4, 2.4, 0.0); (567636.0, 4149719.0, 2.4, 2.4, 0.0);
(567636.0, 4149739.0, 2.3, 2.3, 0.0); (567636.0, 4149759.0, 2.3, 2.3, 0.0);
(567636.0, 4149779.0, 2.2, 2.2, 0.0); (567636.0, 4149799.0, 2.1, 2.1, 0.0);
(567656.0, 4149219.0, 4.0, 4.0, 0.0); (567656.0, 4149239.0, 3.9, 3.9, 0.0);

```
     ( 567656.0, 4149259.0,       3.9,       3.9,       0.0);         ( 567656.0,
4149279.0,       3.7,       3.7,       0.0);
     ( 567656.0, 4149299.0,       3.6,       3.6,       0.0);         ( 567656.0,
4149339.0,       3.7,       3.7,       0.0);
     ( 567656.0, 4149359.0,       3.6,       3.6,       0.0);         ( 567656.0,
4149379.0,       3.6,       3.6,       0.0);
     ( 567656.0, 4149399.0,       3.4,       3.4,       0.0);         ( 567656.0,
4149419.0,       3.3,       3.3,       0.0);
     ( 567656.0, 4149439.0,       3.3,       3.3,       0.0);         ( 567656.0,
4149459.0,       3.1,       3.1,       0.0);
     ( 567656.0, 4149479.0,       3.0,       3.0,       0.0);         ( 567656.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567656.0, 4149519.0,       2.8,       2.8,       0.0);         ( 567656.0,
4149539.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149559.0,       2.7,       2.7,       0.0);         ( 567656.0,
4149579.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567656.0,
4149619.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149639.0,       2.5,       2.5,       0.0);         ( 567656.0,
4149659.0,       2.4,       2.4,       0.0);
     ( 567656.0, 4149679.0,       2.4,       2.4,       0.0);         ( 567656.0,
4149699.0,       2.4,       2.4,       0.0);
     ( 567656.0, 4149719.0,       2.3,       2.3,       0.0);         ( 567656.0,
4149739.0,       2.1,       2.1,       0.0);
     ( 567656.0, 4149759.0,       2.1,       2.1,       0.0);         ( 567656.0,
4149779.0,       2.1,       2.1,       0.0);
     ( 567676.0, 4149219.0,       3.9,       3.9,       0.0);         ( 567676.0,
4149239.0,       3.9,       3.9,       0.0);
     ( 567676.0, 4149259.0,       3.7,       3.7,       0.0);         ( 567676.0,
4149279.0,       3.5,       3.5,       0.0);
     ( 567676.0, 4149299.0,       3.5,       3.5,       0.0);         ( 567676.0,
4149319.0,       3.7,       3.7,       0.0);
     ( 567676.0, 4149339.0,       3.7,       3.7,       0.0);         ( 567676.0,
4149359.0,       3.6,       3.6,       0.0);
     ( 567676.0, 4149379.0,       3.4,       3.4,       0.0);         ( 567676.0,
4149399.0,       3.2,       3.2,       0.0);
     ( 567676.0, 4149419.0,       3.1,       3.1,       0.0);         ( 567676.0,
4149439.0,       3.1,       3.1,       0.0);
     ( 567676.0, 4149459.0,       3.1,       3.1,       0.0);         ( 567676.0,
4149479.0,       2.9,       2.9,       0.0);
     ( 567676.0, 4149499.0,       2.8,       2.8,       0.0);         ( 567676.0,
4149519.0,       2.8,       2.8,       0.0);
     ( 567676.0, 4149539.0,       2.7,       2.7,       0.0);         ( 567676.0,
4149559.0,       2.7,       2.7,       0.0);
     ( 567676.0, 4149579.0,       2.7,       2.7,       0.0);         ( 567676.0,
4149599.0,       2.6,       2.6,       0.0);
     ( 567676.0, 4149619.0,       2.5,       2.5,       0.0);         ( 567676.0,
4149639.0,       2.5,       2.5,       0.0);
     ( 567676.0, 4149659.0,       2.4,       2.4,       0.0);         ( 567676.0,
4149679.0,       2.4,       2.4,       0.0);
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567676.0, 4149739.0, 2.1, 2.1, 0.0); (567676.0, 4149759.0, 2.1, 2.1, 0.0);
(567676.0, 4149779.0, 2.0, 2.0, 0.0);

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC
Met Version: 14134
Profile file: C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 93231 Upper air station no.: 23230
Name: SAN_CARLOS_AIRPORT Name: OAKLAND/WSO_AP
Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	07	-3.0	0.063	-9.000	-9.000	-999.	38.	7.5	0.04	0.55	1.00	1.76	5.	10.0	281.1	2.0

```
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
0.74    0.00    0.   10.0  280.1    2.0
 09 01 01   1 09 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
0.38  999.00  999.   -9.0  280.1    2.0
 09 01 01   1 10    5.5  0.179  0.236  0.014   87.  181.    -95.0  0.04   0.55
0.26    2.36   61.   10.0  280.1    2.0
 09 01 01   1 11   12.1 -9.000 -9.000 -9.000  156. -999. -99999.0  0.04   0.55
0.21    0.00    0.   10.0  280.1    2.0
 09 01 01   1 12   16.0  0.328  0.455  0.016  215.  451.   -201.4  0.04   0.55
0.20    4.36  336.   10.0  281.1    2.0
 09 01 01   1 13   16.6  0.226  0.493  0.015  262.  263.    -63.2  0.04   0.55
0.19    2.86  293.   10.0  281.1    2.0
 09 01 01   1 14   69.0 -9.000 -9.000 -9.000  402. -999. -99999.0  0.04   0.55
0.20    0.00    0.   10.0  282.1    2.0
 09 01 01   1 15   49.6  0.205  0.847  0.017  445.  223.    -15.9  0.04   0.55
0.23    2.36  999.   10.0  283.1    2.0
 09 01 01   1 16   18.0  0.192  0.607  0.016  451.  202.    -35.7  0.04   0.55
0.31    2.36  999.   10.0  283.1    2.0
 09 01 01   1 17  -17.1  0.203 -9.000 -9.000 -999.  220.     44.6  0.04   0.55
0.55    3.36  999.   10.0  282.1    2.0
 09 01 01   1 18  -11.3  0.104 -9.000 -9.000 -999.   86.      9.1  0.04   0.55
1.00    2.86  337.   10.0  282.1    2.0
 09 01 01   1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        18:39:24

                                  PAGE  16
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
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YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
566976.00	4149399.00	0.00242	566976.00	4149419.00	0.00246
566976.00	4149439.00	0.00252	566976.00	4149459.00	0.00258
566976.00	4149479.00	0.00265	566976.00	4149499.00	0.00271
566976.00	4149519.00	0.00278	566976.00	4149539.00	0.00283
566976.00	4149559.00	0.00287	566976.00	4149579.00	0.00289
566976.00	4149599.00	0.00291	566976.00	4149619.00	0.00295
566976.00	4149659.00	0.00311	566996.00	4149359.00	0.00267
566996.00	4149379.00	0.00268	566996.00	4149399.00	0.00271
566996.00	4149419.00	0.00275	566996.00	4149439.00	0.00281
566996.00	4149459.00	0.00287	566996.00	4149479.00	0.00295
566996.00	4149499.00	0.00302	566996.00	4149519.00	0.00309
566996.00	4149539.00	0.00315	566996.00	4149559.00	0.00320
566996.00	4149579.00	0.00324	566996.00	4149599.00	0.00327
566996.00	4149619.00	0.00331	567016.00	4149339.00	0.00303
567016.00	4149359.00	0.00304	567016.00	4149379.00	0.00305
567016.00	4149399.00	0.00307	567016.00	4149419.00	0.00311
567016.00	4149439.00	0.00316	567016.00	4149459.00	0.00323
567016.00	4149479.00	0.00331	567016.00	4149499.00	0.00339
567016.00	4149519.00	0.00347	567016.00		

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4149539.00        0.00355
         567016.00    4149559.00        0.00361                      567016.00
4149579.00        0.00365
         567016.00    4149599.00        0.00369                      567016.00
4149819.00        0.00764
         567036.00    4149319.00        0.00344                      567036.00
4149339.00        0.00346
         567036.00    4149359.00        0.00347                      567036.00
4149379.00        0.00349
         567036.00    4149399.00        0.00351                      567036.00
4149419.00        0.00355
         567036.00    4149439.00        0.00360                      567036.00
4149459.00        0.00366
         567036.00    4149479.00        0.00374                      567036.00
4149499.00        0.00383
         567036.00    4149519.00        0.00393                      567036.00
4149539.00        0.00402
         567036.00    4149559.00        0.00409                      567036.00
4149579.00        0.00415
         567036.00    4149799.00        0.00841                      567036.00
4149819.00        0.00897
         567036.00    4149839.00        0.00939                      567056.00
4149299.00        0.00392
         567056.00    4149319.00        0.00395                      567056.00
4149339.00        0.00398
         567056.00    4149359.00        0.00400                      567056.00
4149379.00        0.00403
         567056.00    4149399.00        0.00406                      567056.00
4149419.00        0.00410
         567056.00    4149439.00        0.00414                      567056.00
4149459.00        0.00421
         567056.00    4149479.00        0.00429                      567056.00
4149499.00        0.00438
         567056.00    4149519.00        0.00449                      567056.00
4149539.00        0.00459
         567056.00    4149559.00        0.00468                      567056.00
4149779.00        0.00932
         567056.00    4149799.00        0.01000                      567056.00
4149819.00        0.01052
         567056.00    4149839.00        0.01085                      567056.00
4149859.00        0.01099
         567076.00    4149279.00        0.00447                      567076.00
4149299.00        0.00453
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View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        18:39:24

                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN
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*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
567076.00	4149319.00	0.00459	567076.00	4149339.00	0.00463
567076.00	4149359.00	0.00467	567076.00	4149379.00	0.00471
567076.00	4149399.00	0.00475	567076.00	4149419.00	0.00479
567076.00	4149439.00	0.00484	567076.00	4149459.00	0.00490
567076.00	4149479.00	0.00498	567076.00	4149499.00	0.00507
567076.00	4149519.00	0.00519	567076.00	4149539.00	0.00531
567076.00	4149759.00	0.01040	567076.00	4149779.00	0.01124
567076.00	4149799.00	0.01188	567076.00	4149819.00	0.01229
567076.00	4149839.00	0.01245	567076.00	4149859.00	0.01240
567096.00	4149279.00	0.00519	567096.00	4149299.00	0.00528
567096.00	4149319.00	0.00537	567096.00	4149339.00	0.00544
567096.00	4149359.00	0.00550	567096.00	4149379.00	0.00556
567096.00	4149399.00	0.00561	567096.00	4149419.00	0.00567
567096.00	4149439.00	0.00573	567096.00	4149459.00	0.00580
567096.00	4149479.00	0.00588	567096.00	4149499.00	0.00597
567096.00	4149519.00	0.00610	567096.00	4149759.00	0.01274
567096.00	4149779.00	0.01355	567096.00	4149799.00	0.01406
567096.00	4149819.00	0.01426	567096.00		

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4149839.00        0.01416
         567096.00    4149859.00        0.01384                     567116.00
4149279.00        0.00606
         567116.00    4149299.00        0.00620                     567116.00
4149319.00        0.00633
         567116.00    4149339.00        0.00644                     567116.00
4149359.00        0.00655
         567116.00    4149379.00        0.00665                     567116.00
4149399.00        0.00673
         567116.00    4149419.00        0.00682                     567116.00
4149439.00        0.00691
         567116.00    4149459.00        0.00699                     567116.00
4149479.00        0.00708
         567116.00    4149499.00        0.00717                     567116.00
4149739.00        0.01461
         567116.00    4149759.00        0.01564                     567116.00
4149779.00        0.01629
         567116.00    4149799.00        0.01653                     567116.00
4149819.00        0.01636
         567116.00    4149839.00        0.01591                     567116.00
4149859.00        0.01526
         567116.00    4149879.00        0.01446                     567136.00
4149259.00        0.00689
         567136.00    4149279.00        0.00711                     567136.00
4149299.00        0.00733
         567136.00    4149319.00        0.00752                     567136.00
4149339.00        0.00772
         567136.00    4149359.00        0.00790                     567136.00
4149379.00        0.00807
         567136.00    4149399.00        0.00821                     567136.00
4149419.00        0.00835
         567136.00    4149439.00        0.00849                     567136.00
4149459.00        0.00861
         567136.00    4149479.00        0.00872                     567136.00
4149719.00        0.01698
         567136.00    4149739.00        0.01833                     567136.00
4149759.00        0.01916
         567136.00    4149779.00        0.01942                     567136.00
4149799.00        0.01918
         567136.00    4149819.00        0.01855                     567136.00
4149839.00        0.01765
         567136.00    4149859.00        0.01660                     567136.00
4149879.00        0.01551
         567156.00    4149259.00        0.00805                     567156.00
4149279.00        0.00837
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View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***       18:39:24
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
567156.00	4149299.00	0.00869	567156.00	4149319.00	0.00900
567156.00	4149339.00	0.00932	567156.00	4149359.00	0.00962
567156.00	4149379.00	0.00990	567156.00	4149399.00	0.01016
567156.00	4149419.00	0.01041	567156.00	4149439.00	0.01064
567156.00	4149459.00	0.01086	567156.00	4149479.00	0.01104
567156.00	4149699.00	0.02010	567156.00	4149719.00	0.02186
567156.00	4149739.00	0.02294	567156.00	4149759.00	0.02320
567156.00	4149779.00	0.02281	567156.00	4149799.00	0.02192
567156.00	4149819.00	0.02070	567156.00	4149839.00	0.01929
567156.00	4149859.00	0.01784	567156.00	4149879.00	0.01644
567176.00	4149259.00	0.00942	567176.00	4149279.00	0.00986
567176.00	4149299.00	0.01033	567176.00	4149319.00	0.01082
567176.00	4149339.00	0.01132	567176.00	4149359.00	0.01180
567176.00	4149379.00	0.01226	567176.00	4149399.00	0.01275
567176.00	4149419.00	0.01320	567176.00	4149439.00	0.01362
567176.00	4149459.00	0.01406	567176.00	4149479.00	0.01442
567176.00	4149679.00	0.02439	567176.00		

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4149699.00        0.02673
         567176.00    4149719.00        0.02813                     567176.00
4149739.00        0.02840
         567176.00    4149759.00        0.02770                     567176.00
4149779.00        0.02634
         567176.00    4149799.00        0.02459                     567176.00
4149819.00        0.02267
         567176.00    4149839.00        0.02075                     567176.00
4149859.00        0.01893
         567176.00    4149879.00        0.01723                     567196.00
4149239.00        0.01040
         567196.00    4149259.00        0.01100                     567196.00
4149279.00        0.01162
         567196.00    4149299.00        0.01230                     567196.00
4149319.00        0.01303
         567196.00    4149339.00        0.01378                     567196.00
4149359.00        0.01455
         567196.00    4149379.00        0.01534                     567196.00
4149399.00        0.01617
         567196.00    4149419.00        0.01700                     567196.00
4149439.00        0.01783
         567196.00    4149459.00        0.01870                     567196.00
4149699.00        0.03559
         567196.00    4149719.00        0.03577                     567196.00
4149739.00        0.03459
         567196.00    4149759.00        0.03241                     567196.00
4149779.00        0.02973
         567196.00    4149799.00        0.02693                     567196.00
4149819.00        0.02431
         567196.00    4149839.00        0.02194                     567196.00
4149859.00        0.01982
         567196.00    4149879.00        0.01788                     567216.00
4149239.00        0.01200
         567216.00    4149259.00        0.01280                     567216.00
4149279.00        0.01366
         567216.00    4149299.00        0.01460                     567216.00
4149319.00        0.01564
         567216.00    4149339.00        0.01676                     567216.00
4149359.00        0.01795
         567216.00    4149379.00        0.01922                     567216.00
4149399.00        0.02062
         567216.00    4149419.00        0.02209                     567216.00
4149439.00        0.02366
         567216.00    4149719.00        0.04469                     567216.00
4149739.00        0.04116
         567216.00    4149759.00        0.03698                     567216.00
4149779.00        0.03282
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
567216.00	4149799.00	0.02903	567216.00	4149819.00	0.02571
567216.00	4149839.00	0.02291	567216.00	4149859.00	0.02052
567216.00	4149879.00	0.01842	567236.00	4149239.00	0.01373
567236.00	4149259.00	0.01479	567236.00	4149279.00	0.01594
567236.00	4149299.00	0.01722	567236.00	4149319.00	0.01864
567236.00	4149339.00	0.02026	567236.00	4149359.00	0.02203
567236.00	4149379.00	0.02398	567236.00	4149399.00	0.02623
567236.00	4149419.00	0.02871	567236.00	4149739.00	0.04750
567236.00	4149759.00	0.04100	567236.00	4149779.00	0.03544
567236.00	4149799.00	0.03080	567236.00	4149819.00	0.02685
567236.00	4149839.00	0.02367	567236.00	4149859.00	0.02105
567236.00	4149879.00	0.01885	567236.00	4149899.00	0.01695
567256.00	4149219.00	0.01433	567256.00	4149239.00	0.01552
567256.00	4149259.00	0.01687	567256.00	4149279.00	0.01836
567256.00	4149299.00	0.02005	567256.00	4149319.00	0.02197
567256.00	4149339.00	0.02420	567256.00		

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4149359.00        0.02672
         567256.00    4149379.00        0.02960                     567256.00
4149399.00        0.03300
         567256.00    4149759.00        0.04427                     567256.00
4149779.00        0.03743
         567256.00    4149799.00        0.03201                     567256.00
4149819.00        0.02768
         567256.00    4149839.00        0.02425                     567256.00
4149859.00        0.02148
         567256.00    4149879.00        0.01913                     567256.00
4149899.00        0.01717
         567276.00    4149219.00        0.01585                     567276.00
4149239.00        0.01729
         567276.00    4149259.00        0.01894                     567276.00
4149279.00        0.02081
         567276.00    4149299.00        0.02297                     567276.00
4149319.00        0.02548
         567276.00    4149339.00        0.02841                     567276.00
4149359.00        0.03185
         567276.00    4149379.00        0.03591                     567276.00
4149759.00        0.04630
         567276.00    4149779.00        0.03861                     567276.00
4149799.00        0.03273
         567276.00    4149819.00        0.02821                     567276.00
4149839.00        0.02462
         567276.00    4149859.00        0.02170                     567276.00
4149879.00        0.01926
         567276.00    4149899.00        0.01727                     567276.00
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         567296.00    4149219.00        0.01726                     567296.00
4149239.00        0.01894
         567296.00    4149259.00        0.02090                     567296.00
4149279.00        0.02317
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4149319.00        0.02901
         567296.00    4149339.00        0.03272                     567296.00
4149359.00        0.03721
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4149759.00        0.04703
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4149799.00        0.03292
         567296.00    4149819.00        0.02837                     567296.00
4149839.00        0.02469
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4149879.00        0.01924
         567296.00    4149899.00        0.01723                     567296.00
4149919.00        0.01556
         567316.00    4149219.00        0.01848                     567316.00
4149239.00        0.02041
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                           X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         567316.00    4149259.00        0.02268                          567316.00
4149279.00        0.02534
         567316.00    4149299.00        0.02853                          567316.00
4149319.00        0.03237
         567316.00    4149339.00        0.03695                          567316.00
4149719.00        0.07359
         567316.00    4149739.00        0.05764                          567316.00
4149759.00        0.04654
         567316.00    4149779.00        0.03863                          567316.00
4149799.00        0.03273
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4149879.00        0.01910
         567316.00    4149899.00        0.01708                          567316.00
4149919.00        0.01539
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         567336.00    4149259.00        0.02414                          567336.00
4149279.00        0.02718
         567336.00    4149299.00        0.03086                          567336.00
4149319.00        0.03534
         567336.00    4149699.00        0.09084                          567336.00
4149719.00        0.06986
         567336.00    4149739.00        0.05544                          567336.00
4149759.00        0.04526
         567336.00    4149779.00        0.03775                          567336.00
4149799.00        0.03205
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567396.00 4149659.00 0.12926 567396.00
4149679.00 0.09036
567396.00 4149699.00 0.06663 567396.00

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4149719.00        0.05243
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        18:39:24

                                   PAGE  21
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                           X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
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4149799.00        0.02783
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4149879.00        0.01738
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4149919.00        0.01427
         567416.00    4149219.00        0.02089                          567416.00
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4149619.00        0.20992
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4149779.00        0.02929
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4149819.00        0.02295
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567476.00 4149679.00 0.05702 567476.00
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567476.00 4149719.00 0.03638 567476.00

4149739.00   0.03032
         567476.00   4149759.00   0.02594   567476.00
4149779.00   0.02282

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
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4149859.00   0.01550
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4149899.00   0.01320
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4149519.00   0.23378
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4149559.00   0.17989
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4149639.00   0.08119
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4149679.00   0.05136
         567496.00   4149699.00   0.04121   567496.00
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4149759.00   0.02400
         567496.00   4149779.00   0.02111   567496.00
4149799.00   0.01893
         567496.00   4149819.00   0.01716   567496.00
4149839.00   0.01572
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567516.00 4149639.00 0.07141 567516.00
4149659.00 0.05786
567516.00 4149679.00 0.04670 567516.00
4149699.00 0.03795
567516.00 4149719.00 0.03111 567516.00
4149739.00 0.02599
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4149679.00 0.04282
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4149599.00        0.08048
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4149679.00        0.03939
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        18:39:24

                                   PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                          X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
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4149759.00        0.01954
         567556.00    4149779.00        0.01706                        567556.00
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4149439.00        0.10022
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4149479.00        0.10560
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567616.00 4149679.00 0.03187 567616.00

4149699.00   0.02703
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4149739.00   0.01954
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4149779.00   0.01459
         567616.00   4149799.00   0.01285   567636.00
4149219.00   0.03187

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
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4149259.00   0.03991
         567636.00   4149279.00   0.04423   567636.00
4149359.00   0.06013
         567636.00   4149379.00   0.06301   567636.00
4149399.00   0.06507
         567636.00   4149419.00   0.06676   567636.00
4149439.00   0.06821
         567636.00   4149459.00   0.06940   567636.00
4149479.00   0.07001
         567636.00   4149499.00   0.06976   567636.00
4149519.00   0.06844
         567636.00   4149539.00   0.06584   567636.00
4149559.00   0.06202
         567636.00   4149579.00   0.05732   567636.00
4149599.00   0.05193
         567636.00   4149619.00   0.04621   567636.00
4149639.00   0.04045
         567636.00   4149659.00   0.03498   567636.00
4149679.00   0.02999
         567636.00   4149699.00   0.02563   567636.00

4149719.00 0.02186
567636.00 4149739.00 0.01869 567636.00
4149759.00 0.01610
567636.00 4149779.00 0.01400 567636.00
4149799.00 0.01233
567656.00 4149219.00 0.03239 567656.00
4149239.00 0.03590
567656.00 4149259.00 0.03953 567656.00
4149279.00 0.04311
567656.00 4149299.00 0.04663 567656.00
4149339.00 0.05281
567656.00 4149359.00 0.05520 567656.00
4149379.00 0.05711
567656.00 4149399.00 0.05851 567656.00
4149419.00 0.05981
567656.00 4149439.00 0.06101 567656.00
4149459.00 0.06180
567656.00 4149479.00 0.06222 567656.00
4149499.00 0.06199
567656.00 4149519.00 0.06070 567656.00
4149539.00 0.05856
567656.00 4149559.00 0.05554 567656.00
4149579.00 0.05167
567656.00 4149599.00 0.04719 567656.00
4149619.00 0.04236
567656.00 4149639.00 0.03738 567656.00
4149659.00 0.03265
567656.00 4149679.00 0.02829 567656.00
4149699.00 0.02436
567656.00 4149719.00 0.02088 567656.00
4149739.00 0.01791
567656.00 4149759.00 0.01548 567656.00
4149779.00 0.01349
567676.00 4149219.00 0.03248 567676.00
4149239.00 0.03555
567676.00 4149259.00 0.03859 567676.00
4149279.00 0.04150
567676.00 4149299.00 0.04430 567676.00
4149319.00 0.04685
567676.00 4149339.00 0.04893 567676.00
4149359.00 0.05055
567676.00 4149379.00 0.05181 567676.00
4149399.00 0.05283
567676.00 4149419.00 0.05384 567676.00
4149439.00 0.05481
567676.00 4149459.00 0.05551 567676.00
4149479.00 0.05574
567676.00 4149499.00 0.05536 567676.00
4149519.00 0.05434
567676.00 4149539.00 0.05257 567676.00

4149559.00   0.05004
         567676.00   4149579.00   0.04682   567676.00
4149599.00   0.04301
         567676.00   4149619.00   0.03886   567676.00
4149639.00   0.03468
         567676.00   4149659.00   0.03059   567676.00
4149679.00   0.02673
         567676.00   4149699.00   0.02319   567676.00
4149719.00   0.02001

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         567676.00   4149739.00   0.01725   567676.00
4149759.00   0.01496
         567676.00   4149779.00   0.01304

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
566976.00	4149399.00	0.69826	(10123117)	566976.00	4149419.00	0.72039	(13070421)
566976.00	4149439.00	0.74350	(13112008)	566976.00	4149459.00	0.74445	(11120318)
566976.00	4149479.00	0.80257	(12093022)	566976.00	4149499.00	0.86315	(12093022)
566976.00	4149519.00	0.86608	(12093022)	566976.00	4149539.00	0.86981	(12102422)
566976.00	4149559.00	0.88362	(12102422)	566976.00	4149579.00	0.91387	(13031922)
566976.00	4149599.00	0.92780	(11032707)	566976.00	4149619.00	0.96425	(12082403)
566976.00	4149659.00	0.99243	(13071906)	566996.00	4149359.00	0.69172	(10123117)
566996.00	4149379.00	0.72998	(10123117)	566996.00	4149399.00	0.74450	(10123117)
566996.00	4149419.00	0.74905	(13070421)	566996.00	4149439.00	0.77191	(13112008)
566996.00	4149459.00	0.78474	(13112008)	566996.00	4149479.00	0.82184	(12093022)
566996.00	4149499.00	0.89907	(12093022)	566996.00	4149519.00	0.92039	(12093022)
566996.00	4149539.00	0.91535	(10121207)	566996.00	4149559.00	0.93605	(12102422)
566996.00	4149579.00	0.96702	(13031922)	566996.00	4149599.00	0.98183	(11032707)
566996.00	4149619.00	1.02116	(12082403)	567016.00	4149339.00	0.67726	(13071024)
567016.00	4149359.00	0.69696	(13071024)	567016.00	4149379.00	0.74624	(10123117)
567016.00	4149399.00	0.77991	(10123117)	567016.00	4149419.00	0.78501	(10123117)
567016.00	4149439.00	0.80134	(13070421)	567016.00	4149459.00	0.82721	(13112008)
567016.00	4149479.00	0.84523	(12111604)	567016.00	4149499.00	0.93376	(12093022)
567016.00	4149519.00	0.97524	(12093022)	567016.00	4149539.00	0.96379	(10121207)
567016.00	4149559.00	0.99282	(12102422)	567016.00	4149579.00	1.02498	(13031922)
567016.00	4149599.00	1.04574	(12082403)	567016.00	4149819.00	1.04484	(13011221)
567036.00	4149319.00	0.74420	(09092123)	567036.00			

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 4149339.00        0.69522  (10123120)
       567036.00   4149359.00        0.72131  (13072422)               567036.00
 4149379.00        0.75354  (10123117)
       567036.00   4149399.00        0.80444  (10123117)               567036.00
 4149419.00        0.83271  (10123117)
       567036.00   4149439.00        0.83411  (13070421)               567036.00
 4149459.00        0.86220  (13112008)
       567036.00   4149479.00        0.87761  (13112008)               567036.00
 4149499.00        0.96658  (12093022)
       567036.00   4149519.00        1.03005  (12093022)               567036.00
 4149539.00        1.01620  (12093022)
       567036.00   4149559.00        1.05399  (12102422)               567036.00
 4149579.00        1.08954  (13031922)
       567036.00   4149799.00        1.13844  (13011221)               567036.00
 4149819.00        1.11179  (12111507)
       567036.00   4149839.00        1.06098  (11052506)               567056.00
 4149299.00        0.83173  (09092123)
       567056.00   4149319.00        0.82971  (09092123)               567056.00
 4149339.00        0.80249  (09092123)
       567056.00   4149359.00        0.74433  (09092123)               567056.00
 4149379.00        0.77087  (13072422)
       567056.00   4149399.00        0.81921  (10123117)               567056.00
 4149419.00        0.86749  (10123117)
       567056.00   4149439.00        0.88922  (10123117)               567056.00
 4149459.00        0.89995  (13070421)
       567056.00   4149479.00        0.93067  (13112008)               567056.00
 4149499.00        0.99808  (12093022)
       567056.00   4149519.00        1.08419  (12093022)               567056.00
 4149539.00        1.09672  (12093022)
       567056.00   4149559.00        1.12028  (12102422)               567056.00
 4149779.00        1.23636  (13011221)
       567056.00   4149799.00        1.20586  (12111507)               567056.00
 4149819.00        1.16230  (12111507)
       567056.00   4149839.00        1.09278  (12031522)               567056.00
 4149859.00        1.08558  (12093019)
       567076.00   4149279.00        0.82920  (09092123)               567076.00
 4149299.00        0.86534  (09092123)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        18:39:24

                                  PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
```

***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567076.00	4149319.00	0.88824	(09092123)	567076.00	4149339.00	0.89252	(09092123)
567076.00	4149359.00	0.86995	(09092123)	567076.00	4149379.00	0.81178	(09092123)
567076.00	4149399.00	0.83082	(13113017)	567076.00	4149419.00	0.89043	(10123117)
567076.00	4149439.00	0.93685	(10123117)	567076.00	4149459.00	0.95017	(10123117)
567076.00	4149479.00	0.97476	(13112008)	567076.00	4149499.00	1.02920	(12093022)
567076.00	4149519.00	1.13727	(12093022)	567076.00	4149539.00	1.18001	(12093022)
567076.00	4149759.00	1.33661	(13011221)	567076.00	4149779.00	1.31326	(10012308)
567076.00	4149799.00	1.28389	(12111507)	567076.00	4149819.00	1.20199	(12031522)
567076.00	4149839.00	1.18642	(12093019)	567076.00	4149859.00	1.15200	(12093019)
567096.00	4149279.00	0.82594	(09092123)	567096.00	4149299.00	0.87812	(09092123)
567096.00	4149319.00	0.92066	(09092123)	567096.00	4149339.00	0.95123	(09092123)
567096.00	4149359.00	0.96376	(09092123)	567096.00	4149379.00	0.94801	(09092123)
567096.00	4149399.00	0.89167	(09092123)	567096.00	4149419.00	0.90444	(10123117)
567096.00	4149439.00	0.96993	(10123117)	567096.00	4149459.00	1.01549	(10123117)
567096.00	4149479.00	1.02485	(13070421)	567096.00	4149499.00	1.06494	(13112008)
567096.00	4149519.00	1.18976	(12093022)	567096.00	4149759.00	1.44844	(13011221)
567096.00	4149779.00	1.42262	(12111507)	567096.00	4149799.00	1.32840	(12031522)
567096.00	4149819.00	1.30395	(12093019)	567096.00	4149839.00	1.26170	(12050306)
567096.00	4149859.00	1.16883	(12050306)	567116.00	4149279.00	0.80742	(09092123)
567116.00	4149299.00	0.87444	(09092123)	567116.00	4149319.00	0.93238	(09092123)
567116.00	4149339.00	0.98203	(09092123)	567116.00			

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 4149359.00        1.02208  (09092123)
       567116.00   4149379.00        1.04550  (09092123)                567116.00
 4149399.00        1.03948  (09092123)
       567116.00   4149419.00        0.98760  (09092123)                567116.00
 4149439.00        0.99252  (10123117)
       567116.00   4149459.00        1.06202  (10123117)                567116.00
 4149479.00        1.10659  (10123117)
       567116.00   4149499.00        1.12258  (13070421)                567116.00
 4149739.00        1.60647  (13011221)
       567116.00   4149759.00        1.58106  (12111507)                567116.00
 4149779.00        1.47550  (12031522)
       567116.00   4149799.00        1.44227  (12093019)                567116.00
 4149819.00        1.39003  (12050306)
       567116.00   4149839.00        1.27813  (13022208)                567116.00
 4149859.00        1.20600  (13022208)
       567116.00   4149879.00        1.12708  (11121108)                567136.00
 4149259.00        0.70874  (12081806)
       567136.00   4149279.00        0.77284  (09092123)                567136.00
 4149299.00        0.85638  (09092123)
       567136.00   4149319.00        0.92869  (09092123)                567136.00
 4149339.00        0.99288  (09092123)
       567136.00   4149359.00        1.05133  (09092123)                567136.00
 4149379.00        1.10282  (09092123)
       567136.00   4149399.00        1.13992  (09092123)                567136.00
 4149419.00        1.14837  (09092123)
       567136.00   4149439.00        1.10543  (09092123)                567136.00
 4149459.00        1.09480  (10123117)
       567136.00   4149479.00        1.17223  (10123117)                567136.00
 4149719.00        1.77700  (13011221)
       567136.00   4149739.00        1.76289  (12111507)                567136.00
 4149759.00        1.64728  (12031522)
       567136.00   4149779.00        1.60605  (12093019)                567136.00
 4149799.00        1.54216  (12050306)
       567136.00   4149819.00        1.41514  (13022208)                567136.00
 4149839.00        1.32043  (11121108)
       567136.00   4149859.00        1.22635  (12102006)                567136.00
 4149879.00        1.18242  (12020106)
       567156.00   4149259.00        0.72938  (11090606)                567156.00
 4149279.00        0.75455  (11090606)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        18:39:24

                                   PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567156.00	4149299.00	0.82176	(09092123)	567156.00	4149319.00	0.91207	(09092123)
567156.00	4149339.00	0.99070	(09092123)	567156.00	4149359.00	1.06204	(09092123)
567156.00	4149379.00	1.13032	(09092123)	567156.00	4149399.00	1.19529	(09092123)
567156.00	4149419.00	1.25057	(09092123)	567156.00	4149439.00	1.27915	(09092123)
567156.00	4149459.00	1.25204	(09092123)	567156.00	4149479.00	1.21854	(10123117)
567156.00	4149699.00	1.99982	(10121007)	567156.00	4149719.00	1.97297	(12111507)
567156.00	4149739.00	1.86861	(12111507)	567156.00	4149759.00	1.80181	(12093019)
567156.00	4149779.00	1.72140	(12050306)	567156.00	4149799.00	1.57165	(13022208)
567156.00	4149819.00	1.45974	(11121108)	567156.00	4149839.00	1.35677	(12020106)
567156.00	4149859.00	1.29195	(12020106)	567156.00	4149879.00	1.19172	(13042222)
567176.00	4149259.00	0.74906	(12081306)	567176.00	4149279.00	0.77354	(13031221)
567176.00	4149299.00	0.80679	(11090606)	567176.00	4149319.00	0.87895	(09092123)
567176.00	4149339.00	0.97700	(09092123)	567176.00	4149359.00	1.06237	(09092123)
567176.00	4149379.00	1.14205	(09092123)	567176.00	4149399.00	1.22229	(09092123)
567176.00	4149419.00	1.30394	(09092123)	567176.00	4149439.00	1.38155	(09092123)
567176.00	4149459.00	1.43901	(09092123)	567176.00	4149479.00	1.43961	(09092123)
567176.00	4149679.00	2.28897	(10121007)	567176.00	4149699.00	2.22011	(12111507)
567176.00	4149719.00	2.14532	(12111507)	567176.00	4149739.00	2.04184	(12093019)
567176.00	4149759.00	1.93841	(12050306)	567176.00	4149779.00	1.75292	(13022208)
567176.00	4149799.00	1.61342	(11121108)	567176.00

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 4149819.00        1.51914  (12020106)
       567176.00   4149839.00        1.39987  (12020106)                567176.00
 4149859.00        1.30962  (13032706)
       567176.00   4149879.00        1.22730  (11010720)                567196.00
 4149239.00        0.75011  (13070206)
       567196.00   4149259.00        0.77675  (13071805)                567196.00
 4149279.00        0.80422  (13071805)
       567196.00   4149299.00        0.83426  (12081306)                567196.00
 4149319.00        0.86575  (13031221)
       567196.00   4149339.00        0.94651  (09092123)                567196.00
 4149359.00        1.05326  (09092123)
       567196.00   4149379.00        1.14685  (09092123)                567196.00
 4149399.00        1.23758  (09092123)
       567196.00   4149419.00        1.33244  (09092123)                567196.00
 4149439.00        1.43433  (09092123)
       567196.00   4149459.00        1.54123  (09092123)                567196.00
 4149699.00        2.47898  (12111507)
       567196.00   4149719.00        2.33863  (12093019)                567196.00
 4149739.00        2.20739  (12050306)
       567196.00   4149759.00        1.96837  (13022208)                567196.00
 4149779.00        1.79249  (12102006)
       567196.00   4149799.00        1.68557  (12020106)                567196.00
 4149819.00        1.53832  (12080302)
       567196.00   4149839.00        1.43582  (10091806)                567196.00
 4149859.00        1.34654  (13033107)
       567196.00   4149879.00        1.24123  (13033107)                567216.00
 4149239.00        0.77081  (13072623)
       567216.00   4149259.00        0.80215  (13070206)                567216.00
 4149279.00        0.83553  (13070206)
       567216.00   4149299.00        0.86791  (13070206)                567216.00
 4149319.00        0.90272  (13071805)
       567216.00   4149339.00        0.94163  (13101819)                567216.00
 4149359.00        1.02746  (09092123)
       567216.00   4149379.00        1.14467  (09092123)                567216.00
 4149399.00        1.24934  (09092123)
       567216.00   4149419.00        1.35427  (09092123)                567216.00
 4149439.00        1.46878  (09092123)
       567216.00   4149719.00        2.54619  (12093019)                567216.00
 4149739.00        2.24590  (10120618)
       567216.00   4149759.00        2.04713  (12020106)                567216.00
 4149779.00        1.86795  (13042222)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        18:39:24

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
```

VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 -
- -
        567216.00   4149799.00   1.71355 (13032706)   567216.00
 4149819.00   1.58225 (13033107)
        567216.00   4149839.00   1.44960 (13033107)   567216.00
 4149859.00   1.33747 (10120207)
        567216.00   4149879.00   1.26327 (12122217)   567236.00
 4149239.00   0.79852 (13071806)
        567236.00   4149259.00   0.82902 (13071806)   567236.00
 4149279.00   0.86327 (13072623)
        567236.00   4149299.00   0.89921 (13072623)   567236.00
 4149319.00   0.93708 (13070206)
        567236.00   4149339.00   0.98352 (13070206)   567236.00
 4149359.00   1.03121 (13070206)
        567236.00   4149379.00   1.12658 (09092123)   567236.00
 4149399.00   1.25707 (09092123)
        567236.00   4149419.00   1.37653 (09092123)   567236.00
 4149739.00   2.35865 (12020106)
        567236.00   4149759.00   2.10867 (13032706)   567236.00
 4149779.00   1.92111 (11010720)
        567236.00   4149799.00   1.73449 (10120207)   567236.00
 4149819.00   1.58117 (12122217)
        567236.00   4149839.00   1.47011 (12122217)   567236.00
 4149859.00   1.33858 (12122217)
        567236.00   4149879.00   1.28344 (11012907)   567236.00
 4149899.00   1.21744 (11012907)
        567256.00   4149219.00   0.79528 (12010417)   567256.00
 4149239.00   0.82545 (12010417)
        567256.00   4149259.00   0.85987 (13070122)   567256.00
 4149279.00   0.89660 (13070122)
        567256.00   4149299.00   0.93438 (13070122)   567256.00
 4149319.00   0.97710 (13071806)
        567256.00   4149339.00   1.02424 (13071806)   567256.00
 4149359.00   1.07605 (13072623)
        567256.00   4149379.00   1.13458 (13072623)   567256.00
 4149399.00   1.25107 (09092123)
        567256.00   4149759.00   2.14016 (10120207)   567256.00
 4149779.00   1.92728 (12122217)
        567256.00   4149799.00   1.73754 (12122217)   567256.00

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 4149859.00        1.40277  (11012907)
       567256.00   4149879.00        1.28433  (11012907)                567256.00
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 4149239.00        0.85106  (10091706)
       567276.00   4149259.00        0.89038  (10091706)                567276.00
 4149279.00        0.93099  (10091706)
       567276.00   4149299.00        0.97576  (12010417)                567276.00
 4149319.00        1.02360  (12010417)
       567276.00   4149339.00        1.07531  (12010417)                567276.00
 4149359.00        1.13328  (13070122)
       567276.00   4149379.00        1.19975  (13070122)                567276.00
 4149759.00        2.20501  (11012907)
       567276.00   4149779.00        1.98951  (11012907)                567276.00
 4149799.00        1.78147  (11012907)
       567276.00   4149819.00        1.59904  (11123123)                567276.00
 4149839.00        1.43769  (11123123)
       567276.00   4149859.00        1.29986  (13012407)                567276.00
 4149879.00        1.19763  (13012407)
       567276.00   4149899.00        1.11302  (12021201)                567276.00
 4149919.00        1.04177  (12021201)
       567296.00   4149219.00        0.87570  (13123118)                567296.00
 4149239.00        0.91511  (13123118)
       567296.00   4149259.00        0.95710  (13123118)                567296.00
 4149279.00        1.00217  (13123118)
       567296.00   4149299.00        1.05137  (13123118)                567296.00
 4149319.00        1.10541  (13123118)
       567296.00   4149339.00        1.16506  (13123118)                567296.00
 4149359.00        1.23243  (13123118)
       567296.00   4149739.00        2.40437  (11123123)                567296.00
 4149759.00        2.06790  (11123123)
       567296.00   4149779.00        1.79124  (11123123)                567296.00
 4149799.00        1.61743  (13033124)
       567296.00   4149819.00        1.49582  (13033124)                567296.00
 4149839.00        1.38857  (13033124)
       567296.00   4149859.00        1.29394  (13033124)                567296.00
 4149879.00        1.21029  (13033124)
       567296.00   4149899.00        1.13706  (13033124)                567296.00
 4149919.00        1.07172  (13033124)
       567316.00   4149219.00        0.88885  (13123118)                567316.00
 4149239.00        0.93753  (13123118)
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 *** AERMET - VERSION  14134 ***   ***
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                                  PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567316.00	4149259.00	0.98931	(13123118)	567316.00	4149279.00	1.04477	(13123118)
567316.00	4149299.00	1.10461	(13123118)	567316.00	4149319.00	1.16988	(13123118)
567316.00	4149339.00	1.24119	(13123118)	567316.00	4149719.00	2.44562	(13033124)
567316.00	4149739.00	2.15975	(13033124)	567316.00	4149759.00	1.93108	(13033124)
567316.00	4149779.00	1.74831	(13033124)	567316.00	4149799.00	1.59725	(13033124)
567316.00	4149819.00	1.46647	(13033124)	567316.00	4149839.00	1.35469	(13033124)
567316.00	4149859.00	1.25713	(13033124)	567316.00	4149879.00	1.16897	(13033124)
567316.00	4149899.00	1.09076	(13033124)	567316.00	4149919.00	1.02094	(13033124)
567336.00	4149219.00	0.91888	(12090506)	567336.00	4149239.00	0.96780	(12090506)
567336.00	4149259.00	1.02133	(12090506)	567336.00	4149279.00	1.08051	(12090506)
567336.00	4149299.00	1.14609	(12090506)	567336.00	4149319.00	1.21919	(12090506)
567336.00	4149699.00	2.31254	(13033124)	567336.00	4149719.00	2.04681	(13033124)
567336.00	4149739.00	1.83112	(13033124)	567336.00	4149759.00	1.65609	(13033124)
567336.00	4149779.00	1.50979	(12020822)	567336.00	4149799.00	1.40237	(12020822)
567336.00	4149819.00	1.30548	(12020822)	567336.00	4149839.00	1.22202	(12020822)
567336.00	4149859.00	1.14871	(12020822)	567336.00	4149879.00	1.08077	(12020822)
567336.00	4149899.00	1.01970	(13021905)	567336.00	4149919.00	0.96414	(13021905)
567356.00	4149219.00	0.94827	(12090506)	567356.00			

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 4149239.00        1.00099  (12090506)
       567356.00   4149259.00        1.05906  (12090506)                567356.00
 4149279.00        1.12354  (12090506)
       567356.00   4149299.00        1.19529  (12090506)                567356.00
 4149659.00        2.43097  (13033124)
       567356.00   4149679.00        2.14671  (11103124)                567356.00
 4149699.00        1.95016  (13103120)
       567356.00   4149719.00        1.79458  (13103120)                567356.00
 4149739.00        1.65533  (12123119)
       567356.00   4149759.00        1.52824  (13113023)                567356.00
 4149779.00        1.42128  (11103124)
       567356.00   4149799.00        1.32157  (11103124)                567356.00
 4149819.00        1.22867  (11111120)
       567356.00   4149839.00        1.14825  (11111120)                567356.00
 4149859.00        1.07430  (11111120)
       567356.00   4149879.00        1.00571  (11111120)                567356.00
 4149899.00        0.94113  (11111120)
       567356.00   4149919.00        0.88093  (11111120)                567376.00
 4149219.00        0.93422  (13072602)
       567376.00   4149239.00        0.99053  (12093018)                567376.00
 4149259.00        1.05685  (12093018)
       567376.00   4149279.00        1.13105  (12093018)                567376.00
 4149659.00        2.06414  (12123122)
       567376.00   4149679.00        1.89789  (12123122)                567376.00
 4149699.00        1.73819  (11022819)
       567376.00   4149719.00        1.61006  (11012808)                567376.00
 4149739.00        1.49440  (13103120)
       567376.00   4149759.00        1.40963  (12123119)                567376.00
 4149779.00        1.33099  (12123119)
       567376.00   4149799.00        1.25040  (12123119)                567376.00
 4149819.00        1.16380  (12123119)
       567376.00   4149839.00        1.09309  (13113023)                567376.00
 4149859.00        1.02864  (11103124)
       567376.00   4149879.00        0.97645  (11103124)                567376.00
 4149899.00        0.92587  (11103124)
       567376.00   4149919.00        0.87716  (11103124)                567396.00
 4149219.00        0.95831  (11070606)
       567396.00   4149239.00        1.01771  (11070606)                567396.00
 4149259.00        1.09842  (13103119)
       567396.00   4149619.00        2.30108  (12083121)                567396.00
 4149639.00        2.04377  (11012819)
       567396.00   4149659.00        1.83414  (13081201)                567396.00
 4149679.00        1.71464  (11123119)
       567396.00   4149699.00        1.59160  (12123122)                567396.00
 4149719.00        1.47607  (11012808)
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View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567396.00	4149739.00	1.39321	(11012808)	567396.00	4149759.00	1.29814	(11112906)
567396.00	4149779.00	1.21267	(12123119)	567396.00	4149799.00	1.16318	(12123119)
567396.00	4149819.00	1.11089	(12123119)	567396.00	4149839.00	1.05771	(12123119)
567396.00	4149859.00	1.00207	(12123119)	567396.00	4149879.00	0.94433	(12123119)
567396.00	4149899.00	0.88820	(13113023)	567396.00	4149919.00	0.84642	(13113023)
567416.00	4149219.00	1.01348	(13103119)	567416.00	4149239.00	1.07983	(13103119)
567416.00	4149599.00	2.38346	(13081223)	567416.00	4149619.00	2.07621	(12083121)
567416.00	4149639.00	1.83499	(11012819)	567416.00	4149659.00	1.66948	(11012819)
567416.00	4149679.00	1.55404	(11123119)	567416.00	4149699.00	1.47535	(11123119)
567416.00	4149719.00	1.37606	(12123122)	567416.00	4149739.00	1.28686	(11012808)
567416.00	4149759.00	1.22665	(11012808)	567416.00	4149779.00	1.15369	(11112906)
567416.00	4149799.00	1.09073	(11112906)	567416.00	4149819.00	1.01227	(12123119)
567416.00	4149839.00	0.98052	(12123119)	567416.00	4149859.00	0.94850	(12123119)
567416.00	4149879.00	0.91259	(12123119)	567416.00	4149899.00	0.87548	(12123119)
567416.00	4149919.00	0.83629	(12123119)	567436.00	4149219.00	1.03008	(12053122)
567436.00	4149579.00	2.51076	(13081223)	567436.00	4149599.00	2.12461	(12083121)
567436.00	4149619.00	1.89204	(12083121)	567436.00			

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 4149639.00        1.68374  (12103122)
       567436.00   4149659.00        1.54346  (11012819)               567436.00
 4149679.00        1.41724  (11123119)
       567436.00   4149699.00        1.35955  (11123119)               567436.00
 4149719.00        1.29502  (11123119)
       567436.00   4149739.00        1.21338  (12123122)               567436.00
 4149759.00        1.14291  (11012808)
       567436.00   4149779.00        1.10182  (11012808)               567436.00
 4149799.00        1.04961  (11012808)
       567436.00   4149819.00        0.99381  (11112906)               567436.00
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       567436.00   4149859.00        0.87256  (11112906)               567436.00
 4149879.00        0.83795  (12123119)
       567436.00   4149899.00        0.81667  (12123119)               567436.00
 4149919.00        0.79380  (12123119)
       567456.00   4149559.00        2.53769  (11113005)               567456.00
 4149579.00        2.21584  (13081223)
       567456.00   4149599.00        1.91783  (12083121)               567456.00
 4149619.00        1.73183  (12083121)
       567456.00   4149639.00        1.56145  (12103122)               567456.00
 4149659.00        1.42914  (11012819)
       567456.00   4149679.00        1.31694  (11012819)               567456.00
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       567456.00   4149719.00        1.20946  (11123119)               567456.00
 4149739.00        1.15595  (11123119)
       567456.00   4149759.00        1.08433  (12123122)               567456.00
 4149779.00        1.02688  (11012808)
       567456.00   4149799.00        0.99835  (11012808)               567456.00
 4149819.00        0.95864  (11012808)
       567456.00   4149839.00        0.90816  (11112906)               567456.00
 4149859.00        0.87098  (11112906)
       567456.00   4149879.00        0.82320  (11112906)               567456.00
 4149899.00        0.76819  (12021019)
       567456.00   4149919.00        0.73859  (12021019)               567476.00
 4149539.00        2.53745  (11113005)
       567476.00   4149559.00        2.20741  (11113005)               567476.00
 4149579.00        1.97835  (13081223)
       567476.00   4149599.00        1.74600  (12083121)               567476.00
 4149619.00        1.59526  (12083121)
       567476.00   4149639.00        1.45452  (12103122)               567476.00
 4149659.00        1.32533  (11012819)
       567476.00   4149679.00        1.24320  (11012819)               567476.00
 4149699.00        1.15090  (11123119)
       567476.00   4149719.00        1.12382  (11123119)               567476.00
 4149739.00        1.09207  (11123119)
       567476.00   4149759.00        1.04173  (12123122)               567476.00
 4149779.00        0.98220  (12123122)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567476.00	4149799.00	0.92949	(11012808)	567476.00	4149819.00	0.90837	(11012808)
567476.00	4149839.00	0.88137	(11012808)	567476.00	4149859.00	0.84446	(11012808)
567476.00	4149879.00	0.80622	(11112906)	567476.00	4149899.00	0.77280	(11112906)
567476.00	4149919.00	0.73124	(11112906)	567496.00	4149519.00	2.42055	(09011321)
567496.00	4149539.00	2.23073	(11113005)	567496.00	4149559.00	1.97627	(13081223)
567496.00	4149579.00	1.77753	(13081223)	567496.00	4149599.00	1.59572	(12083121)
567496.00	4149619.00	1.47987	(12083121)	567496.00	4149639.00	1.35619	(12103122)
567496.00	4149659.00	1.23480	(12103122)	567496.00	4149679.00	1.17094	(11012819)
567496.00	4149699.00	1.08888	(11012819)	567496.00	4149719.00	1.04344	(11123119)
567496.00	4149739.00	1.02310	(11123119)	567496.00	4149759.00	0.99602	(11123119)
567496.00	4149779.00	0.95383	(12123122)	567496.00	4149799.00	0.90112	(12123122)
567496.00	4149819.00	0.84435	(11012808)	567496.00	4149839.00	0.83262	(11012808)
567496.00	4149859.00	0.81490	(11012808)	567496.00	4149879.00	0.78735	(11012808)
567496.00	4149899.00	0.75016	(11012808)	567516.00	4149499.00	2.31307	(13091202)
567516.00	4149519.00	2.10781	(12012602)	567516.00	4149539.00	1.98598	(11113005)
567516.00	4149559.00	1.79180	(13081223)	567516.00			

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4149619.00        1.38084  (12083121)
       567516.00   4149639.00        1.26855  (12103122)                567516.00
4149659.00        1.17542  (12103122)
       567516.00   4149679.00        1.10197  (11012819)                567516.00
4149699.00        1.04530  (11012819)
       567516.00   4149719.00        0.97230  (11121519)                567516.00
4149739.00        0.95505  (11123119)
       567516.00   4149759.00        0.94181  (11123119)                567516.00
4149779.00        0.91770  (11123119)
       567516.00   4149799.00        0.87913  (12123122)                567516.00
4149819.00        0.83105  (12123122)
       567516.00   4149839.00        0.77053  (11012319)                567516.00
4149859.00        0.76330  (11012808)
       567516.00   4149879.00        0.75180  (11012808)                567536.00
4149479.00        2.16939  (12013119)
       567536.00   4149499.00        1.99353  (11011218)                567536.00
4149519.00        1.85760  (12022508)
       567536.00   4149539.00        1.78550  (11113005)                567536.00
4149559.00        1.63926  (13081223)
       567536.00   4149579.00        1.48678  (13081223)                567536.00
4149599.00        1.36941  (12083121)
       567536.00   4149619.00        1.29514  (12083121)                567536.00
4149639.00        1.18956  (12103122)
       567536.00   4149659.00        1.11947  (12103122)                567536.00
4149679.00        1.04928  (12121005)
       567536.00   4149699.00        1.00313  (12012601)                567536.00
4149719.00        0.93315  (11012819)
       567536.00   4149739.00        0.89278  (12010122)                567536.00
4149759.00        0.88282  (11123119)
       567536.00   4149779.00        0.87178  (11123119)                567536.00
4149799.00        0.84890  (11123119)
       567536.00   4149819.00        0.81497  (12123122)                567536.00
4149839.00        0.77196  (12123122)
       567536.00   4149859.00        0.71473  (11012319)                567556.00
4149219.00        0.96983  (12101101)
       567556.00   4149459.00        1.92529  (12013119)                567556.00
4149479.00        1.87562  (13091202)
       567556.00   4149499.00        1.77700  (12012322)                567556.00
4149519.00        1.68222  (11113005)
       567556.00   4149539.00        1.61835  (11113005)                567556.00
4149559.00        1.51017  (13081223)
       567556.00   4149579.00        1.37814  (13081223)                567556.00
4149599.00        1.28016  (12083121)
       567556.00   4149619.00        1.21973  (12083121)                567556.00
4149639.00        1.11579  (12103122)
       567556.00   4149659.00        1.06492  (12103122)                567556.00
4149679.00        0.99753  (12121005)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                            *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                INCLUDING SOURCE(S):   PAREA1   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 -
       567556.00   4149699.00   0.95859 (12012601)   567556.00   4149719.00   0.90733 (12012601)
       567556.00   4149739.00   0.85502 (11120522)   567556.00   4149759.00   0.82456 (13121018)
       567556.00   4149779.00   0.81842 (11123119)   567556.00   4149799.00   0.81075 (11123119)
       567556.00   4149819.00   0.79004 (11123119)   567556.00   4149839.00   0.75884 (12123122)
       567576.00   4149219.00   0.95894 (10071106)   567576.00   4149239.00   1.00851 (13070806)
       567576.00   4149419.00   1.65985 (11112724)   567576.00   4149439.00   1.66190 (12012520)
       567576.00   4149459.00   1.74221 (12013119)   567576.00   4149479.00   1.63158 (12013103)
       567576.00   4149499.00   1.60126 (12012602)   567576.00   4149519.00   1.53872 (11113005)
       567576.00   4149539.00   1.47720 (11113005)   567576.00   4149559.00   1.40022 (13081223)
       567576.00   4149579.00   1.28252 (13081223)   567576.00   4149599.00   1.19789 (12083121)
       567576.00   4149619.00   1.15430 (12083121)   567576.00   4149639.00   1.06374 (12083121)
       567576.00   4149659.00   1.01301 (12103122)   567576.00   4149679.00   0.95080 (13020407)
       567576.00   4149699.00   0.91528 (12121007)   567576.00   4149719.00   0.88040 (12012601)
       567576.00   4149739.00   0.82480 (12012403)   567576.00   4149759.00   0.79279 (11121519)
       567576.00   4149779.00   0.76667 (12121006)   567576.00

4149799.00 0.76254 (11123119)
567576.00 4149819.00 0.75669 (11123119) 567596.00
4149219.00 0.93822 (13070806)
567596.00 4149239.00 0.99439 (13113024) 567596.00
4149259.00 1.03991 (12053121)
567596.00 4149399.00 1.49910 (11112724) 567596.00
4149419.00 1.49794 (13071804)
567596.00 4149439.00 1.56063 (12013119) 567596.00
4149459.00 1.55266 (13091202)
567596.00 4149479.00 1.48754 (11011218) 567596.00
4149499.00 1.45577 (12012602)
567596.00 4149519.00 1.41707 (11113005) 567596.00
4149539.00 1.35530 (11113005)
567596.00 4149559.00 1.30404 (13081223) 567596.00
4149579.00 1.19811 (13081223)
567596.00 4149599.00 1.12018 (12083121) 567596.00
4149619.00 1.09524 (12083121)
567596.00 4149639.00 1.02017 (12083121) 567596.00
4149659.00 0.96190 (12103122)
567596.00 4149679.00 0.91269 (12121221) 567596.00
4149699.00 0.87803 (12121005)
567596.00 4149719.00 0.84915 (12012601) 567596.00
4149739.00 0.80317 (12012601)
567596.00 4149759.00 0.76367 (11120522) 567596.00
4149779.00 0.73913 (13020308)
567596.00 4149799.00 0.71505 (12020805) 567616.00
4149219.00 0.91019 (13113024)
567616.00 4149239.00 0.96710 (12053121) 567616.00
4149259.00 1.03039 (12053121)
567616.00 4149399.00 1.34879 (13032723) 567616.00
4149419.00 1.37099 (12012520)
567616.00 4149439.00 1.44286 (12013119) 567616.00
4149459.00 1.38218 (12013103)
567616.00 4149479.00 1.36440 (12012322) 567616.00
4149499.00 1.33054 (12012602)
567616.00 4149519.00 1.31545 (11113005) 567616.00
4149539.00 1.24867 (11113005)
567616.00 4149559.00 1.21628 (13081223) 567616.00
4149579.00 1.12445 (13081223)
567616.00 4149599.00 1.04775 (11012007) 567616.00
4149619.00 1.03965 (12083121)
567616.00 4149639.00 0.97923 (12083121) 567616.00
4149659.00 0.92051 (09121519)
567616.00 4149679.00 0.87892 (10120407) 567616.00
4149699.00 0.84367 (13022108)
567616.00 4149719.00 0.81716 (12012601) 567616.00
4149739.00 0.78727 (12012601)
567616.00 4149759.00 0.74105 (12012403) 567616.00
4149779.00 0.71208 (11121519)
567616.00 4149799.00 0.69145 (13020308) 567636.00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567636.00	4149239.00	0.94505	(12053121)	567636.00	4149259.00	0.98878	(13053124)
567636.00	4149279.00	1.02827	(11112820)	567636.00	4149359.00	1.22814	(13063024)
567636.00	4149379.00	1.24108	(11112724)	567636.00	4149399.00	1.25537	(13071804)
567636.00	4149419.00	1.30348	(12013119)	567636.00	4149439.00	1.31391	(13091202)
567636.00	4149459.00	1.25572	(11011218)	567636.00	4149479.00	1.26085	(12012322)
567636.00	4149499.00	1.23001	(12022508)	567636.00	4149519.00	1.22430	(11113005)
567636.00	4149539.00	1.15373	(11113005)	567636.00	4149559.00	1.13945	(13081223)
567636.00	4149579.00	1.05860	(13081223)	567636.00	4149599.00	0.99680	(11012007)
567636.00	4149619.00	0.98601	(12083121)	567636.00	4149639.00	0.93926	(12083121)
567636.00	4149659.00	0.88147	(09121519)	567636.00	4149679.00	0.84804	(11012320)
567636.00	4149699.00	0.81365	(13020407)	567636.00	4149719.00	0.78599	(12121005)
567636.00	4149739.00	0.76461	(12012601)	567636.00	4149759.00	0.72332	(12103105)
567636.00	4149779.00	0.69091	(12012403)	567636.00	4149799.00	0.66824	(11121519)
567656.00	4149219.00	0.86944	(12053121)	567656.00			

4149239.00 0.91239 (13053124)
567656.00 4149259.00 0.94461 (11112820) 567656.00
4149279.00 1.00144 (11112805)
567656.00 4149299.00 1.03127 (11112902) 567656.00
4149339.00 1.12287 (13063024)
567656.00 4149359.00 1.14437 (11112724) 567656.00
4149379.00 1.14642 (12101202)
567656.00 4149399.00 1.15650 (12012520) 567656.00
4149419.00 1.22355 (12013119)
567656.00 4149439.00 1.18101 (13091202) 567656.00
4149459.00 1.17418 (11011218)
567656.00 4149479.00 1.17214 (12012602) 567656.00
4149499.00 1.13939 (12022508)
567656.00 4149519.00 1.14211 (11113005) 567656.00
4149539.00 1.07192 (12120818)
567656.00 4149559.00 1.07130 (13081223) 567656.00
4149579.00 0.99930 (13081223)
567656.00 4149599.00 0.94926 (11012007) 567656.00
4149619.00 0.93352 (12083121)
567656.00 4149639.00 0.90024 (12083121) 567656.00
4149659.00 0.84261 (12020918)
567656.00 4149679.00 0.81647 (11012320) 567656.00
4149699.00 0.78488 (12121221)
567656.00 4149719.00 0.75853 (12121005) 567656.00
4149739.00 0.73732 (12012601)
567656.00 4149759.00 0.71044 (12012601) 567656.00
4149779.00 0.67025 (12012403)
567676.00 4149219.00 0.84505 (13053124) 567676.00
4149239.00 0.87164 (11112820)
567676.00 4149259.00 0.92357 (11112805) 567676.00
4149279.00 0.94874 (11112902)
567676.00 4149299.00 0.96189 (13091004) 567676.00
4149319.00 1.02657 (13063024)
567676.00 4149339.00 1.05052 (11112724) 567676.00
4149359.00 1.05291 (13032723)
567676.00 4149379.00 1.07417 (12012520) 567676.00
4149399.00 1.11145 (12013119)
567676.00 4149419.00 1.12835 (13091202) 567676.00
4149439.00 1.09593 (12013103)
567676.00 4149459.00 1.09272 (10010607) 567676.00
4149479.00 1.09453 (12012602)
567676.00 4149499.00 1.05299 (12022508) 567676.00
4149519.00 1.06926 (11113005)
567676.00 4149539.00 1.01023 (12120818) 567676.00
4149559.00 1.00962 (13081223)
567676.00 4149579.00 0.94519 (13081223) 567676.00
4149599.00 0.90384 (11012007)
567676.00 4149619.00 0.88103 (12083121) 567676.00
4149639.00 0.86303 (12083121)
567676.00 4149659.00 0.81587 (12020918) 567676.00

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567676.00	4149739.00	0.70905	(12121007)	567676.00	4149759.00	0.69414	(12012601)
567676.00	4149779.00	0.65751	(12103105)				

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 5 YEARS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

GROUP ID	NETWORK AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID

```
ALL       1ST HIGHEST VALUE IS       0.29021 AT (  567436.00,  4149579.00,
4.09,     4.09,    0.00)  DC
          2ND HIGHEST VALUE IS       0.28477 AT (  567416.00,  4149599.00,
4.13,     4.13,    0.00)  DC
          3RD HIGHEST VALUE IS       0.28473 AT (  567456.00,  4149559.00,
4.12,     4.12,    0.00)  DC
          4TH HIGHEST VALUE IS       0.26961 AT (  567476.00,  4149539.00,
4.11,     4.11,    0.00)  DC
          5TH HIGHEST VALUE IS       0.26429 AT (  567396.00,  4149619.00,
4.14,     4.14,    0.00)  DC
          6TH HIGHEST VALUE IS       0.23378 AT (  567496.00,  4149519.00,
4.04,     4.04,    0.00)  DC
          7TH HIGHEST VALUE IS       0.22805 AT (  567456.00,  4149579.00,
4.01,     4.01,    0.00)  DC
          8TH HIGHEST VALUE IS       0.22434 AT (  567436.00,  4149599.00,
4.01,     4.01,    0.00)  DC
          9TH HIGHEST VALUE IS       0.22328 AT (  567476.00,  4149559.00,
3.93,     3.93,    0.00)  DC
         10TH HIGHEST VALUE IS       0.21118 AT (  567496.00,  4149539.00,
3.91,     3.91,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        18:39:24

                                  PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **

                                                      DATE
                                          NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       2.54619  ON 12093019: AT (  567216.00,
```

```
4149719.00,     4.93,     4.93,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Unmitigated\1125Arguello_Unmitigat ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        18:39:24

                                  PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of        20266 Informational Message(s)

 A Total of        43872 Hours Were Processed

 A Total of         7316 Calm Hours Identified

 A Total of        12950 Missing Hours Identified ( 29.52 Percent)

 CAUTION!:  Number of Missing Hours Exceeds 10 Percent of Total!
            Data May Not Be Acceptable for Regulatory Applications.
            See Section 5.3.2 of "Meteorological Monitoring Guidance
            for Regulatory Modeling Applications" (EPA-454/R-99-005).


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
        48

    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 1/9/2022
** File: C:\Lakes\AERMOD View\1125Arguello_Mitigated\1125Arguello_Mitigated.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\1125Arguello_Mitigated\1125Arguello_Mitigated.i
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   URBANOPT 86200 Redwood_City
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 1125Arguello_Mitigated.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   567253.773  4149595.115        5.390
** Source Parameters **
   SRCPARAM PAREA1       2.0918E-08     3.658        10
   AREAVERT PAREA1       567253.773 4149595.115 567282.699 4149640.915
   AREAVERT PAREA1       567284.507 4149651.762 567308.612 4149671.649
   AREAVERT PAREA1       567447.821 4149518.580 567423.715 4149498.693
   AREAVERT PAREA1       567417.086 4149505.925 567391.776 4149484.833
   AREAVERT PAREA1       567251.362 4149595.717 567253.773 4149597.525
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
```

```
**
**
RE STARTING
   INCLUDED 1125Arguello_Mitigated.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC"
   PROFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL"
   SURFDATA 93231 2009 San_Carlos_Airport
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 2.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 1125ARGUELLO_MITIGATED.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 1125ARGUELLO_MITIGATED.AD\AN00GALL.PLT 32
   SUMMFILE 1125Arguello_Mitigated.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     10
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 1/9/2022
** File: C:\Lakes\AERMOD View\1125Arguello_Mitigated\1125Arguello_Mitigated.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\1125Arguello_Mitigated\1125Arguello_Mitigated.i
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   URBANOPT 86200 Redwood_City
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 1125Arguello_Mitigated.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   567253.773  4149595.115        5.390
** Source Parameters **
   SRCPARAM PAREA1       2.0918E-08     3.658        10
   AREAVERT PAREA1       567253.773 4149595.115 567282.699 4149640.915
   AREAVERT PAREA1       567284.507 4149651.762 567308.612 4149671.649
   AREAVERT PAREA1       567447.821 4149518.580 567423.715 4149498.693
   AREAVERT PAREA1       567417.086 4149505.925 567391.776 4149484.833
   AREAVERT PAREA1       567251.362 4149595.717 567253.773 4149597.525
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
```

```
**
**
RE STARTING
   INCLUDED 1125Arguello_Mitigated.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC"
   PROFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL"
   SURFDATA 93231 2009 San_Carlos_Airport
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 2.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 1125ARGUELLO_MITIGATED.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 1125ARGUELLO_MITIGATED.AD\AN00GALL.PLT 32
   SUMMFILE 1125Arguello_Mitigated.sum
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                         ***        19:11:56

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
```

```
 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for     1 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =     86200.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     723
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
```

```
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     2.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   1125Arguello_Mitigated.err

 **File for Summary of Results:   1125Arguello_Mitigated.sum

 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        19:11:56

                                   PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN


                                                  *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA  BASE     RELEASE  NUMBER
  INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC       X        Y      ELEV.    HEIGHT  OF VERTS.
   SZ     SOURCE  SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
86200.	PAREA1 ,	

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(566976.0, 4149399.0, 9.1, 9.1, 0.0); (566976.0, 4149419.0, 9.0, 9.0, 0.0);

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     ( 567076.0, 4149359.0,       8.0,       8.0,       0.0);         ( 567076.0,
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***       01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***       19:11:56

                                  PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)
```

```
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     ( 567076.0, 4149839.0,       5.5,       5.5,       0.0);         ( 567076.0,
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     ( 567096.0, 4149439.0,       7.5,       7.5,       0.0);         ( 567096.0,
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4149879.0,       4.8,       4.8,       0.0);
↟ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        19:11:56

                                   PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                                 *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
```

(METERS)

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     ( 567216.0, 4149379.0,       6.9,       6.9,       0.0);         ( 567216.0,
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     ( 567216.0, 4149419.0,       6.6,       6.6,       0.0);         ( 567216.0,
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     ( 567216.0, 4149759.0,       4.5,       4.5,       0.0);         ( 567216.0,
4149779.0,       4.4,       4.4,       0.0);
     ( 567216.0, 4149799.0,       4.3,       4.3,       0.0);         ( 567216.0,
4149819.0,       4.2,       4.2,       0.0);
     ( 567216.0, 4149839.0,       4.2,       4.2,       0.0);         ( 567216.0,
4149859.0,       4.3,       4.3,       0.0);
     ( 567216.0, 4149879.0,       4.2,       4.2,       0.0);         ( 567236.0,
4149239.0,       7.2,       7.2,       0.0);
     ( 567236.0, 4149259.0,       7.0,       7.0,       0.0);         ( 567236.0,
4149279.0,       7.0,       7.0,       0.0);
     ( 567236.0, 4149299.0,       7.0,       7.0,       0.0);         ( 567236.0,
4149319.0,       7.0,       7.0,       0.0);
     ( 567236.0, 4149339.0,       6.8,       6.8,       0.0);         ( 567236.0,
4149359.0,       6.7,       6.7,       0.0);
     ( 567236.0, 4149379.0,       6.6,       6.6,       0.0);         ( 567236.0,
4149399.0,       6.5,       6.5,       0.0);
     ( 567236.0, 4149419.0,       6.4,       6.4,       0.0);         ( 567236.0,
4149739.0,       4.5,       4.5,       0.0);
     ( 567236.0, 4149759.0,       4.3,       4.3,       0.0);         ( 567236.0,
4149779.0,       4.3,       4.3,       0.0);
     ( 567236.0, 4149799.0,       4.2,       4.2,       0.0);         ( 567236.0,
4149819.0,       4.0,       4.0,       0.0);
     ( 567236.0, 4149839.0,       3.9,       3.9,       0.0);         ( 567236.0,
4149859.0,       3.9,       3.9,       0.0);
     ( 567236.0, 4149879.0,       3.9,       3.9,       0.0);         ( 567236.0,
4149899.0,       3.8,       3.8,       0.0);
     ( 567256.0, 4149219.0,       7.0,       7.0,       0.0);         ( 567256.0,
4149239.0,       7.0,       7.0,       0.0);
     ( 567256.0, 4149259.0,       6.8,       6.8,       0.0);         ( 567256.0,
4149279.0,       6.8,       6.8,       0.0);
     ( 567256.0, 4149299.0,       6.8,       6.8,       0.0);         ( 567256.0,
4149319.0,       6.8,       6.8,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                         ***        19:11:56

                                    PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567256.0, 4149339.0, 6.5, 6.5, 0.0); (567256.0, 4149359.0, 6.5, 6.5, 0.0);
(567256.0, 4149379.0, 6.5, 6.5, 0.0); (567256.0, 4149399.0, 6.2, 6.2, 0.0);
(567256.0, 4149759.0, 4.3, 4.3, 0.0); (567256.0, 4149779.0, 4.2, 4.2, 0.0);
(567256.0, 4149799.0, 4.0, 4.0, 0.0); (567256.0, 4149819.0, 3.8, 3.8, 0.0);
(567256.0, 4149839.0, 3.7, 3.7, 0.0); (567256.0, 4149859.0, 3.7, 3.7, 0.0);
(567256.0, 4149879.0, 3.6, 3.6, 0.0); (567256.0, 4149899.0, 3.5, 3.5, 0.0);
(567276.0, 4149219.0, 6.8, 6.8, 0.0); (567276.0, 4149239.0, 6.8, 6.8, 0.0);
(567276.0, 4149259.0, 6.7, 6.7, 0.0); (567276.0, 4149279.0, 6.7, 6.7, 0.0);
(567276.0, 4149299.0, 6.6, 6.6, 0.0); (567276.0, 4149319.0, 6.6, 6.6, 0.0);
(567276.0, 4149339.0, 6.5, 6.5, 0.0); (567276.0, 4149359.0, 6.3, 6.3, 0.0);
(567276.0, 4149379.0, 6.2, 6.2, 0.0); (567276.0, 4149759.0, 4.2, 4.2, 0.0);
(567276.0, 4149779.0, 4.0, 4.0, 0.0); (567276.0, 4149799.0, 3.8, 3.8, 0.0);
(567276.0, 4149819.0, 3.7, 3.7, 0.0); (567276.0, 4149839.0, 3.6, 3.6, 0.0);
(567276.0, 4149859.0, 3.5, 3.5, 0.0); (567276.0, 4149879.0, 3.3, 3.3, 0.0);
(567276.0, 4149899.0, 3.2, 3.2, 0.0); (567276.0, 4149919.0, 3.2, 3.2, 0.0);
(567296.0, 4149219.0, 6.6, 6.6, 0.0); (567296.0, 4149239.0, 6.7, 6.7, 0.0);
(567296.0, 4149259.0, 6.7, 6.7, 0.0); (567296.0, 4149279.0, 6.7, 6.7, 0.0);
(567296.0, 4149299.0, 6.5, 6.5, 0.0); (567296.0, 4149319.0, 6.4, 6.4, 0.0);
(567296.0, 4149339.0, 6.4, 6.4, 0.0); (567296.0, 4149359.0, 6.2, 6.2, 0.0);
(567296.0, 4149739.0, 4.2, 4.2, 0.0); (567296.0, 4149759.0, 4.0, 4.0, 0.0);
(567296.0, 4149779.0, 3.8, 3.8, 0.0); (567296.0, 4149799.0, 3.7, 3.7, 0.0);
(567296.0, 4149819.0, 3.6, 3.6, 0.0); (567296.0, 4149839.0, 3.5, 3.5, 0.0);
(567296.0, 4149859.0, 3.3, 3.3, 0.0); (567296.0, 4149879.0, 3.1, 3.1, 0.0);

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     ( 567296.0, 4149899.0,       3.0,       3.0,       0.0);         ( 567296.0,
4149919.0,       3.0,       3.0,       0.0);
     ( 567316.0, 4149219.0,       6.4,       6.4,       0.0);         ( 567316.0,
4149239.0,       6.5,       6.5,       0.0);
     ( 567316.0, 4149259.0,       6.5,       6.5,       0.0);         ( 567316.0,
4149279.0,       6.5,       6.5,       0.0);
     ( 567316.0, 4149299.0,       6.3,       6.3,       0.0);         ( 567316.0,
4149319.0,       6.2,       6.2,       0.0);
     ( 567316.0, 4149339.0,       6.2,       6.2,       0.0);         ( 567316.0,
4149719.0,       4.2,       4.2,       0.0);
     ( 567316.0, 4149739.0,       4.0,       4.0,       0.0);         ( 567316.0,
4149759.0,       3.8,       3.8,       0.0);
     ( 567316.0, 4149779.0,       3.7,       3.7,       0.0);         ( 567316.0,
4149799.0,       3.6,       3.6,       0.0);
     ( 567316.0, 4149819.0,       3.5,       3.5,       0.0);         ( 567316.0,
4149839.0,       3.4,       3.4,       0.0);
     ( 567316.0, 4149859.0,       3.3,       3.3,       0.0);         ( 567316.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567316.0, 4149899.0,       2.9,       2.9,       0.0);         ( 567316.0,
4149919.0,       2.8,       2.8,       0.0);
     ( 567336.0, 4149219.0,       6.2,       6.2,       0.0);         ( 567336.0,
4149239.0,       6.3,       6.3,       0.0);
     ( 567336.0, 4149259.0,       6.4,       6.4,       0.0);         ( 567336.0,
4149279.0,       6.3,       6.3,       0.0);
     ( 567336.0, 4149299.0,       6.1,       6.1,       0.0);         ( 567336.0,
4149319.0,       6.0,       6.0,       0.0);
     ( 567336.0, 4149699.0,       4.2,       4.2,       0.0);         ( 567336.0,
4149719.0,       4.0,       4.0,       0.0);
     ( 567336.0, 4149739.0,       3.8,       3.8,       0.0);         ( 567336.0,
4149759.0,       3.7,       3.7,       0.0);
     ( 567336.0, 4149779.0,       3.6,       3.6,       0.0);         ( 567336.0,
4149799.0,       3.5,       3.5,       0.0);
     ( 567336.0, 4149819.0,       3.3,       3.3,       0.0);         ( 567336.0,
4149839.0,       3.2,       3.2,       0.0);
     ( 567336.0, 4149859.0,       3.2,       3.2,       0.0);         ( 567336.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567336.0, 4149899.0,       2.9,       2.9,       0.0);         ( 567336.0,
4149919.0,       2.7,       2.7,       0.0);
     ( 567356.0, 4149219.0,       6.0,       6.0,       0.0);         ( 567356.0,
4149239.0,       6.2,       6.2,       0.0);
     ( 567356.0, 4149259.0,       6.3,       6.3,       0.0);         ( 567356.0,
4149279.0,       6.1,       6.1,       0.0);
     ( 567356.0, 4149299.0,       5.9,       5.9,       0.0);         ( 567356.0,
4149659.0,       4.3,       4.3,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***       01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***       19:11:56
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567356.0, 4149679.0, 4.2, 4.2, 0.0); (567356.0, 4149699.0, 4.0, 4.0, 0.0);
(567356.0, 4149719.0, 3.8, 3.8, 0.0); (567356.0, 4149739.0, 3.7, 3.7, 0.0);
(567356.0, 4149759.0, 3.6, 3.6, 0.0); (567356.0, 4149779.0, 3.5, 3.5, 0.0);
(567356.0, 4149799.0, 3.3, 3.3, 0.0); (567356.0, 4149819.0, 3.1, 3.1, 0.0);
(567356.0, 4149839.0, 3.0, 3.0, 0.0); (567356.0, 4149859.0, 3.0, 3.0, 0.0);
(567356.0, 4149879.0, 3.0, 3.0, 0.0); (567356.0, 4149899.0, 2.9, 2.9, 0.0);
(567356.0, 4149919.0, 2.7, 2.7, 0.0); (567376.0, 4149219.0, 5.8, 5.8, 0.0);
(567376.0, 4149239.0, 6.0, 6.0, 0.0); (567376.0, 4149259.0, 6.1, 6.1, 0.0);
(567376.0, 4149279.0, 5.9, 5.9, 0.0); (567376.0, 4149659.0, 4.2, 4.2, 0.0);
(567376.0, 4149679.0, 4.0, 4.0, 0.0); (567376.0, 4149699.0, 3.8, 3.8, 0.0);
(567376.0, 4149719.0, 3.7, 3.7, 0.0); (567376.0, 4149739.0, 3.6, 3.6, 0.0);
(567376.0, 4149759.0, 3.5, 3.5, 0.0); (567376.0, 4149779.0, 3.4, 3.4, 0.0);
(567376.0, 4149799.0, 3.3, 3.3, 0.0); (567376.0, 4149819.0, 3.1, 3.1, 0.0);
(567376.0, 4149839.0, 2.9, 2.9, 0.0); (567376.0, 4149859.0, 2.8, 2.8, 0.0);
(567376.0, 4149879.0, 2.8, 2.8, 0.0); (567376.0, 4149899.0, 2.8, 2.8, 0.0);
(567376.0, 4149919.0, 2.7, 2.7, 0.0); (567396.0, 4149219.0, 5.7, 5.7, 0.0);
(567396.0, 4149239.0, 5.7, 5.7, 0.0); (567396.0, 4149259.0, 5.8, 5.8, 0.0);
(567396.0, 4149619.0, 4.1, 4.1, 0.0); (567396.0, 4149639.0, 4.1, 4.1, 0.0);
(567396.0, 4149659.0, 4.0, 4.0, 0.0); (567396.0, 4149679.0, 3.8, 3.8, 0.0);
(567396.0, 4149699.0, 3.7, 3.7, 0.0); (567396.0, 4149719.0, 3.6, 3.6, 0.0);
(567396.0, 4149739.0, 3.5, 3.5, 0.0); (567396.0, 4149759.0, 3.3, 3.3, 0.0);
(567396.0, 4149779.0, 3.2, 3.2, 0.0); (567396.0, 4149799.0, 3.2, 3.2, 0.0);

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     ( 567396.0, 4149819.0,       3.0,       3.0,       0.0);         ( 567396.0,
4149839.0,       2.8,       2.8,       0.0);
     ( 567396.0, 4149859.0,       2.7,       2.7,       0.0);         ( 567396.0,
4149879.0,       2.6,       2.6,       0.0);
     ( 567396.0, 4149899.0,       2.6,       2.6,       0.0);         ( 567396.0,
4149919.0,       2.6,       2.6,       0.0);
     ( 567416.0, 4149219.0,       5.5,       5.5,       0.0);         ( 567416.0,
4149239.0,       5.5,       5.5,       0.0);
     ( 567416.0, 4149599.0,       4.1,       4.1,       0.0);         ( 567416.0,
4149619.0,       4.0,       4.0,       0.0);
     ( 567416.0, 4149639.0,       3.9,       3.9,       0.0);         ( 567416.0,
4149659.0,       3.8,       3.8,       0.0);
     ( 567416.0, 4149679.0,       3.7,       3.7,       0.0);         ( 567416.0,
4149699.0,       3.6,       3.6,       0.0);
     ( 567416.0, 4149719.0,       3.5,       3.5,       0.0);         ( 567416.0,
4149739.0,       3.3,       3.3,       0.0);
     ( 567416.0, 4149759.0,       3.1,       3.1,       0.0);         ( 567416.0,
4149779.0,       3.0,       3.0,       0.0);
     ( 567416.0, 4149799.0,       3.0,       3.0,       0.0);         ( 567416.0,
4149819.0,       2.8,       2.8,       0.0);
     ( 567416.0, 4149839.0,       2.7,       2.7,       0.0);         ( 567416.0,
4149859.0,       2.7,       2.7,       0.0);
     ( 567416.0, 4149879.0,       2.5,       2.5,       0.0);         ( 567416.0,
4149899.0,       2.4,       2.4,       0.0);
     ( 567416.0, 4149919.0,       2.4,       2.4,       0.0);         ( 567436.0,
4149219.0,       5.3,       5.3,       0.0);
     ( 567436.0, 4149579.0,       4.1,       4.1,       0.0);         ( 567436.0,
4149599.0,       4.0,       4.0,       0.0);
     ( 567436.0, 4149619.0,       3.9,       3.9,       0.0);         ( 567436.0,
4149639.0,       3.8,       3.8,       0.0);
     ( 567436.0, 4149659.0,       3.7,       3.7,       0.0);         ( 567436.0,
4149679.0,       3.6,       3.6,       0.0);
     ( 567436.0, 4149699.0,       3.5,       3.5,       0.0);         ( 567436.0,
4149719.0,       3.4,       3.4,       0.0);
     ( 567436.0, 4149739.0,       3.3,       3.3,       0.0);         ( 567436.0,
4149759.0,       3.1,       3.1,       0.0);
     ( 567436.0, 4149779.0,       3.0,       3.0,       0.0);         ( 567436.0,
4149799.0,       3.0,       3.0,       0.0);
     ( 567436.0, 4149819.0,       2.8,       2.8,       0.0);         ( 567436.0,
4149839.0,       2.7,       2.7,       0.0);
     ( 567436.0, 4149859.0,       2.7,       2.7,       0.0);         ( 567436.0,
4149879.0,       2.5,       2.5,       0.0);
     ( 567436.0, 4149899.0,       2.3,       2.3,       0.0);         ( 567436.0,
4149919.0,       2.2,       2.2,       0.0);
     ( 567456.0, 4149559.0,       4.1,       4.1,       0.0);         ( 567456.0,
4149579.0,       4.0,       4.0,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        19:11:56
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567456.0, 4149599.0, 3.9, 3.9, 0.0); (567456.0, 4149619.0, 3.8, 3.8, 0.0);
(567456.0, 4149639.0, 3.7, 3.7, 0.0); (567456.0, 4149659.0, 3.6, 3.6, 0.0);
(567456.0, 4149679.0, 3.5, 3.5, 0.0); (567456.0, 4149699.0, 3.3, 3.3, 0.0);
(567456.0, 4149719.0, 3.2, 3.2, 0.0); (567456.0, 4149739.0, 3.2, 3.2, 0.0);
(567456.0, 4149759.0, 3.0, 3.0, 0.0); (567456.0, 4149779.0, 2.9, 2.9, 0.0);
(567456.0, 4149799.0, 2.9, 2.9, 0.0); (567456.0, 4149819.0, 2.7, 2.7, 0.0);
(567456.0, 4149839.0, 2.6, 2.6, 0.0); (567456.0, 4149859.0, 2.6, 2.6, 0.0);
(567456.0, 4149879.0, 2.5, 2.5, 0.0); (567456.0, 4149899.0, 2.3, 2.3, 0.0);
(567456.0, 4149919.0, 2.1, 2.1, 0.0); (567476.0, 4149539.0, 4.1, 4.1, 0.0);
(567476.0, 4149559.0, 3.9, 3.9, 0.0); (567476.0, 4149579.0, 3.9, 3.9, 0.0);
(567476.0, 4149599.0, 3.8, 3.8, 0.0); (567476.0, 4149619.0, 3.6, 3.6, 0.0);
(567476.0, 4149639.0, 3.6, 3.6, 0.0); (567476.0, 4149659.0, 3.5, 3.5, 0.0);
(567476.0, 4149679.0, 3.3, 3.3, 0.0); (567476.0, 4149699.0, 3.1, 3.1, 0.0);
(567476.0, 4149719.0, 3.0, 3.0, 0.0); (567476.0, 4149739.0, 3.0, 3.0, 0.0);
(567476.0, 4149759.0, 2.8, 2.8, 0.0); (567476.0, 4149779.0, 2.7, 2.7, 0.0);
(567476.0, 4149799.0, 2.7, 2.7, 0.0); (567476.0, 4149819.0, 2.5, 2.5, 0.0);
(567476.0, 4149839.0, 2.4, 2.4, 0.0); (567476.0, 4149859.0, 2.4, 2.4, 0.0);
(567476.0, 4149879.0, 2.4, 2.4, 0.0); (567476.0, 4149899.0, 2.3, 2.3, 0.0);
(567476.0, 4149919.0, 2.1, 2.1, 0.0); (567496.0, 4149519.0, 4.0, 4.0, 0.0);
(567496.0, 4149539.0, 3.9, 3.9, 0.0); (567496.0, 4149559.0, 3.7, 3.7, 0.0);
(567496.0, 4149579.0, 3.6, 3.6, 0.0); (567496.0, 4149599.0, 3.5, 3.5, 0.0);

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     ( 567496.0, 4149619.0,       3.4,       3.4,       0.0);         ( 567496.0,
4149639.0,       3.4,       3.4,       0.0);
     ( 567496.0, 4149659.0,       3.3,       3.3,       0.0);         ( 567496.0,
4149679.0,       3.1,       3.1,       0.0);
     ( 567496.0, 4149699.0,       3.1,       3.1,       0.0);         ( 567496.0,
4149719.0,       2.9,       2.9,       0.0);
     ( 567496.0, 4149739.0,       2.8,       2.8,       0.0);         ( 567496.0,
4149759.0,       2.8,       2.8,       0.0);
     ( 567496.0, 4149779.0,       2.7,       2.7,       0.0);         ( 567496.0,
4149799.0,       2.7,       2.7,       0.0);
     ( 567496.0, 4149819.0,       2.5,       2.5,       0.0);         ( 567496.0,
4149839.0,       2.4,       2.4,       0.0);
     ( 567496.0, 4149859.0,       2.4,       2.4,       0.0);         ( 567496.0,
4149879.0,       2.3,       2.3,       0.0);
     ( 567496.0, 4149899.0,       2.2,       2.2,       0.0);         ( 567516.0,
4149499.0,       3.8,       3.8,       0.0);
     ( 567516.0, 4149519.0,       3.8,       3.8,       0.0);         ( 567516.0,
4149539.0,       3.7,       3.7,       0.0);
     ( 567516.0, 4149559.0,       3.5,       3.5,       0.0);         ( 567516.0,
4149579.0,       3.3,       3.3,       0.0);
     ( 567516.0, 4149599.0,       3.2,       3.2,       0.0);         ( 567516.0,
4149619.0,       3.2,       3.2,       0.0);
     ( 567516.0, 4149639.0,       3.2,       3.2,       0.0);         ( 567516.0,
4149659.0,       3.1,       3.1,       0.0);
     ( 567516.0, 4149679.0,       3.0,       3.0,       0.0);         ( 567516.0,
4149699.0,       3.0,       3.0,       0.0);
     ( 567516.0, 4149719.0,       2.9,       2.9,       0.0);         ( 567516.0,
4149739.0,       2.7,       2.7,       0.0);
     ( 567516.0, 4149759.0,       2.7,       2.7,       0.0);         ( 567516.0,
4149779.0,       2.7,       2.7,       0.0);
     ( 567516.0, 4149799.0,       2.6,       2.6,       0.0);         ( 567516.0,
4149819.0,       2.5,       2.5,       0.0);
     ( 567516.0, 4149839.0,       2.4,       2.4,       0.0);         ( 567516.0,
4149859.0,       2.3,       2.3,       0.0);
     ( 567516.0, 4149879.0,       2.1,       2.1,       0.0);         ( 567536.0,
4149479.0,       3.8,       3.8,       0.0);
     ( 567536.0, 4149499.0,       3.7,       3.7,       0.0);         ( 567536.0,
4149519.0,       3.6,       3.6,       0.0);
     ( 567536.0, 4149539.0,       3.5,       3.5,       0.0);         ( 567536.0,
4149559.0,       3.3,       3.3,       0.0);
     ( 567536.0, 4149579.0,       3.1,       3.1,       0.0);         ( 567536.0,
4149599.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149619.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149639.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149659.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149679.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149699.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149719.0,       2.9,       2.9,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567536.0, 4149739.0, 2.7, 2.7, 0.0); (567536.0, 4149759.0, 2.7, 2.7, 0.0);
(567536.0, 4149779.0, 2.6, 2.6, 0.0); (567536.0, 4149799.0, 2.4, 2.4, 0.0);
(567536.0, 4149819.0, 2.4, 2.4, 0.0); (567536.0, 4149839.0, 2.3, 2.3, 0.0);
(567536.0, 4149859.0, 2.1, 2.1, 0.0); (567556.0, 4149219.0, 4.6, 4.6, 0.0);
(567556.0, 4149459.0, 3.8, 3.8, 0.0); (567556.0, 4149479.0, 3.7, 3.7, 0.0);
(567556.0, 4149499.0, 3.6, 3.6, 0.0); (567556.0, 4149519.0, 3.5, 3.5, 0.0);
(567556.0, 4149539.0, 3.3, 3.3, 0.0); (567556.0, 4149559.0, 3.1, 3.1, 0.0);
(567556.0, 4149579.0, 3.1, 3.1, 0.0); (567556.0, 4149599.0, 2.9, 2.9, 0.0);
(567556.0, 4149619.0, 2.8, 2.8, 0.0); (567556.0, 4149639.0, 2.8, 2.8, 0.0);
(567556.0, 4149659.0, 2.8, 2.8, 0.0); (567556.0, 4149679.0, 2.8, 2.8, 0.0);
(567556.0, 4149699.0, 2.8, 2.8, 0.0); (567556.0, 4149719.0, 2.8, 2.8, 0.0);
(567556.0, 4149739.0, 2.7, 2.7, 0.0); (567556.0, 4149759.0, 2.6, 2.6, 0.0);
(567556.0, 4149779.0, 2.5, 2.5, 0.0); (567556.0, 4149799.0, 2.4, 2.4, 0.0);
(567556.0, 4149819.0, 2.3, 2.3, 0.0); (567556.0, 4149839.0, 2.2, 2.2, 0.0);
(567576.0, 4149219.0, 4.5, 4.5, 0.0); (567576.0, 4149239.0, 4.3, 4.3, 0.0);
(567576.0, 4149419.0, 4.0, 4.0, 0.0); (567576.0, 4149439.0, 3.8, 3.8, 0.0);
(567576.0, 4149459.0, 3.6, 3.6, 0.0); (567576.0, 4149479.0, 3.5, 3.5, 0.0);
(567576.0, 4149499.0, 3.4, 3.4, 0.0); (567576.0, 4149519.0, 3.3, 3.3, 0.0);
(567576.0, 4149539.0, 3.1, 3.1, 0.0); (567576.0, 4149559.0, 3.0, 3.0, 0.0);
(567576.0, 4149579.0, 2.9, 2.9, 0.0); (567576.0, 4149599.0, 2.8, 2.8, 0.0);

```
     ( 567576.0, 4149619.0,       2.7,       2.7,       0.0);         ( 567576.0,
4149639.0,       2.7,       2.7,       0.0);
     ( 567576.0, 4149659.0,       2.7,       2.7,       0.0);         ( 567576.0,
4149679.0,       2.6,       2.6,       0.0);
     ( 567576.0, 4149699.0,       2.6,       2.6,       0.0);         ( 567576.0,
4149719.0,       2.6,       2.6,       0.0);
     ( 567576.0, 4149739.0,       2.6,       2.6,       0.0);         ( 567576.0,
4149759.0,       2.5,       2.5,       0.0);
     ( 567576.0, 4149779.0,       2.4,       2.4,       0.0);         ( 567576.0,
4149799.0,       2.3,       2.3,       0.0);
     ( 567576.0, 4149819.0,       2.2,       2.2,       0.0);         ( 567596.0,
4149219.0,       4.3,       4.3,       0.0);
     ( 567596.0, 4149239.0,       4.1,       4.1,       0.0);         ( 567596.0,
4149259.0,       4.0,       4.0,       0.0);
     ( 567596.0, 4149399.0,       3.9,       3.9,       0.0);         ( 567596.0,
4149419.0,       3.8,       3.8,       0.0);
     ( 567596.0, 4149439.0,       3.6,       3.6,       0.0);         ( 567596.0,
4149459.0,       3.4,       3.4,       0.0);
     ( 567596.0, 4149479.0,       3.2,       3.2,       0.0);         ( 567596.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567596.0, 4149519.0,       3.0,       3.0,       0.0);         ( 567596.0,
4149539.0,       3.0,       3.0,       0.0);
     ( 567596.0, 4149559.0,       3.0,       3.0,       0.0);         ( 567596.0,
4149579.0,       2.8,       2.8,       0.0);
     ( 567596.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567596.0,
4149619.0,       2.7,       2.7,       0.0);
     ( 567596.0, 4149639.0,       2.7,       2.7,       0.0);         ( 567596.0,
4149659.0,       2.6,       2.6,       0.0);
     ( 567596.0, 4149679.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149699.0,       2.4,       2.4,       0.0);
     ( 567596.0, 4149719.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149739.0,       2.4,       2.4,       0.0);
     ( 567596.0, 4149759.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149779.0,       2.3,       2.3,       0.0);
     ( 567596.0, 4149799.0,       2.1,       2.1,       0.0);         ( 567616.0,
4149219.0,       4.0,       4.0,       0.0);
     ( 567616.0, 4149239.0,       4.0,       4.0,       0.0);         ( 567616.0,
4149259.0,       4.0,       4.0,       0.0);
     ( 567616.0, 4149399.0,       3.8,       3.8,       0.0);         ( 567616.0,
4149419.0,       3.6,       3.6,       0.0);
     ( 567616.0, 4149439.0,       3.4,       3.4,       0.0);         ( 567616.0,
4149459.0,       3.4,       3.4,       0.0);
     ( 567616.0, 4149479.0,       3.2,       3.2,       0.0);         ( 567616.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567616.0, 4149519.0,       3.0,       3.0,       0.0);         ( 567616.0,
4149539.0,       2.9,       2.9,       0.0);
     ( 567616.0, 4149559.0,       2.8,       2.8,       0.0);         ( 567616.0,
4149579.0,       2.8,       2.8,       0.0);
     ( 567616.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567616.0,
4149619.0,       2.7,       2.7,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567616.0, 4149639.0, 2.7, 2.7, 0.0); (567616.0, 4149659.0, 2.6, 2.6, 0.0);
(567616.0, 4149679.0, 2.4, 2.4, 0.0); (567616.0, 4149699.0, 2.4, 2.4, 0.0);
(567616.0, 4149719.0, 2.4, 2.4, 0.0); (567616.0, 4149739.0, 2.4, 2.4, 0.0);
(567616.0, 4149759.0, 2.4, 2.4, 0.0); (567616.0, 4149779.0, 2.3, 2.3, 0.0);
(567616.0, 4149799.0, 2.1, 2.1, 0.0); (567636.0, 4149219.0, 4.0, 4.0, 0.0);
(567636.0, 4149239.0, 4.0, 4.0, 0.0); (567636.0, 4149259.0, 3.9, 3.9, 0.0);
(567636.0, 4149279.0, 3.9, 3.9, 0.0); (567636.0, 4149359.0, 3.7, 3.7, 0.0);
(567636.0, 4149379.0, 3.8, 3.8, 0.0); (567636.0, 4149399.0, 3.6, 3.6, 0.0);
(567636.0, 4149419.0, 3.5, 3.5, 0.0); (567636.0, 4149439.0, 3.3, 3.3, 0.0);
(567636.0, 4149459.0, 3.3, 3.3, 0.0); (567636.0, 4149479.0, 3.1, 3.1, 0.0);
(567636.0, 4149499.0, 3.0, 3.0, 0.0); (567636.0, 4149519.0, 2.9, 2.9, 0.0);
(567636.0, 4149539.0, 2.8, 2.8, 0.0); (567636.0, 4149559.0, 2.7, 2.7, 0.0);
(567636.0, 4149579.0, 2.7, 2.7, 0.0); (567636.0, 4149599.0, 2.7, 2.7, 0.0);
(567636.0, 4149619.0, 2.7, 2.7, 0.0); (567636.0, 4149639.0, 2.6, 2.6, 0.0);
(567636.0, 4149659.0, 2.5, 2.5, 0.0); (567636.0, 4149679.0, 2.4, 2.4, 0.0);
(567636.0, 4149699.0, 2.4, 2.4, 0.0); (567636.0, 4149719.0, 2.4, 2.4, 0.0);
(567636.0, 4149739.0, 2.3, 2.3, 0.0); (567636.0, 4149759.0, 2.3, 2.3, 0.0);
(567636.0, 4149779.0, 2.2, 2.2, 0.0); (567636.0, 4149799.0, 2.1, 2.1, 0.0);
(567656.0, 4149219.0, 4.0, 4.0, 0.0); (567656.0, 4149239.0, 3.9, 3.9, 0.0);

```
     ( 567656.0, 4149259.0,       3.9,       3.9,       0.0);         ( 567656.0,
4149279.0,       3.7,       3.7,       0.0);
     ( 567656.0, 4149299.0,       3.6,       3.6,       0.0);         ( 567656.0,
4149339.0,       3.7,       3.7,       0.0);
     ( 567656.0, 4149359.0,       3.6,       3.6,       0.0);         ( 567656.0,
4149379.0,       3.6,       3.6,       0.0);
     ( 567656.0, 4149399.0,       3.4,       3.4,       0.0);         ( 567656.0,
4149419.0,       3.3,       3.3,       0.0);
     ( 567656.0, 4149439.0,       3.3,       3.3,       0.0);         ( 567656.0,
4149459.0,       3.1,       3.1,       0.0);
     ( 567656.0, 4149479.0,       3.0,       3.0,       0.0);         ( 567656.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567656.0, 4149519.0,       2.8,       2.8,       0.0);         ( 567656.0,
4149539.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149559.0,       2.7,       2.7,       0.0);         ( 567656.0,
4149579.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567656.0,
4149619.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149639.0,       2.5,       2.5,       0.0);         ( 567656.0,
4149659.0,       2.4,       2.4,       0.0);
     ( 567656.0, 4149679.0,       2.4,       2.4,       0.0);         ( 567656.0,
4149699.0,       2.4,       2.4,       0.0);
     ( 567656.0, 4149719.0,       2.3,       2.3,       0.0);         ( 567656.0,
4149739.0,       2.1,       2.1,       0.0);
     ( 567656.0, 4149759.0,       2.1,       2.1,       0.0);         ( 567656.0,
4149779.0,       2.1,       2.1,       0.0);
     ( 567676.0, 4149219.0,       3.9,       3.9,       0.0);         ( 567676.0,
4149239.0,       3.9,       3.9,       0.0);
     ( 567676.0, 4149259.0,       3.7,       3.7,       0.0);         ( 567676.0,
4149279.0,       3.5,       3.5,       0.0);
     ( 567676.0, 4149299.0,       3.5,       3.5,       0.0);         ( 567676.0,
4149319.0,       3.7,       3.7,       0.0);
     ( 567676.0, 4149339.0,       3.7,       3.7,       0.0);         ( 567676.0,
4149359.0,       3.6,       3.6,       0.0);
     ( 567676.0, 4149379.0,       3.4,       3.4,       0.0);         ( 567676.0,
4149399.0,       3.2,       3.2,       0.0);
     ( 567676.0, 4149419.0,       3.1,       3.1,       0.0);         ( 567676.0,
4149439.0,       3.1,       3.1,       0.0);
     ( 567676.0, 4149459.0,       3.1,       3.1,       0.0);         ( 567676.0,
4149479.0,       2.9,       2.9,       0.0);
     ( 567676.0, 4149499.0,       2.8,       2.8,       0.0);         ( 567676.0,
4149519.0,       2.8,       2.8,       0.0);
     ( 567676.0, 4149539.0,       2.7,       2.7,       0.0);         ( 567676.0,
4149559.0,       2.7,       2.7,       0.0);
     ( 567676.0, 4149579.0,       2.7,       2.7,       0.0);         ( 567676.0,
4149599.0,       2.6,       2.6,       0.0);
     ( 567676.0, 4149619.0,       2.5,       2.5,       0.0);         ( 567676.0,
4149639.0,       2.5,       2.5,       0.0);
     ( 567676.0, 4149659.0,       2.4,       2.4,       0.0);         ( 567676.0,
4149679.0,       2.4,       2.4,       0.0);
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567676.0, 4149739.0, 2.1, 2.1, 0.0); (567676.0, 4149759.0, 2.1, 2.1, 0.0);
(567676.0, 4149779.0, 2.0, 2.0, 0.0);

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC
Met Version: 14134
Profile file: C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 93231 Upper air station no.: 23230
Name: SAN_CARLOS_AIRPORT Name: OAKLAND/WSO_AP
Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	07	-3.0	0.063	-9.000	-9.000	-999.	38.	7.5	0.04	0.55	1.00	1.76	5.	10.0	281.1	2.0

```
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
0.74    0.00    0.   10.0  280.1    2.0
 09 01 01   1 09 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
0.38  999.00  999.   -9.0  280.1    2.0
 09 01 01   1 10    5.5  0.179  0.236  0.014   87.  181.    -95.0  0.04   0.55
0.26    2.36   61.   10.0  280.1    2.0
 09 01 01   1 11   12.1 -9.000 -9.000 -9.000  156. -999. -99999.0  0.04   0.55
0.21    0.00    0.   10.0  280.1    2.0
 09 01 01   1 12   16.0  0.328  0.455  0.016  215.  451.   -201.4  0.04   0.55
0.20    4.36  336.   10.0  281.1    2.0
 09 01 01   1 13   16.6  0.226  0.493  0.015  262.  263.    -63.2  0.04   0.55
0.19    2.86  293.   10.0  281.1    2.0
 09 01 01   1 14   69.0 -9.000 -9.000 -9.000  402. -999. -99999.0  0.04   0.55
0.20    0.00    0.   10.0  282.1    2.0
 09 01 01   1 15   49.6  0.205  0.847  0.017  445.  223.    -15.9  0.04   0.55
0.23    2.36  999.   10.0  283.1    2.0
 09 01 01   1 16   18.0  0.192  0.607  0.016  451.  202.    -35.7  0.04   0.55
0.31    2.36  999.   10.0  283.1    2.0
 09 01 01   1 17  -17.1  0.203 -9.000 -9.000 -999.  220.     44.6  0.04   0.55
0.55    3.36  999.   10.0  282.1    2.0
 09 01 01   1 18  -11.3  0.104 -9.000 -9.000 -999.   86.      9.1  0.04   0.55
1.00    2.86  337.   10.0  282.1    2.0
 09 01 01   1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
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View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        19:11:56

                                   PAGE  16
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
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YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
566976.00	4149399.00	0.00024	566976.00	4149419.00	0.00025
566976.00	4149439.00	0.00025	566976.00	4149459.00	0.00026
566976.00	4149479.00	0.00027	566976.00	4149499.00	0.00027
566976.00	4149519.00	0.00028	566976.00	4149539.00	0.00028
566976.00	4149559.00	0.00029	566976.00	4149579.00	0.00029
566976.00	4149599.00	0.00029	566976.00	4149619.00	0.00030
566976.00	4149659.00	0.00031	566996.00	4149359.00	0.00027
566996.00	4149379.00	0.00027	566996.00	4149399.00	0.00027
566996.00	4149419.00	0.00028	566996.00	4149439.00	0.00028
566996.00	4149459.00	0.00029	566996.00	4149479.00	0.00030
566996.00	4149499.00	0.00030	566996.00	4149519.00	0.00031
566996.00	4149539.00	0.00032	566996.00	4149559.00	0.00032
566996.00	4149579.00	0.00033	566996.00	4149599.00	0.00033
566996.00	4149619.00	0.00033	567016.00	4149339.00	0.00030
567016.00	4149359.00	0.00031	567016.00	4149379.00	0.00031
567016.00	4149399.00	0.00031	567016.00	4149419.00	0.00031
567016.00	4149439.00	0.00032	567016.00	4149459.00	0.00033
567016.00	4149479.00	0.00033	567016.00	4149499.00	0.00034
567016.00	4149519.00	0.00035	567016.00		

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4149539.00        0.00036
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         567016.00    4149599.00        0.00037                      567016.00
4149819.00        0.00077
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4149339.00        0.00035
         567036.00    4149359.00        0.00035                      567036.00
4149379.00        0.00035
         567036.00    4149399.00        0.00035                      567036.00
4149419.00        0.00036
         567036.00    4149439.00        0.00036                      567036.00
4149459.00        0.00037
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4149499.00        0.00039
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4149539.00        0.00040
         567036.00    4149559.00        0.00041                      567036.00
4149579.00        0.00042
         567036.00    4149799.00        0.00085                      567036.00
4149819.00        0.00090
         567036.00    4149839.00        0.00095                      567056.00
4149299.00        0.00039
         567056.00    4149319.00        0.00040                      567056.00
4149339.00        0.00040
         567056.00    4149359.00        0.00040                      567056.00
4149379.00        0.00041
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4149419.00        0.00041
         567056.00    4149439.00        0.00042                      567056.00
4149459.00        0.00042
         567056.00    4149479.00        0.00043                      567056.00
4149499.00        0.00044
         567056.00    4149519.00        0.00045                      567056.00
4149539.00        0.00046
         567056.00    4149559.00        0.00047                      567056.00
4149779.00        0.00094
         567056.00    4149799.00        0.00101                      567056.00
4149819.00        0.00106
         567056.00    4149839.00        0.00109                      567056.00
4149859.00        0.00111
         567076.00    4149279.00        0.00045                      567076.00
4149299.00        0.00046
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 *** AERMET - VERSION  14134 ***   ***
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                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN
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*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
567076.00	4149319.00	0.00046	567076.00	4149339.00	0.00047
567076.00	4149359.00	0.00047	567076.00	4149379.00	0.00047
567076.00	4149399.00	0.00048	567076.00	4149419.00	0.00048
567076.00	4149439.00	0.00049	567076.00	4149459.00	0.00049
567076.00	4149479.00	0.00050	567076.00	4149499.00	0.00051
567076.00	4149519.00	0.00052	567076.00	4149539.00	0.00054
567076.00	4149759.00	0.00105	567076.00	4149779.00	0.00113
567076.00	4149799.00	0.00120	567076.00	4149819.00	0.00124
567076.00	4149839.00	0.00125	567076.00	4149859.00	0.00125
567096.00	4149279.00	0.00052	567096.00	4149299.00	0.00053
567096.00	4149319.00	0.00054	567096.00	4149339.00	0.00055
567096.00	4149359.00	0.00055	567096.00	4149379.00	0.00056
567096.00	4149399.00	0.00057	567096.00	4149419.00	0.00057
567096.00	4149439.00	0.00058	567096.00	4149459.00	0.00058
567096.00	4149479.00	0.00059	567096.00	4149499.00	0.00060
567096.00	4149519.00	0.00061	567096.00	4149759.00	0.00128
567096.00	4149779.00	0.00136	567096.00	4149799.00	0.00142
567096.00	4149819.00	0.00144	567096.00		

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4149839.00        0.00143
         567096.00    4149859.00        0.00139                    567116.00
4149279.00        0.00061
         567116.00    4149299.00        0.00062                    567116.00
4149319.00        0.00064
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4149359.00        0.00066
         567116.00    4149379.00        0.00067                    567116.00
4149399.00        0.00068
         567116.00    4149419.00        0.00069                    567116.00
4149439.00        0.00070
         567116.00    4149459.00        0.00070                    567116.00
4149479.00        0.00071
         567116.00    4149499.00        0.00072                    567116.00
4149739.00        0.00147
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4149779.00        0.00164
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4149819.00        0.00165
         567116.00    4149839.00        0.00160                    567116.00
4149859.00        0.00154
         567116.00    4149879.00        0.00146                    567136.00
4149259.00        0.00069
         567136.00    4149279.00        0.00072                    567136.00
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4149379.00        0.00081
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4149419.00        0.00084
         567136.00    4149439.00        0.00086                    567136.00
4149459.00        0.00087
         567136.00    4149479.00        0.00088                    567136.00
4149719.00        0.00171
         567136.00    4149739.00        0.00185                    567136.00
4149759.00        0.00193
         567136.00    4149779.00        0.00196                    567136.00
4149799.00        0.00193
         567136.00    4149819.00        0.00187                    567136.00
4149839.00        0.00178
         567136.00    4149859.00        0.00167                    567136.00
4149879.00        0.00156
         567156.00    4149259.00        0.00081                    567156.00
4149279.00        0.00084
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 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
567156.00	4149299.00	0.00088	567156.00	4149319.00	0.00091
567156.00	4149339.00	0.00094	567156.00	4149359.00	0.00097
567156.00	4149379.00	0.00100	567156.00	4149399.00	0.00102
567156.00	4149419.00	0.00105	567156.00	4149439.00	0.00107
567156.00	4149459.00	0.00109	567156.00	4149479.00	0.00111
567156.00	4149699.00	0.00202	567156.00	4149719.00	0.00220
567156.00	4149739.00	0.00231	567156.00	4149759.00	0.00234
567156.00	4149779.00	0.00230	567156.00	4149799.00	0.00221
567156.00	4149819.00	0.00208	567156.00	4149839.00	0.00194
567156.00	4149859.00	0.00180	567156.00	4149879.00	0.00166
567176.00	4149259.00	0.00095	567176.00	4149279.00	0.00099
567176.00	4149299.00	0.00104	567176.00	4149319.00	0.00109
567176.00	4149339.00	0.00114	567176.00	4149359.00	0.00119
567176.00	4149379.00	0.00124	567176.00	4149399.00	0.00128
567176.00	4149419.00	0.00133	567176.00	4149439.00	0.00137
567176.00	4149459.00	0.00142	567176.00	4149479.00	0.00145
567176.00	4149679.00	0.00246	567176.00		

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4149699.00        0.00269
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4149779.00        0.00265
         567176.00    4149799.00        0.00248                     567176.00
4149819.00        0.00228
         567176.00    4149839.00        0.00209                     567176.00
4149859.00        0.00191
         567176.00    4149879.00        0.00174                     567196.00
4149239.00        0.00105
         567196.00    4149259.00        0.00111                     567196.00
4149279.00        0.00117
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4149319.00        0.00131
         567196.00    4149339.00        0.00139                     567196.00
4149359.00        0.00147
         567196.00    4149379.00        0.00154                     567196.00
4149399.00        0.00163
         567196.00    4149419.00        0.00171                     567196.00
4149439.00        0.00180
         567196.00    4149459.00        0.00188                     567196.00
4149699.00        0.00358
         567196.00    4149719.00        0.00360                     567196.00
4149739.00        0.00348
         567196.00    4149759.00        0.00326                     567196.00
4149779.00        0.00299
         567196.00    4149799.00        0.00271                     567196.00
4149819.00        0.00245
         567196.00    4149839.00        0.00221                     567196.00
4149859.00        0.00200
         567196.00    4149879.00        0.00180                     567216.00
4149239.00        0.00121
         567216.00    4149259.00        0.00129                     567216.00
4149279.00        0.00138
         567216.00    4149299.00        0.00147                     567216.00
4149319.00        0.00157
         567216.00    4149339.00        0.00169                     567216.00
4149359.00        0.00181
         567216.00    4149379.00        0.00194                     567216.00
4149399.00        0.00208
         567216.00    4149419.00        0.00223                     567216.00
4149439.00        0.00238
         567216.00    4149719.00        0.00450                     567216.00
4149739.00        0.00415
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
567216.00	4149799.00	0.00292	567216.00	4149819.00	0.00259
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567216.00	4149879.00	0.00186	567236.00	4149239.00	0.00138
567236.00	4149259.00	0.00149	567236.00	4149279.00	0.00161
567236.00	4149299.00	0.00173	567236.00	4149319.00	0.00188
567236.00	4149339.00	0.00204	567236.00	4149359.00	0.00222
567236.00	4149379.00	0.00242	567236.00	4149399.00	0.00264
567236.00	4149419.00	0.00289	567236.00	4149739.00	0.00478
567236.00	4149759.00	0.00413	567236.00	4149779.00	0.00357
567236.00	4149799.00	0.00310	567236.00	4149819.00	0.00270
567236.00	4149839.00	0.00238	567236.00	4149859.00	0.00212
567236.00	4149879.00	0.00190	567236.00	4149899.00	0.00171
567256.00	4149219.00	0.00144	567256.00	4149239.00	0.00156
567256.00	4149259.00	0.00170	567256.00	4149279.00	0.00185
567256.00	4149299.00	0.00202	567256.00	4149319.00	0.00221
567256.00	4149339.00	0.00244	567256.00		

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4149359.00        0.00269
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4149779.00        0.00377
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4149819.00        0.00279
         567256.00    4149839.00        0.00244                     567256.00
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         567276.00    4149779.00        0.00389                     567276.00
4149799.00        0.00330
         567276.00    4149819.00        0.00284                     567276.00
4149839.00        0.00248
         567276.00    4149859.00        0.00219                     567276.00
4149879.00        0.00194
         567276.00    4149899.00        0.00174                     567276.00
4149919.00        0.00157
         567296.00    4149219.00        0.00174                     567296.00
4149239.00        0.00191
         567296.00    4149259.00        0.00210                     567296.00
4149279.00        0.00233
         567296.00    4149299.00        0.00260                     567296.00
4149319.00        0.00292
         567296.00    4149339.00        0.00330                     567296.00
4149359.00        0.00375
         567296.00    4149739.00        0.00587                     567296.00
4149759.00        0.00474
         567296.00    4149779.00        0.00392                     567296.00
4149799.00        0.00332
         567296.00    4149819.00        0.00286                     567296.00
4149839.00        0.00249
         567296.00    4149859.00        0.00219                     567296.00
4149879.00        0.00194
         567296.00    4149899.00        0.00174                     567296.00
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4149239.00        0.00206
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                                   PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                          X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         567316.00    4149259.00        0.00228                         567316.00
4149279.00        0.00255
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4149319.00        0.00326
         567316.00    4149339.00        0.00372                         567316.00
4149719.00        0.00741
         567316.00    4149739.00        0.00581                         567316.00
4149759.00        0.00469
         567316.00    4149779.00        0.00389                         567316.00
4149799.00        0.00330
         567316.00    4149819.00        0.00283                         567316.00
4149839.00        0.00246
         567316.00    4149859.00        0.00217                         567316.00
4149879.00        0.00192
         567316.00    4149899.00        0.00172                         567316.00
4149919.00        0.00155
         567336.00    4149219.00        0.00196                         567336.00
4149239.00        0.00218
         567336.00    4149259.00        0.00243                         567336.00
4149279.00        0.00274
         567336.00    4149299.00        0.00311                         567336.00
4149319.00        0.00356
         567336.00    4149699.00        0.00915                         567336.00
4149719.00        0.00704
         567336.00    4149739.00        0.00558                         567336.00
4149759.00        0.00456
         567336.00    4149779.00        0.00380                         567336.00
4149799.00        0.00323
         567336.00    4149819.00        0.00277                         567336.00
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4149839.00 0.00242
567336.00 4149859.00 0.00214 567336.00
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4149919.00 0.00153
567356.00 4149219.00 0.00203 567356.00
4149239.00 0.00226
567356.00 4149259.00 0.00254 567356.00
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4149699.00 0.00827
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4149739.00 0.00522
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4149779.00 0.00366
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4149819.00 0.00269
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4149219.00 0.00208
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4149259.00 0.00261
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4149659.00 0.01535
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567376.00 4149799.00 0.00298 567376.00
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4149899.00 0.00163
567376.00 4149919.00 0.00147 567396.00
4149219.00 0.00210
567396.00 4149239.00 0.00235 567396.00
4149259.00 0.00265
567396.00 4149619.00 0.02662 567396.00
4149639.00 0.01884
567396.00 4149659.00 0.01302 567396.00
4149679.00 0.00910
567396.00 4149699.00 0.00671 567396.00

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↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        19:11:56

                                   PAGE  21
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         567396.00    4149739.00        0.00436                      567396.00
4149759.00        0.00370
         567396.00    4149779.00        0.00320                      567396.00
4149799.00        0.00280
         567396.00    4149819.00        0.00246                      567396.00
4149839.00        0.00218
         567396.00    4149859.00        0.00195                      567396.00
4149879.00        0.00175
         567396.00    4149899.00        0.00158                      567396.00
4149919.00        0.00144
         567416.00    4149219.00        0.00210                      567416.00
4149239.00        0.00236
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         567416.00    4149679.00        0.00805                      567416.00
4149699.00        0.00607
         567416.00    4149719.00        0.00480                      567416.00
4149739.00        0.00396
         567416.00    4149759.00        0.00338                      567416.00
4149779.00        0.00295
         567416.00    4149799.00        0.00261                      567416.00
4149819.00        0.00231
         567416.00    4149839.00        0.00207                      567416.00
4149859.00        0.00186
         567416.00    4149879.00        0.00168                      567416.00
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4149899.00 0.00153
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4149579.00 0.02297
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4149619.00 0.01420
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4149779.00 0.00250
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4149659.00 0.00736
567476.00 4149679.00 0.00574 567476.00
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567476.00 4149719.00 0.00366 567476.00

4149739.00   0.00305
         567476.00   4149759.00   0.00261   567476.00
4149779.00   0.00230

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         567476.00   4149799.00   0.00206   567476.00
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4149859.00   0.00156
         567476.00   4149879.00   0.00144   567476.00
4149899.00   0.00133
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4149519.00   0.02355
         567496.00   4149539.00   0.02127   567496.00
4149559.00   0.01812
         567496.00   4149579.00   0.01510   567496.00
4149599.00   0.01244
         567496.00   4149619.00   0.01014   567496.00
4149639.00   0.00818
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4149679.00   0.00517
         567496.00   4149699.00   0.00415   567496.00
4149719.00   0.00338
         567496.00   4149739.00   0.00282   567496.00
4149759.00   0.00242
         567496.00   4149779.00   0.00213   567496.00
4149799.00   0.00191
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4149839.00   0.00158
         567496.00   4149859.00   0.00146   567496.00

4149879.00 0.00135
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567516.00 4149679.00 0.00470 567516.00
4149699.00 0.00382
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4149739.00 0.00262
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4149779.00 0.00197
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4149839.00 0.00137
567536.00 4149859.00 0.00127 567556.00
4149219.00 0.00267
567556.00 4149459.00 0.01217 567556.00
4149479.00 0.01254
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567556.00 4149579.00 0.00940 567556.00

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4149679.00        0.00397
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        19:11:56

                                   PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                          X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         567556.00    4149699.00        0.00328                            567556.00
4149719.00        0.00273
         567556.00    4149739.00        0.00230                            567556.00
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         567556.00    4149779.00        0.00172                            567556.00
4149799.00        0.00153
         567556.00    4149819.00        0.00139                            567556.00
4149839.00        0.00127
         567576.00    4149219.00        0.00284                            567576.00
4149239.00        0.00327
         567576.00    4149419.00        0.00965                            567576.00
4149439.00        0.01009
         567576.00    4149459.00        0.01042                            567576.00
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4149559.00        0.00918
         567576.00    4149579.00        0.00822                            567576.00
4149599.00        0.00719
         567576.00    4149619.00        0.00617                            567576.00
4149639.00        0.00524
         567576.00    4149659.00        0.00440                            567576.00
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4149759.00 0.00186
567576.00 4149779.00 0.00162 567576.00
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567576.00 4149819.00 0.00130 567596.00
4149219.00 0.00299
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4149579.00 0.00644
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4149619.00 0.00509
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4149659.00 0.00378
567616.00 4149679.00 0.00321 567616.00

4149699.00   0.00272
         567616.00   4149719.00   0.00231   567616.00
4149739.00   0.00197
         567616.00   4149759.00   0.00169   567616.00
4149779.00   0.00147
         567616.00   4149799.00   0.00129   567636.00
4149219.00   0.00321

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         567636.00   4149239.00   0.00360   567636.00
4149259.00   0.00402
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4149359.00   0.00606
         567636.00   4149379.00   0.00635   567636.00
4149399.00   0.00655
         567636.00   4149419.00   0.00672   567636.00
4149439.00   0.00687
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4149479.00   0.00705
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4149519.00   0.00689
         567636.00   4149539.00   0.00663   567636.00
4149559.00   0.00625
         567636.00   4149579.00   0.00577   567636.00
4149599.00   0.00523
         567636.00   4149619.00   0.00465   567636.00
4149639.00   0.00407
         567636.00   4149659.00   0.00352   567636.00
4149679.00   0.00302
         567636.00   4149699.00   0.00258   567636.00

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4149719.00        0.00220
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4149759.00        0.00162
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4149799.00        0.00124
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4149279.00        0.00434
         567656.00    4149299.00        0.00470                    567656.00
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         567656.00    4149359.00        0.00556                    567656.00
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         567656.00    4149399.00        0.00589                    567656.00
4149419.00        0.00602
         567656.00    4149439.00        0.00615                    567656.00
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4149659.00        0.00329
         567656.00    4149679.00        0.00285                    567656.00
4149699.00        0.00245
         567656.00    4149719.00        0.00210                    567656.00
4149739.00        0.00180
         567656.00    4149759.00        0.00156                    567656.00
4149779.00        0.00136
         567676.00    4149219.00        0.00327                    567676.00
4149239.00        0.00358
         567676.00    4149259.00        0.00389                    567676.00
4149279.00        0.00418
         567676.00    4149299.00        0.00446                    567676.00
4149319.00        0.00472
         567676.00    4149339.00        0.00493                    567676.00
4149359.00        0.00509
         567676.00    4149379.00        0.00522                    567676.00
4149399.00        0.00532
         567676.00    4149419.00        0.00542                    567676.00
4149439.00        0.00552
         567676.00    4149459.00        0.00559                    567676.00
4149479.00        0.00561
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4149519.00        0.00547
         567676.00    4149539.00        0.00530                    567676.00
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4149559.00   0.00504
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4149599.00   0.00433
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4149639.00   0.00349
         567676.00   4149659.00   0.00308   567676.00
4149679.00   0.00269
         567676.00   4149699.00   0.00234   567676.00
4149719.00   0.00202

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         567676.00   4149739.00   0.00174   567676.00
4149759.00   0.00151
         567676.00   4149779.00   0.00131

                              *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
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566976.00	4149439.00	0.07488	(13112008)	566976.00	4149459.00	0.07498	(11120318)
566976.00	4149479.00	0.08083	(12093022)	566976.00	4149499.00	0.08693	(12093022)
566976.00	4149519.00	0.08723	(12093022)	566976.00	4149539.00	0.08760	(12102422)
566976.00	4149559.00	0.08900	(12102422)	566976.00	4149579.00	0.09204	(13031922)
566976.00	4149599.00	0.09345	(11032707)	566976.00	4149619.00	0.09712	(12082403)
566976.00	4149659.00	0.09996	(13071906)	566996.00	4149359.00	0.06967	(10123117)
566996.00	4149379.00	0.07352	(10123117)	566996.00	4149399.00	0.07498	(10123117)
566996.00	4149419.00	0.07544	(13070421)	566996.00	4149439.00	0.07774	(13112008)
566996.00	4149459.00	0.07904	(13112008)	566996.00	4149479.00	0.08277	(12093022)
566996.00	4149499.00	0.09055	(12093022)	566996.00	4149519.00	0.09270	(12093022)
566996.00	4149539.00	0.09219	(10121207)	566996.00	4149559.00	0.09428	(12102422)
566996.00	4149579.00	0.09740	(13031922)	566996.00	4149599.00	0.09889	(11032707)
566996.00	4149619.00	0.10285	(12082403)	567016.00	4149339.00	0.06821	(13071024)
567016.00	4149359.00	0.07020	(13071024)	567016.00	4149379.00	0.07516	(10123117)
567016.00	4149399.00	0.07855	(10123117)	567016.00	4149419.00	0.07906	(10123117)
567016.00	4149439.00	0.08071	(13070421)	567016.00	4149459.00	0.08331	(13112008)
567016.00	4149479.00	0.08513	(12111604)	567016.00	4149499.00	0.09405	(12093022)
567016.00	4149519.00	0.09822	(12093022)	567016.00	4149539.00	0.09707	(10121207)
567016.00	4149559.00	0.09999	(12102422)	567016.00	4149579.00	0.10323	(13031922)
567016.00	4149599.00	0.10532	(12082403)	567016.00	4149819.00	0.10523	(13011221)
567036.00	4149319.00	0.07495	(09092123)	567036.00			

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 4149339.00         0.07002  (10123120)
       567036.00   4149359.00        0.07265  (13072422)                567036.00
 4149379.00         0.07590  (10123117)
       567036.00   4149399.00        0.08102  (10123117)                567036.00
 4149419.00         0.08387  (10123117)
       567036.00   4149439.00        0.08401  (13070421)                567036.00
 4149459.00         0.08684  (13112008)
       567036.00   4149479.00        0.08839  (13112008)                567036.00
 4149499.00         0.09735  (12093022)
       567036.00   4149519.00        0.10374  (12093022)                567036.00
 4149539.00         0.10235  (12093022)
       567036.00   4149559.00        0.10616  (12102422)                567036.00
 4149579.00         0.10974  (13031922)
       567036.00   4149799.00        0.11466  (13011221)                567036.00
 4149819.00         0.11198  (12111507)
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       567056.00   4149319.00        0.08357  (09092123)                567056.00
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       567056.00   4149359.00        0.07497  (09092123)                567056.00
 4149379.00         0.07764  (13072422)
       567056.00   4149399.00        0.08251  (10123117)                567056.00
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       567056.00   4149439.00        0.08956  (10123117)                567056.00
 4149459.00         0.09064  (13070421)
       567056.00   4149479.00        0.09373  (13112008)                567056.00
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       567056.00   4149519.00        0.10920  (12093022)                567056.00
 4149539.00         0.11046  (12093022)
       567056.00   4149559.00        0.11283  (12102422)                567056.00
 4149779.00         0.12452  (13011221)
       567056.00   4149799.00        0.12145  (12111507)                567056.00
 4149819.00         0.11706  (12111507)
       567056.00   4149839.00        0.11006  (12031522)                567056.00
 4149859.00         0.10934  (12093019)
       567076.00   4149279.00        0.08351  (09092123)                567076.00
 4149299.00         0.08716  (09092123)
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View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        19:11:56

                                   PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567076.00	4149319.00	0.08946	(09092123)	567076.00	4149339.00	0.08989	(09092123)
567076.00	4149359.00	0.08762	(09092123)	567076.00	4149379.00	0.08176	(09092123)
567076.00	4149399.00	0.08368	(13113017)	567076.00	4149419.00	0.08968	(10123117)
567076.00	4149439.00	0.09436	(10123117)	567076.00	4149459.00	0.09570	(10123117)
567076.00	4149479.00	0.09817	(13112008)	567076.00	4149499.00	0.10366	(12093022)
567076.00	4149519.00	0.11454	(12093022)	567076.00	4149539.00	0.11885	(12093022)
567076.00	4149759.00	0.13462	(13011221)	567076.00	4149779.00	0.13227	(10012308)
567076.00	4149799.00	0.12931	(12111507)	567076.00	4149819.00	0.12106	(12031522)
567076.00	4149839.00	0.11949	(12093019)	567076.00	4149859.00	0.11603	(12093019)
567096.00	4149279.00	0.08319	(09092123)	567096.00	4149299.00	0.08844	(09092123)
567096.00	4149319.00	0.09273	(09092123)	567096.00	4149339.00	0.09581	(09092123)
567096.00	4149359.00	0.09707	(09092123)	567096.00	4149379.00	0.09548	(09092123)
567096.00	4149399.00	0.08981	(09092123)	567096.00	4149419.00	0.09109	(10123117)
567096.00	4149439.00	0.09769	(10123117)	567096.00	4149459.00	0.10228	(10123117)
567096.00	4149479.00	0.10322	(13070421)	567096.00	4149499.00	0.10726	(13112008)
567096.00	4149519.00	0.11983	(12093022)	567096.00	4149759.00	0.14588	(13011221)
567096.00	4149779.00	0.14328	(12111507)	567096.00	4149799.00	0.13379	(12031522)
567096.00	4149819.00	0.13133	(12093019)	567096.00	4149839.00	0.12708	(12050306)
567096.00	4149859.00	0.11772	(12050306)	567116.00	4149279.00	0.08132	(09092123)
567116.00	4149299.00	0.08807	(09092123)	567116.00	4149319.00	0.09391	(09092123)
567116.00	4149339.00	0.09891	(09092123)	567116.00			

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 4149359.00         0.10294  (09092123)
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 4149479.00         0.11145  (10123117)
       567116.00   4149499.00        0.11306  (13070421)                567116.00
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       567116.00   4149759.00        0.15924  (12111507)                567116.00
 4149779.00         0.14861  (12031522)
       567116.00   4149799.00        0.14526  (12093019)                567116.00
 4149819.00         0.14000  (12050306)
       567116.00   4149839.00        0.12873  (13022208)                567116.00
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       567116.00   4149879.00        0.11352  (11121108)                567136.00
 4149259.00         0.07138  (12081806)
       567136.00   4149279.00        0.07784  (09092123)                567136.00
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       567136.00   4149319.00        0.09354  (09092123)                567136.00
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       567136.00   4149359.00        0.10589  (09092123)                567136.00
 4149379.00         0.11107  (09092123)
       567136.00   4149399.00        0.11481  (09092123)                567136.00
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       567136.00   4149439.00        0.11134  (09092123)                567136.00
 4149459.00         0.11027  (10123117)
       567136.00   4149479.00        0.11806  (10123117)                567136.00
 4149719.00         0.17897  (13011221)
       567136.00   4149739.00        0.17755  (12111507)                567136.00
 4149759.00         0.16591  (12031522)
       567136.00   4149779.00        0.16176  (12093019)                567136.00
 4149799.00         0.15532  (12050306)
       567136.00   4149819.00        0.14253  (13022208)                567136.00
 4149839.00         0.13299  (11121108)
       567136.00   4149859.00        0.12351  (12102006)                567136.00
 4149879.00         0.11909  (12020106)
       567156.00   4149259.00        0.07346  (11090606)                567156.00
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View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        19:11:56

                                   PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,
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*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567156.00	4149299.00	0.08277	(09092123)	567156.00	4149319.00	0.09186	(09092123)
567156.00	4149339.00	0.09978	(09092123)	567156.00	4149359.00	0.10697	(09092123)
567156.00	4149379.00	0.11384	(09092123)	567156.00	4149399.00	0.12039	(09092123)
567156.00	4149419.00	0.12595	(09092123)	567156.00	4149439.00	0.12883	(09092123)
567156.00	4149459.00	0.12610	(09092123)	567156.00	4149479.00	0.12273	(10123117)
567156.00	4149699.00	0.20142	(10121007)	567156.00	4149719.00	0.19871	(12111507)
567156.00	4149739.00	0.18820	(12111507)	567156.00	4149759.00	0.18147	(12093019)
567156.00	4149779.00	0.17337	(12050306)	567156.00	4149799.00	0.15829	(13022208)
567156.00	4149819.00	0.14702	(11121108)	567156.00	4149839.00	0.13665	(12020106)
567156.00	4149859.00	0.13012	(12020106)	567156.00	4149879.00	0.12003	(13042222)
567176.00	4149259.00	0.07544	(12081306)	567176.00	4149279.00	0.07791	(13031221)
567176.00	4149299.00	0.08126	(11090606)	567176.00	4149319.00	0.08853	(09092123)
567176.00	4149339.00	0.09840	(09092123)	567176.00	4149359.00	0.10700	(09092123)
567176.00	4149379.00	0.11502	(09092123)	567176.00	4149399.00	0.12311	(09092123)
567176.00	4149419.00	0.13133	(09092123)	567176.00	4149439.00	0.13915	(09092123)
567176.00	4149459.00	0.14493	(09092123)	567176.00	4149479.00	0.14499	(09092123)
567176.00	4149679.00	0.23054	(10121007)	567176.00	4149699.00	0.22360	(12111507)
567176.00	4149719.00	0.21607	(12111507)	567176.00	4149739.00	0.20565	(12093019)
567176.00	4149759.00	0.19523	(12050306)	567176.00	4149779.00	0.17655	(13022208)
567176.00	4149799.00	0.16250	(11121108)	567176.00

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       567176.00   4149879.00        0.12361  (11010720)                567196.00
 4149239.00        0.07555  (13070206)
       567196.00   4149259.00        0.07823  (13071805)                567196.00
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       567196.00   4149379.00        0.11551  (09092123)                567196.00
 4149399.00        0.12465  (09092123)
       567196.00   4149419.00        0.13420  (09092123)                567196.00
 4149439.00        0.14446  (09092123)
       567196.00   4149459.00        0.15523  (09092123)                567196.00
 4149699.00        0.24968  (12111507)
       567196.00   4149719.00        0.23554  (12093019)                567196.00
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       567196.00   4149759.00        0.19825  (13022208)                567196.00
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       567196.00   4149799.00        0.16977  (12020106)                567196.00
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       567196.00   4149839.00        0.14461  (10091806)                567196.00
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       567196.00   4149879.00        0.12501  (13033107)                567216.00
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       567216.00   4149259.00        0.08079  (13070206)                567216.00
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       567216.00   4149299.00        0.08741  (13070206)                567216.00
 4149319.00        0.09092  (13071805)
       567216.00   4149339.00        0.09484  (13101819)                567216.00
 4149359.00        0.10348  (09092123)
       567216.00   4149379.00        0.11529  (09092123)                567216.00
 4149399.00        0.12583  (09092123)
       567216.00   4149419.00        0.13640  (09092123)                567216.00
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       567216.00   4149719.00        0.25645  (12093019)                567216.00
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View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        19:11:56

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
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VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
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- -
        567216.00   4149799.00   0.17258 (13032706)   567216.00
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        567216.00   4149839.00   0.14600 (13033107)   567216.00
 4149859.00   0.13471 (10120207)
        567216.00   4149879.00   0.12723 (12122217)   567236.00
 4149239.00   0.08042 (13071806)
        567236.00   4149259.00   0.08350 (13071806)   567236.00
 4149279.00   0.08695 (13072623)
        567236.00   4149299.00   0.09057 (13072623)   567236.00
 4149319.00   0.09438 (13070206)
        567236.00   4149339.00   0.09906 (13070206)   567236.00
 4149359.00   0.10386 (13070206)
        567236.00   4149379.00   0.11347 (09092123)   567236.00
 4149399.00   0.12661 (09092123)
        567236.00   4149419.00   0.13864 (09092123)   567236.00
 4149739.00   0.23756 (12020106)
        567236.00   4149759.00   0.21238 (13032706)   567236.00
 4149779.00   0.19349 (11010720)
        567236.00   4149799.00   0.17469 (10120207)   567236.00
 4149819.00   0.15925 (12122217)
        567236.00   4149839.00   0.14807 (12122217)   567236.00
 4149859.00   0.13482 (12122217)
        567236.00   4149879.00   0.12926 (11012907)   567236.00
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        567256.00   4149219.00   0.08010 (12010417)   567256.00
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        567256.00   4149259.00   0.08660 (13070122)   567256.00
 4149279.00   0.09030 (13070122)
        567256.00   4149299.00   0.09411 (13070122)   567256.00
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        567256.00   4149339.00   0.10316 (13071806)   567256.00
 4149359.00   0.10838 (13072623)
        567256.00   4149379.00   0.11427 (13072623)   567256.00
 4149399.00   0.12600 (09092123)
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 4149779.00   0.19411 (12122217)
        567256.00   4149799.00   0.17500 (12122217)   567256.00

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       567256.00   4149879.00         0.12935  (11012907)                 567256.00
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 4149239.00         0.08572  (10091706)
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 4149279.00         0.09377  (10091706)
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       567276.00   4149339.00         0.10830  (12010417)                 567276.00
 4149359.00         0.11414  (13070122)
       567276.00   4149379.00         0.12084  (13070122)                 567276.00
 4149759.00         0.22208  (11012907)
       567276.00   4149779.00         0.20038  (11012907)                 567276.00
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       567276.00   4149819.00         0.16105  (11123123)                 567276.00
 4149839.00         0.14480  (11123123)
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       567296.00   4149259.00         0.09640  (13123118)                 567296.00
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       567296.00   4149299.00         0.10589  (13123118)                 567296.00
 4149319.00         0.11133  (13123118)
       567296.00   4149339.00         0.11734  (13123118)                 567296.00
 4149359.00         0.12413  (13123118)
       567296.00   4149739.00         0.24216  (11123123)                 567296.00
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       567296.00   4149779.00         0.18041  (11123123)                 567296.00
 4149799.00         0.16290  (13033124)
       567296.00   4149819.00         0.15066  (13033124)                 567296.00
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 4149879.00         0.12190  (13033124)
       567296.00   4149899.00         0.11452  (13033124)                 567296.00
 4149919.00         0.10794  (13033124)
       567316.00   4149219.00         0.08952  (13123118)                 567316.00
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        19:11:56

                                  PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567316.00	4149259.00	0.09964	(13123118)	567316.00	4149279.00	0.10523	(13123118)
567316.00	4149299.00	0.11125	(13123118)	567316.00	4149319.00	0.11783	(13123118)
567316.00	4149339.00	0.12501	(13123118)	567316.00	4149719.00	0.24632	(13033124)
567316.00	4149739.00	0.21752	(13033124)	567316.00	4149759.00	0.19449	(13033124)
567316.00	4149779.00	0.17609	(13033124)	567316.00	4149799.00	0.16087	(13033124)
567316.00	4149819.00	0.14770	(13033124)	567316.00	4149839.00	0.13644	(13033124)
567316.00	4149859.00	0.12661	(13033124)	567316.00	4149879.00	0.11774	(13033124)
567316.00	4149899.00	0.10986	(13033124)	567316.00	4149919.00	0.10283	(13033124)
567336.00	4149219.00	0.09255	(12090506)	567336.00	4149239.00	0.09747	(12090506)
567336.00	4149259.00	0.10287	(12090506)	567336.00	4149279.00	0.10883	(12090506)
567336.00	4149299.00	0.11543	(12090506)	567336.00	4149319.00	0.12279	(12090506)
567336.00	4149699.00	0.23291	(13033124)	567336.00	4149719.00	0.20615	(13033124)
567336.00	4149739.00	0.18443	(13033124)	567336.00	4149759.00	0.16680	(13033124)
567336.00	4149779.00	0.15206	(12020822)	567336.00	4149799.00	0.14124	(12020822)
567336.00	4149819.00	0.13148	(12020822)	567336.00	4149839.00	0.12308	(12020822)
567336.00	4149859.00	0.11570	(12020822)	567336.00	4149879.00	0.10885	(12020822)
567336.00	4149899.00	0.10270	(13021905)	567336.00	4149919.00	0.09711	(13021905)
567356.00	4149219.00	0.09551	(12090506)	567356.00			

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 4149239.00         0.10082  (12090506)
       567356.00   4149259.00        0.10667  (12090506)                567356.00
 4149279.00         0.11316  (12090506)
       567356.00   4149299.00        0.12039  (12090506)                567356.00
 4149659.00         0.24484  (13033124)
       567356.00   4149679.00        0.21621  (11103124)                567356.00
 4149699.00         0.19641  (13103120)
       567356.00   4149719.00        0.18075  (13103120)                567356.00
 4149739.00         0.16672  (12123119)
       567356.00   4149759.00        0.15392  (13113023)                567356.00
 4149779.00         0.14315  (11103124)
       567356.00   4149799.00        0.13311  (11103124)                567356.00
 4149819.00         0.12375  (11111120)
       567356.00   4149839.00        0.11565  (11111120)                567356.00
 4149859.00         0.10820  (11111120)
       567356.00   4149879.00        0.10129  (11111120)                567356.00
 4149899.00         0.09479  (11111120)
       567356.00   4149919.00        0.08873  (11111120)                567376.00
 4149219.00         0.09409  (13072602)
       567376.00   4149239.00        0.09976  (12093018)                567376.00
 4149259.00         0.10644  (12093018)
       567376.00   4149279.00        0.11392  (12093018)                567376.00
 4149659.00         0.20790  (12123122)
       567376.00   4149679.00        0.19115  (12123122)                567376.00
 4149699.00         0.17507  (11022819)
       567376.00   4149719.00        0.16216  (11012808)                567376.00
 4149739.00         0.15051  (13103120)
       567376.00   4149759.00        0.14197  (12123119)                567376.00
 4149779.00         0.13405  (12123119)
       567376.00   4149799.00        0.12594  (12123119)                567376.00
 4149819.00         0.11721  (12123119)
       567376.00   4149839.00        0.11009  (13113023)                567376.00
 4149859.00         0.10360  (11103124)
       567376.00   4149879.00        0.09835  (11103124)                567376.00
 4149899.00         0.09325  (11103124)
       567376.00   4149919.00        0.08835  (11103124)                567396.00
 4149219.00         0.09652  (11070606)
       567396.00   4149239.00        0.10250  (11070606)                567396.00
 4149259.00         0.11063  (13103119)
       567396.00   4149619.00        0.23176  (12083121)                567396.00
 4149639.00         0.20584  (11012819)
       567396.00   4149659.00        0.18473  (13081201)                567396.00
 4149679.00         0.17269  (11123119)
       567396.00   4149699.00        0.16030  (12123122)                567396.00
 4149719.00         0.14867  (11012808)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        19:11:56
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567396.00	4149739.00	0.14032	(11012808)	567396.00	4149759.00	0.13075	(11112906)
567396.00	4149779.00	0.12214	(12123119)	567396.00	4149799.00	0.11715	(12123119)
567396.00	4149819.00	0.11189	(12123119)	567396.00	4149839.00	0.10653	(12123119)
567396.00	4149859.00	0.10093	(12123119)	567396.00	4149879.00	0.09511	(12123119)
567396.00	4149899.00	0.08946	(13113023)	567396.00	4149919.00	0.08525	(13113023)
567416.00	4149219.00	0.10208	(13103119)	567416.00	4149239.00	0.10876	(13103119)
567416.00	4149599.00	0.24006	(13081223)	567416.00	4149619.00	0.20911	(12083121)
567416.00	4149639.00	0.18482	(11012819)	567416.00	4149659.00	0.16815	(11012819)
567416.00	4149679.00	0.15652	(11123119)	567416.00	4149699.00	0.14859	(11123119)
567416.00	4149719.00	0.13859	(12123122)	567416.00	4149739.00	0.12961	(11012808)
567416.00	4149759.00	0.12355	(11012808)	567416.00	4149779.00	0.11620	(11112906)
567416.00	4149799.00	0.10986	(11112906)	567416.00	4149819.00	0.10195	(12123119)
567416.00	4149839.00	0.09876	(12123119)	567416.00	4149859.00	0.09553	(12123119)
567416.00	4149879.00	0.09191	(12123119)	567416.00	4149899.00	0.08818	(12123119)
567416.00	4149919.00	0.08423	(12123119)	567436.00	4149219.00	0.10375	(12053122)
567436.00	4149579.00	0.25288	(13081223)	567436.00	4149599.00	0.21399	(12083121)
567436.00	4149619.00	0.19056	(12083121)	567436.00			

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 4149639.00         0.16958  (12103122)
       567436.00   4149659.00         0.15545  (11012819)                567436.00
 4149679.00         0.14274  (11123119)
       567436.00   4149699.00         0.13693  (11123119)                567436.00
 4149719.00         0.13043  (11123119)
       567436.00   4149739.00         0.12221  (12123122)                567436.00
 4149759.00         0.11511  (11012808)
       567436.00   4149779.00         0.11097  (11012808)                567436.00
 4149799.00         0.10571  (11012808)
       567436.00   4149819.00         0.10009  (11112906)                567436.00
 4149839.00         0.09456  (11112906)
       567436.00   4149859.00         0.08788  (11112906)                567436.00
 4149879.00         0.08440  (12123119)
       567436.00   4149899.00         0.08225  (12123119)                567436.00
 4149919.00         0.07995  (12123119)
       567456.00   4149559.00         0.25559  (11113005)                567456.00
 4149579.00         0.22317  (13081223)
       567456.00   4149599.00         0.19316  (12083121)                567456.00
 4149619.00         0.17443  (12083121)
       567456.00   4149639.00         0.15727  (12103122)                567456.00
 4149659.00         0.14394  (11012819)
       567456.00   4149679.00         0.13264  (11012819)                567456.00
 4149699.00         0.12592  (11123119)
       567456.00   4149719.00         0.12181  (11123119)                567456.00
 4149739.00         0.11642  (11123119)
       567456.00   4149759.00         0.10921  (12123122)                567456.00
 4149779.00         0.10343  (11012808)
       567456.00   4149799.00         0.10055  (11012808)                567456.00
 4149819.00         0.09655  (11012808)
       567456.00   4149839.00         0.09147  (11112906)                567456.00
 4149859.00         0.08772  (11112906)
       567456.00   4149879.00         0.08291  (11112906)                567456.00
 4149899.00         0.07737  (12021019)
       567456.00   4149919.00         0.07439  (12021019)                567476.00
 4149539.00         0.25557  (11113005)
       567476.00   4149559.00         0.22232  (11113005)                567476.00
 4149579.00         0.19925  (13081223)
       567476.00   4149599.00         0.17585  (12083121)                567476.00
 4149619.00         0.16067  (12083121)
       567476.00   4149639.00         0.14650  (12103122)                567476.00
 4149659.00         0.13348  (11012819)
       567476.00   4149679.00         0.12521  (11012819)                567476.00
 4149699.00         0.11592  (11123119)
       567476.00   4149719.00         0.11319  (11123119)                567476.00
 4149739.00         0.10999  (11123119)
       567476.00   4149759.00         0.10492  (12123122)                567476.00
 4149779.00         0.09892  (12123122)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567476.00	4149799.00	0.09362	(11012808)	567476.00	4149819.00	0.09149	(11012808)
567476.00	4149839.00	0.08877	(11012808)	567476.00	4149859.00	0.08505	(11012808)
567476.00	4149879.00	0.08120	(11112906)	567476.00	4149899.00	0.07783	(11112906)
567476.00	4149919.00	0.07365	(11112906)	567496.00	4149519.00	0.24379	(09011321)
567496.00	4149539.00	0.22467	(11113005)	567496.00	4149559.00	0.19904	(13081223)
567496.00	4149579.00	0.17903	(13081223)	567496.00	4149599.00	0.16072	(12083121)
567496.00	4149619.00	0.14905	(12083121)	567496.00	4149639.00	0.13659	(12103122)
567496.00	4149659.00	0.12437	(12103122)	567496.00	4149679.00	0.11793	(11012819)
567496.00	4149699.00	0.10967	(11012819)	567496.00	4149719.00	0.10509	(11123119)
567496.00	4149739.00	0.10304	(11123119)	567496.00	4149759.00	0.10032	(11123119)
567496.00	4149779.00	0.09607	(12123122)	567496.00	4149799.00	0.09076	(12123122)
567496.00	4149819.00	0.08504	(11012808)	567496.00	4149839.00	0.08386	(11012808)
567496.00	4149859.00	0.08207	(11012808)	567496.00	4149879.00	0.07930	(11012808)
567496.00	4149899.00	0.07555	(11012808)	567516.00	4149499.00	0.23297	(13091202)
567516.00	4149519.00	0.21229	(12012602)	567516.00	4149539.00	0.20002	(11113005)
567516.00	4149559.00	0.18047	(13081223)	567516.00			

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4149579.00        0.16293  (13081223)
       567516.00   4149599.00        0.14833  (12083121)                567516.00
4149619.00        0.13907  (12083121)
       567516.00   4149639.00        0.12777  (12103122)                567516.00
4149659.00        0.11839  (12103122)
       567516.00   4149679.00        0.11099  (11012819)                567516.00
4149699.00        0.10528  (11012819)
       567516.00   4149719.00        0.09793  (11121519)                567516.00
4149739.00        0.09619  (11123119)
       567516.00   4149759.00        0.09486  (11123119)                567516.00
4149779.00        0.09243  (11123119)
       567516.00   4149799.00        0.08854  (12123122)                567516.00
4149819.00        0.08370  (12123122)
       567516.00   4149839.00        0.07761  (11012319)                567516.00
4149859.00        0.07688  (11012808)
       567516.00   4149879.00        0.07572  (11012808)                567536.00
4149479.00        0.21850  (12013119)
       567536.00   4149499.00        0.20078  (11011218)                567536.00
4149519.00        0.18709  (12022508)
       567536.00   4149539.00        0.17983  (11113005)                567536.00
4149559.00        0.16510  (13081223)
       567536.00   4149579.00        0.14974  (13081223)                567536.00
4149599.00        0.13792  (12083121)
       567536.00   4149619.00        0.13044  (12083121)                567536.00
4149639.00        0.11981  (12103122)
       567536.00   4149659.00        0.11275  (12103122)                567536.00
4149679.00        0.10568  (12121005)
       567536.00   4149699.00        0.10103  (12012601)                567536.00
4149719.00        0.09398  (11012819)
       567536.00   4149739.00        0.08992  (12010122)                567536.00
4149759.00        0.08891  (11123119)
       567536.00   4149779.00        0.08780  (11123119)                567536.00
4149799.00        0.08550  (11123119)
       567536.00   4149819.00        0.08208  (12123122)                567536.00
4149839.00        0.07775  (12123122)
       567536.00   4149859.00        0.07199  (11012319)                567556.00
4149219.00        0.09768  (12101101)
       567556.00   4149459.00        0.19391  (12013119)                567556.00
4149479.00        0.18891  (13091202)
       567556.00   4149499.00        0.17898  (12012322)                567556.00
4149519.00        0.16943  (11113005)
       567556.00   4149539.00        0.16300  (11113005)                567556.00
4149559.00        0.15210  (13081223)
       567556.00   4149579.00        0.13880  (13081223)                567556.00
4149599.00        0.12893  (12083121)
       567556.00   4149619.00        0.12285  (12083121)                567556.00
4149639.00        0.11238  (12103122)
       567556.00   4149659.00        0.10726  (12103122)                567556.00
4149679.00        0.10047  (12121005)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
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 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                            *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                INCLUDING SOURCE(S):   PAREA1   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 -
       567556.00   4149699.00   0.09655 (12012601)   567556.00   4149719.00   0.09138 (12012601)
       567556.00   4149739.00   0.08612 (11120522)   567556.00   4149759.00   0.08305 (13121018)
       567556.00   4149779.00   0.08243 (11123119)   567556.00   4149799.00   0.08166 (11123119)
       567556.00   4149819.00   0.07957 (11123119)   567556.00   4149839.00   0.07643 (12123122)
       567576.00   4149219.00   0.09658 (10071106)   567576.00   4149239.00   0.10157 (13070806)
       567576.00   4149419.00   0.16718 (11112724)   567576.00   4149439.00   0.16738 (12012520)
       567576.00   4149459.00   0.17547 (12013119)   567576.00   4149479.00   0.16433 (12013103)
       567576.00   4149499.00   0.16127 (12012602)   567576.00   4149519.00   0.15498 (11113005)
       567576.00   4149539.00   0.14878 (11113005)   567576.00   4149559.00   0.14103 (13081223)
       567576.00   4149579.00   0.12917 (13081223)   567576.00   4149599.00   0.12065 (12083121)
       567576.00   4149619.00   0.11626 (12083121)   567576.00   4149639.00   0.10714 (12083121)
       567576.00   4149659.00   0.10203 (12103122)   567576.00   4149679.00   0.09576 (13020407)
       567576.00   4149699.00   0.09219 (12121007)   567576.00   4149719.00   0.08867 (12012601)
       567576.00   4149739.00   0.08307 (12012403)   567576.00   4149759.00   0.07985 (11121519)
       567576.00   4149779.00   0.07722 (12121006)   567576.00

4149799.00 0.07680 (11123119)
567576.00 4149819.00 0.07621 (11123119) 567596.00
4149219.00 0.09450 (13070806)
567596.00 4149239.00 0.10015 (13113024) 567596.00
4149259.00 0.10474 (12053121)
567596.00 4149399.00 0.15099 (11112724) 567596.00
4149419.00 0.15087 (13071804)
567596.00 4149439.00 0.15718 (12013119) 567596.00
4149459.00 0.15638 (13091202)
567596.00 4149479.00 0.14982 (11011218) 567596.00
4149499.00 0.14662 (12012602)
567596.00 4149519.00 0.14272 (11113005) 567596.00
4149539.00 0.13650 (11113005)
567596.00 4149559.00 0.13134 (13081223) 567596.00
4149579.00 0.12067 (13081223)
567596.00 4149599.00 0.11282 (12083121) 567596.00
4149619.00 0.11031 (12083121)
567596.00 4149639.00 0.10275 (12083121) 567596.00
4149659.00 0.09688 (12103122)
567596.00 4149679.00 0.09192 (12121221) 567596.00
4149699.00 0.08843 (12121005)
567596.00 4149719.00 0.08552 (12012601) 567596.00
4149739.00 0.08089 (12012601)
567596.00 4149759.00 0.07691 (11120522) 567596.00
4149779.00 0.07444 (13020308)
567596.00 4149799.00 0.07202 (12020805) 567616.00
4149219.00 0.09167 (13113024)
567616.00 4149239.00 0.09740 (12053121) 567616.00
4149259.00 0.10378 (12053121)
567616.00 4149399.00 0.13585 (13032723) 567616.00
4149419.00 0.13808 (12012520)
567616.00 4149439.00 0.14532 (12013119) 567616.00
4149459.00 0.13921 (12013103)
567616.00 4149479.00 0.13742 (12012322) 567616.00
4149499.00 0.13401 (12012602)
567616.00 4149519.00 0.13249 (11113005) 567616.00
4149539.00 0.12576 (11113005)
567616.00 4149559.00 0.12250 (13081223) 567616.00
4149579.00 0.11325 (13081223)
567616.00 4149599.00 0.10553 (11012007) 567616.00
4149619.00 0.10471 (12083121)
567616.00 4149639.00 0.09863 (12083121) 567616.00
4149659.00 0.09271 (09121519)
567616.00 4149679.00 0.08852 (10120407) 567616.00
4149699.00 0.08497 (13022108)
567616.00 4149719.00 0.08230 (12012601) 567616.00
4149739.00 0.07929 (12012601)
567616.00 4149759.00 0.07464 (12012403) 567616.00
4149779.00 0.07172 (11121519)
567616.00 4149799.00 0.06964 (13020308) 567636.00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567636.00	4149239.00	0.09518	(12053121)	567636.00	4149259.00	0.09959	(13053124)
567636.00	4149279.00	0.10357	(11112820)	567636.00	4149359.00	0.12369	(13063024)
567636.00	4149379.00	0.12500	(11112724)	567636.00	4149399.00	0.12644	(13071804)
567636.00	4149419.00	0.13128	(12013119)	567636.00	4149439.00	0.13233	(13091202)
567636.00	4149459.00	0.12647	(11011218)	567636.00	4149479.00	0.12699	(12012322)
567636.00	4149499.00	0.12388	(12022508)	567636.00	4149519.00	0.12331	(11113005)
567636.00	4149539.00	0.11620	(11113005)	567636.00	4149559.00	0.11476	(13081223)
567636.00	4149579.00	0.10662	(13081223)	567636.00	4149599.00	0.10040	(11012007)
567636.00	4149619.00	0.09931	(12083121)	567636.00	4149639.00	0.09460	(12083121)
567636.00	4149659.00	0.08878	(09121519)	567636.00	4149679.00	0.08541	(11012320)
567636.00	4149699.00	0.08195	(13020407)	567636.00	4149719.00	0.07916	(12121005)
567636.00	4149739.00	0.07701	(12012601)	567636.00	4149759.00	0.07285	(12103105)
567636.00	4149779.00	0.06959	(12012403)	567636.00	4149799.00	0.06730	(11121519)
567656.00	4149219.00	0.08757	(12053121)	567656.00			

4149239.00 0.09189 (13053124)
567656.00 4149259.00 0.09514 (11112820) 567656.00
4149279.00 0.10086 (11112805)
567656.00 4149299.00 0.10387 (11112902) 567656.00
4149339.00 0.11309 (13063024)
567656.00 4149359.00 0.11526 (11112724) 567656.00
4149379.00 0.11546 (12101202)
567656.00 4149399.00 0.11648 (12012520) 567656.00
4149419.00 0.12323 (12013119)
567656.00 4149439.00 0.11895 (13091202) 567656.00
4149459.00 0.11826 (11011218)
567656.00 4149479.00 0.11805 (12012602) 567656.00
4149499.00 0.11476 (12022508)
567656.00 4149519.00 0.11503 (11113005) 567656.00
4149539.00 0.10796 (12120818)
567656.00 4149559.00 0.10790 (13081223) 567656.00
4149579.00 0.10065 (13081223)
567656.00 4149599.00 0.09561 (11012007) 567656.00
4149619.00 0.09402 (12083121)
567656.00 4149639.00 0.09067 (12083121) 567656.00
4149659.00 0.08487 (12020918)
567656.00 4149679.00 0.08223 (11012320) 567656.00
4149699.00 0.07905 (12121221)
567656.00 4149719.00 0.07640 (12121005) 567656.00
4149739.00 0.07426 (12012601)
567656.00 4149759.00 0.07155 (12012601) 567656.00
4149779.00 0.06751 (12012403)
567676.00 4149219.00 0.08511 (13053124) 567676.00
4149239.00 0.08779 (11112820)
567676.00 4149259.00 0.09302 (11112805) 567676.00
4149279.00 0.09555 (11112902)
567676.00 4149299.00 0.09688 (13091004) 567676.00
4149319.00 0.10339 (13063024)
567676.00 4149339.00 0.10581 (11112724) 567676.00
4149359.00 0.10605 (13032723)
567676.00 4149379.00 0.10819 (12012520) 567676.00
4149399.00 0.11194 (12013119)
567676.00 4149419.00 0.11364 (13091202) 567676.00
4149439.00 0.11038 (12013103)
567676.00 4149459.00 0.11006 (10010607) 567676.00
4149479.00 0.11024 (12012602)
567676.00 4149499.00 0.10605 (12022508) 567676.00
4149519.00 0.10769 (11113005)
567676.00 4149539.00 0.10175 (12120818) 567676.00
4149559.00 0.10169 (13081223)
567676.00 4149579.00 0.09520 (13081223) 567676.00
4149599.00 0.09103 (11012007)
567676.00 4149619.00 0.08874 (12083121) 567676.00
4149639.00 0.08692 (12083121)
567676.00 4149659.00 0.08217 (12020918) 567676.00

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567676.00	4149739.00	0.07141	(12121007)	567676.00	4149759.00	0.06991	(12012601)
567676.00	4149779.00	0.06622	(12103105)				

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 5 YEARS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

GROUP ID	NETWORK AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID

```
ALL       1ST HIGHEST VALUE IS       0.02923 AT (  567436.00,  4149579.00,
4.09,     4.09,    0.00)  DC
          2ND HIGHEST VALUE IS       0.02868 AT (  567416.00,  4149599.00,
4.13,     4.13,    0.00)  DC
          3RD HIGHEST VALUE IS       0.02868 AT (  567456.00,  4149559.00,
4.12,     4.12,    0.00)  DC
          4TH HIGHEST VALUE IS       0.02715 AT (  567476.00,  4149539.00,
4.11,     4.11,    0.00)  DC
          5TH HIGHEST VALUE IS       0.02662 AT (  567396.00,  4149619.00,
4.14,     4.14,    0.00)  DC
          6TH HIGHEST VALUE IS       0.02355 AT (  567496.00,  4149519.00,
4.04,     4.04,    0.00)  DC
          7TH HIGHEST VALUE IS       0.02297 AT (  567456.00,  4149579.00,
4.01,     4.01,    0.00)  DC
          8TH HIGHEST VALUE IS       0.02259 AT (  567436.00,  4149599.00,
4.01,     4.01,    0.00)  DC
          9TH HIGHEST VALUE IS       0.02249 AT (  567476.00,  4149559.00,
3.93,     3.93,    0.00)  DC
         10TH HIGHEST VALUE IS       0.02127 AT (  567496.00,  4149539.00,
3.91,     3.91,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        19:11:56

                                  PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **

                                                      DATE
                                          NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.25645  ON 12093019: AT (  567216.00,
```

```
4149719.00,     4.93,     4.93,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_Mitigated\1125Arguello_Mitigated.i ***        01/09/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        19:11:56

                                  PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of        20266 Informational Message(s)

 A Total of        43872 Hours Were Processed

 A Total of         7316 Calm Hours Identified

 A Total of        12950 Missing Hours Identified ( 29.52 Percent)

 CAUTION!:  Number of Missing Hours Exceeds 10 Percent of Total!
            Data May Not Be Acceptable for Regulatory Applications.
            See Section 5.3.2 of "Meteorological Monitoring Guidance
            for Regulatory Modeling Applications" (EPA-454/R-99-005).


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
        48

    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************
```

1125 Arguello - Water Line HRA - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1125 Arguello - Water Line HRA

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	57.63	1000sqft	1.32	57,630.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - construction anticipated to take 6 months

Off-road Equipment - Construction equipment provided

Trips and VMT - HHD trips based on construction TIA

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4.00	132.00
tblGrading	MaterialExported	0.00	5,626.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	703.00	8,160.00
tblTripsAndVMT	WorkerTripNumber	10.00	40.00

2.0 Emissions Summary

1125 Arguello - Water Line HRA - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	6.0200e-003	0.0528	0.1001	1.8000e-004	3.0800e-003	2.0300e-003	5.1100e-003	7.9000e-004	1.8700e-003	2.6600e-003	0.0000	16.2328	16.2328	4.1300e-003	4.5000e-004	16.4693
2025	0.0438	0.3731	0.7772	1.3900e-003	0.0219	0.0136	0.0354	5.8100e-003	0.0125	0.0183	0.0000	125.8418	125.8418	0.0322	3.4200e-003	127.6655
Maximum	**0.0438**	**0.3731**	**0.7772**	**1.3900e-003**	**0.0219**	**0.0136**	**0.0354**	**5.8100e-003**	**0.0125**	**0.0183**	**0.0000**	**125.8418**	**125.8418**	**0.0322**	**3.4200e-003**	**127.6655**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	6.0200e-003	0.0528	0.1001	1.8000e-004	3.0800e-003	2.0300e-003	5.1100e-003	7.9000e-004	1.8700e-003	2.6600e-003	0.0000	16.2327	16.2327	4.1300e-003	4.5000e-004	16.4693
2025	0.0438	0.3731	0.7772	1.3900e-003	0.0219	0.0136	0.0354	5.8100e-003	0.0125	0.0183	0.0000	125.8417	125.8417	0.0322	3.4200e-003	127.6654
Maximum	**0.0438**	**0.3731**	**0.7772**	**1.3900e-003**	**0.0219**	**0.0136**	**0.0354**	**5.8100e-003**	**0.0125**	**0.0183**	**0.0000**	**125.8417**	**125.8417**	**0.0322**	**3.4200e-003**	**127.6654**

1125 Arguello - Water Line HRA - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-11-2024**	**3-10-2025**	0.2360	0.2360
2	**3-11-2025**	**6-10-2025**	0.2334	0.2334
3	**6-11-2025**	**9-10-2025**	0.0051	0.0051
		Highest	0.2360	0.2360

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	12/11/2024	6/12/2025	5	132	

Acres of Grading (Site Preparation Phase): 0

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.32

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	3	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	40.00	0.00	8,160.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0000e-003	0.0411	0.0881	1.4000e-004		1.9900e-003	1.9900e-003		1.8300e-003	1.8300e-003	0.0000	12.0078	12.0078	3.8800e-003	0.0000	12.1049
Total	**5.0000e-003**	**0.0411**	**0.0881**	**1.4000e-004**	**3.2000e-004**	**1.9900e-003**	**2.3100e-003**	**5.0000e-005**	**1.8300e-003**	**1.8800e-003**	**0.0000**	**12.0078**	**12.0078**	**3.8800e-003**	**0.0000**	**12.1049**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-004	0.0114	6.4500e-003	2.0000e-005	4.0000e-004	3.0000e-005	4.3000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	2.5267	2.5267	2.1000e-004	4.1000e-004	2.6530
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.8000e-004	5.4700e-003	2.0000e-005	2.3600e-003	1.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.6982	1.6982	4.0000e-005	4.0000e-005	1.7115
Total	**1.0100e-003**	**0.0118**	**0.0119**	**4.0000e-005**	**2.7600e-003**	**4.0000e-005**	**2.8000e-003**	**7.4000e-004**	**4.0000e-005**	**7.8000e-004**	**0.0000**	**4.2250**	**4.2250**	**2.5000e-004**	**4.5000e-004**	**4.3645**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0000e-003	0.0411	0.0881	1.4000e-004		1.9900e-003	1.9900e-003		1.8300e-003	1.8300e-003	0.0000	12.0078	12.0078	3.8800e-003	0.0000	12.1049
Total	**5.0000e-003**	**0.0411**	**0.0881**	**1.4000e-004**	**3.2000e-004**	**1.9900e-003**	**2.3100e-003**	**5.0000e-005**	**1.8300e-003**	**1.8800e-003**	**0.0000**	**12.0078**	**12.0078**	**3.8800e-003**	**0.0000**	**12.1049**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-004	0.0114	6.4500e-003	2.0000e-005	4.0000e-004	3.0000e-005	4.3000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	2.5267	2.5267	2.1000e-004	4.1000e-004	2.6530
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.8000e-004	5.4700e-003	2.0000e-005	2.3600e-003	1.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.6982	1.6982	4.0000e-005	4.0000e-005	1.7115
Total	**1.0100e-003**	**0.0118**	**0.0119**	**4.0000e-005**	**2.7600e-003**	**4.0000e-005**	**2.8000e-003**	**7.4000e-004**	**4.0000e-005**	**7.8000e-004**	**0.0000**	**4.2250**	**4.2250**	**2.5000e-004**	**4.5000e-004**	**4.3645**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0361	0.2827	0.6862	1.0700e-003		0.0133	0.0133		0.0122	0.0122	0.0000	93.6857	93.6857	0.0303	0.0000	94.4432
Total	**0.0361**	**0.2827**	**0.6862**	**1.0700e-003**	**3.2000e-004**	**0.0133**	**0.0136**	**5.0000e-005**	**0.0122**	**0.0123**	**0.0000**	**93.6857**	**93.6857**	**0.0303**	**0.0000**	**94.4432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1500e-003	0.0877	0.0508	1.8000e-004	3.1100e-003	2.3000e-004	3.3400e-003	8.6000e-004	2.2000e-004	1.0800e-003	0.0000	19.3525	19.3525	1.6400e-003	3.1100e-003	20.3216
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.6800e-003	0.0402	1.4000e-004	0.0184	8.0000e-005	0.0185	4.9000e-003	7.0000e-005	4.9800e-003	0.0000	12.8036	12.8036	2.9000e-004	3.0000e-004	12.9008
Total	**7.7100e-003**	**0.0903**	**0.0910**	**3.2000e-004**	**0.0215**	**3.1000e-004**	**0.0218**	**5.7600e-003**	**2.9000e-004**	**6.0600e-003**	**0.0000**	**32.1561**	**32.1561**	**1.9300e-003**	**3.4100e-003**	**33.2223**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0361	0.2827	0.6862	1.0700e-003		0.0133	0.0133		0.0122	0.0122	0.0000	93.6856	93.6856	0.0303	0.0000	94.4431
Total	**0.0361**	**0.2827**	**0.6862**	**1.0700e-003**	**3.2000e-004**	**0.0133**	**0.0136**	**5.0000e-005**	**0.0122**	**0.0123**	**0.0000**	**93.6856**	**93.6856**	**0.0303**	**0.0000**	**94.4431**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1500e-003	0.0877	0.0508	1.8000e-004	3.1100e-003	2.3000e-004	3.3400e-003	8.6000e-004	2.2000e-004	1.0800e-003	0.0000	19.3525	19.3525	1.6400e-003	3.1100e-003	20.3216
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.6800e-003	0.0402	1.4000e-004	0.0184	8.0000e-005	0.0185	4.9000e-003	7.0000e-005	4.9800e-003	0.0000	12.8036	12.8036	2.9000e-004	3.0000e-004	12.9008
Total	**7.7100e-003**	**0.0903**	**0.0910**	**3.2000e-004**	**0.0215**	**3.1000e-004**	**0.0218**	**5.7600e-003**	**2.9000e-004**	**6.0600e-003**	**0.0000**	**32.1561**	**32.1561**	**1.9300e-003**	**3.4100e-003**	**33.2223**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Unmitigated	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

1125 Arguello - Water Line - Mitigated, HRA - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1125 Arguello - Water Line - Mitigated, HRA

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	57.63	1000sqft	1.32	57,630.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - construction anticipated to take 6 months

Off-road Equipment - Construction equipment provided

Trips and VMT - HHD trips based on construction TIA

Grading -

Construction Off-road Equipment Mitigation - MM AQ-2

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

1125 Arguello - Water Line - Mitigated, HRA - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	4.00	132.00
tblGrading	MaterialExported	0.00	5,626.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	703.00	8,160.00
tblTripsAndVMT	WorkerTripNumber	10.00	40.00

2.0 Emissions Summary

1125 Arguello - Water Line - Mitigated, HRA - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	6.0200e-003	0.0528	0.1001	1.8000e-004	3.0800e-003	2.0300e-003	5.1100e-003	7.9000e-004	1.8700e-003	2.6600e-003	0.0000	16.2328	16.2328	4.1300e-003	4.5000e-004	16.4693
2025	0.0438	0.3731	0.7772	1.3900e-003	0.0219	0.0136	0.0354	5.8100e-003	0.0125	0.0183	0.0000	125.8418	125.8418	0.0322	3.4200e-003	127.6655
Maximum	**0.0438**	**0.3731**	**0.7772**	**1.3900e-003**	**0.0219**	**0.0136**	**0.0354**	**5.8100e-003**	**0.0125**	**0.0183**	**0.0000**	**125.8418**	**125.8418**	**0.0322**	**3.4200e-003**	**127.6655**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	2.7000e-003	0.0190	0.1154	1.8000e-004	3.0800e-003	2.6000e-004	3.3400e-003	7.9000e-004	2.6000e-004	1.0500e-003	0.0000	16.2327	16.2327	4.1300e-003	4.5000e-004	16.4693
2025	0.0208	0.1471	0.8985	1.3900e-003	0.0219	2.0600e-003	0.0239	5.8100e-003	2.0400e-003	7.8500e-003	0.0000	125.8417	125.8417	0.0322	3.4200e-003	127.6654
Maximum	**0.0208**	**0.1471**	**0.8985**	**1.3900e-003**	**0.0219**	**2.0600e-003**	**0.0239**	**5.8100e-003**	**2.0400e-003**	**7.8500e-003**	**0.0000**	**125.8417**	**125.8417**	**0.0322**	**3.4200e-003**	**127.6654**

1125 Arguello - Water Line - Mitigated, HRA - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**52.81**	**61.00**	**-15.59**	**0.00**	**0.00**	**85.15**	**32.80**	**0.00**	**84.01**	**57.60**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-11-2024**	**3-10-2025**	0.2360	0.0940
2	**3-11-2025**	**6-10-2025**	0.2334	0.0936
3	**6-11-2025**	**9-10-2025**	0.0051	0.0020
		Highest	0.2360	0.0940

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	12/11/2024	6/12/2025	5	132	

Acres of Grading (Site Preparation Phase): 0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.32

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	3	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	40.00	0.00	8,160.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

1125 Arguello - Water Line - Mitigated, HRA - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0000e-003	0.0411	0.0881	1.4000e-004		1.9900e-003	1.9900e-003		1.8300e-003	1.8300e-003	0.0000	12.0078	12.0078	3.8800e-003	0.0000	12.1049
Total	**5.0000e-003**	**0.0411**	**0.0881**	**1.4000e-004**	**3.2000e-004**	**1.9900e-003**	**2.3100e-003**	**5.0000e-005**	**1.8300e-003**	**1.8800e-003**	**0.0000**	**12.0078**	**12.0078**	**3.8800e-003**	**0.0000**	**12.1049**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-004	0.0114	6.4500e-003	2.0000e-005	4.0000e-004	3.0000e-005	4.3000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	2.5267	2.5267	2.1000e-004	4.1000e-004	2.6530
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.8000e-004	5.4700e-003	2.0000e-005	2.3600e-003	1.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.6982	1.6982	4.0000e-005	4.0000e-005	1.7115
Total	**1.0100e-003**	**0.0118**	**0.0119**	**4.0000e-005**	**2.7600e-003**	**4.0000e-005**	**2.8000e-003**	**7.4000e-004**	**4.0000e-005**	**7.8000e-004**	**0.0000**	**4.2250**	**4.2250**	**2.5000e-004**	**4.5000e-004**	**4.3645**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6800e-003	7.2700e-003	0.1035	1.4000e-004		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	12.0078	12.0078	3.8800e-003	0.0000	12.1049
Total	**1.6800e-003**	**7.2700e-003**	**0.1035**	**1.4000e-004**	**3.2000e-004**	**2.2000e-004**	**5.4000e-004**	**5.0000e-005**	**2.2000e-004**	**2.7000e-004**	**0.0000**	**12.0078**	**12.0078**	**3.8800e-003**	**0.0000**	**12.1049**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-004	0.0114	6.4500e-003	2.0000e-005	4.0000e-004	3.0000e-005	4.3000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	2.5267	2.5267	2.1000e-004	4.1000e-004	2.6530
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.8000e-004	5.4700e-003	2.0000e-005	2.3600e-003	1.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.6982	1.6982	4.0000e-005	4.0000e-005	1.7115
Total	**1.0100e-003**	**0.0118**	**0.0119**	**4.0000e-005**	**2.7600e-003**	**4.0000e-005**	**2.8000e-003**	**7.4000e-004**	**4.0000e-005**	**7.8000e-004**	**0.0000**	**4.2250**	**4.2250**	**2.5000e-004**	**4.5000e-004**	**4.3645**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0361	0.2827	0.6862	1.0700e-003		0.0133	0.0133		0.0122	0.0122	0.0000	93.6857	93.6857	0.0303	0.0000	94.4432
Total	**0.0361**	**0.2827**	**0.6862**	**1.0700e-003**	**3.2000e-004**	**0.0133**	**0.0136**	**5.0000e-005**	**0.0122**	**0.0123**	**0.0000**	**93.6857**	**93.6857**	**0.0303**	**0.0000**	**94.4432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1500e-003	0.0877	0.0508	1.8000e-004	3.1100e-003	2.3000e-004	3.3400e-003	8.6000e-004	2.2000e-004	1.0800e-003	0.0000	19.3525	19.3525	1.6400e-003	3.1100e-003	20.3216
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.6800e-003	0.0402	1.4000e-004	0.0184	8.0000e-005	0.0185	4.9000e-003	7.0000e-005	4.9800e-003	0.0000	12.8036	12.8036	2.9000e-004	3.0000e-004	12.9008
Total	**7.7100e-003**	**0.0903**	**0.0910**	**3.2000e-004**	**0.0215**	**3.1000e-004**	**0.0218**	**5.7600e-003**	**2.9000e-004**	**6.0600e-003**	**0.0000**	**32.1561**	**32.1561**	**1.9300e-003**	**3.4100e-003**	**33.2223**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Grading - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0131	0.0567	0.8075	1.0700e-003		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	93.6856	93.6856	0.0303	0.0000	94.4431
Total	**0.0131**	**0.0567**	**0.8075**	**1.0700e-003**	**3.2000e-004**	**1.7500e-003**	**2.0700e-003**	**5.0000e-005**	**1.7500e-003**	**1.8000e-003**	**0.0000**	**93.6856**	**93.6856**	**0.0303**	**0.0000**	**94.4431**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1500e-003	0.0877	0.0508	1.8000e-004	3.1100e-003	2.3000e-004	3.3400e-003	8.6000e-004	2.2000e-004	1.0800e-003	0.0000	19.3525	19.3525	1.6400e-003	3.1100e-003	20.3216
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5600e-003	2.6800e-003	0.0402	1.4000e-004	0.0184	8.0000e-005	0.0185	4.9000e-003	7.0000e-005	4.9800e-003	0.0000	12.8036	12.8036	2.9000e-004	3.0000e-004	12.9008
Total	**7.7100e-003**	**0.0903**	**0.0910**	**3.2000e-004**	**0.0215**	**3.1000e-004**	**0.0218**	**5.7600e-003**	**2.9000e-004**	**6.0600e-003**	**0.0000**	**32.1561**	**32.1561**	**1.9300e-003**	**3.4100e-003**	**33.2223**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.465403	0.073585	0.235906	0.146720	0.025583	0.006412	0.010355	0.002060	0.001446	0.000572	0.028871	0.000432	0.002657

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Unmitigated	4.9800e-003	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0300e-003	1.0300e-003	0.0000	0.0000	1.1000e-003
Total	**4.9800e-003**	**0.0000**	**5.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0300e-003**	**1.0300e-003**	**0.0000**	**0.0000**	**1.1000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 11/21/2022
** File: C:\Lakes\AERMOD View\1125_Mit_Waterline\1125_Mit_Waterline.ADI
**
**************************************
**
**
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** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\1125Arguello_WaterLine\1125Arguello_WaterLine.i
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   URBANOPT 86200 Redwood_City
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 1125_Mit_Waterline.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN1
** DESCRSRC
** PREFIX
** Length of Side = 21.00
** Ratio = 10
** Vertical Dimension = 2.37
** Emission Rate = 6.8012E-09
** Nodes = 5
** 567318.538, 4149679.314, 4.32, 2.55
** 567656.641, 4149301.895, 3.68, 2.55
** 567859.503, 4149135.203, 3.31, 2.55
** 567968.012, 4149223.265, 2.74, 2.55
** 568225.914, 4149245.283, 2.12, 2.55
```

```
** ------------------------------------------------------------------
   LOCATION A0000001     AREA     567310.717 4149672.308 4.44
   LOCATION A0000002     AREA     567423.418 4149546.501 4.34
   LOCATION A0000003     AREA     567536.119 4149420.695 4.40
   LOCATION A0000004     AREA     567649.975 4149293.782 3.69
   LOCATION A0000005     AREA     567751.406 4149210.436 3.35
   LOCATION A0000006     AREA     567866.120 4149127.050 3.23
   LOCATION A0000007     AREA     567968.905 4149212.803 2.81
   LOCATION A0000008     AREA     568097.856 4149223.812 2.44
** End of LINE AREA Source ID = ARLN1
** Source Parameters **
** LINE AREA Source ID = ARLN1
   SRCPARAM A0000001     6.8012E-09     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000002     6.8012E-09     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000003     6.8012E-09     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000004     6.8012E-09     2.550   131.281    21.000    39.410
2.372
   SRCPARAM A0000005     6.8012E-09     2.550   131.281    21.000    39.410
2.372
   SRCPARAM A0000006     6.8012E-09     2.550   139.747    21.000   -39.062
2.372
   SRCPARAM A0000007     6.8012E-09     2.550   129.420    21.000    -4.880
2.372
   SRCPARAM A0000008     6.8012E-09     2.550   129.420    21.000    -4.880
2.372
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED 1125_Mit_Waterline.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC"
   PROFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL"
```

```
   SURFDATA 93231 2009 San_Carlos_Airport
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 2.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 1125_MIT_WATERLINE.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 1125_MIT_WATERLINE.AD\AN00GALL.PLT 32
   SUMMFILE 1125_Mit_Waterline.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     10
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 11/21/2022
** File: C:\Lakes\AERMOD View\1125_Mit_Waterline\1125_Mit_Waterline.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\1125Arguello_WaterLine\1125Arguello_WaterLine.i
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   URBANOPT 86200 Redwood_City
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 1125_Mit_Waterline.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN1
** DESCRSRC
** PREFIX
** Length of Side = 21.00
** Ratio = 10
** Vertical Dimension = 2.37
** Emission Rate = 6.8012E-09
** Nodes = 5
** 567318.538, 4149679.314, 4.32, 2.55
** 567656.641, 4149301.895, 3.68, 2.55
** 567859.503, 4149135.203, 3.31, 2.55
** 567968.012, 4149223.265, 2.74, 2.55
** 568225.914, 4149245.283, 2.12, 2.55
```

```
** ------------------------------------------------------------------
   LOCATION A0000001     AREA     567310.717 4149672.308 4.44
   LOCATION A0000002     AREA     567423.418 4149546.501 4.34
   LOCATION A0000003     AREA     567536.119 4149420.695 4.40
   LOCATION A0000004     AREA     567649.975 4149293.782 3.69
   LOCATION A0000005     AREA     567751.406 4149210.436 3.35
   LOCATION A0000006     AREA     567866.120 4149127.050 3.23
   LOCATION A0000007     AREA     567968.905 4149212.803 2.81
   LOCATION A0000008     AREA     568097.856 4149223.812 2.44
** End of LINE AREA Source ID = ARLN1
** Source Parameters **
** LINE AREA Source ID = ARLN1
   SRCPARAM A0000001     6.8012E-09     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000002     6.8012E-09     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000003     6.8012E-09     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000004     6.8012E-09     2.550   131.281    21.000    39.410
2.372
   SRCPARAM A0000005     6.8012E-09     2.550   131.281    21.000    39.410
2.372
   SRCPARAM A0000006     6.8012E-09     2.550   139.747    21.000   -39.062
2.372
   SRCPARAM A0000007     6.8012E-09     2.550   129.420    21.000    -4.880
2.372
   SRCPARAM A0000008     6.8012E-09     2.550   129.420    21.000    -4.880
2.372
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED 1125_Mit_Waterline.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC"
   PROFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL"
```

```
   SURFDATA 93231 2009 San_Carlos_Airport
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 2.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 1125_MIT_WATERLINE.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 1125_MIT_WATERLINE.AD\AN00GALL.PLT 32
   SUMMFILE 1125_Mit_Waterline.sum
OU FINISHED

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:52:58

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                            ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for     8 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =     86200.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
```

```
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      8 Source(s);       1 Source Group(s); and     723
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      8 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     2.00 ;  Decay
```

Coef. =   0.000   ; Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC   ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =   3.6 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: 1125_Mit_Waterline.err

 **File for Summary of Results: 1125_Mit_Waterline.sum

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                                    *** AREA SOURCE DATA ***

               NUMBER EMISSION RATE COORD (SW CORNER) BASE   RELEASE X-DIM   Y-DIM   ORIENT.   INIT.   URBAN EMISSION RATE
   SOURCE   PART. (GRAMS/SEC   X   Y   ELEV.   HEIGHT OF AREA OF AREA   OF AREA   SZ   SOURCE SCALAR VARY
     ID   CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)   (DEG.) (METERS)   BY
 -

 A0000001   0   0.68012E-08 567310.7 4149672.3   4.4   2.55   168.91   21.00   48.15   2.37   YES
 A0000002   0   0.68012E-08 567423.4 4149546.5   4.3   2.55   168.91   21.00   48.15   2.37   YES
 A0000003   0   0.68012E-08 567536.1 4149420.7   4.4   2.55   168.91   21.00   48.15   2.37   YES
 A0000004   0   0.68012E-08 567650.0 4149293.8   3.7   2.55   131.28   21.00   39.41   2.37   YES
 A0000005   0   0.68012E-08 567751.4 4149210.4   3.3   2.55   131.28   21.00   39.41   2.37   YES
 A0000006   0   0.68012E-08 567866.1 4149127.0   3.2   2.55   139.75   21.00   -39.06   2.37   YES
 A0000007   0   0.68012E-08 567968.9 4149212.8   2.8   2.55   129.42   21.00   -4.88   2.37   YES

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
86200.		A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 566976.0, 4149399.0,       9.1,       9.1,       0.0);         ( 566976.0,
4149419.0,       9.0,       9.0,       0.0);
     ( 566976.0, 4149439.0,       8.9,       8.9,       0.0);         ( 566976.0,
4149459.0,       8.8,       8.8,       0.0);
     ( 566976.0, 4149479.0,       8.6,       8.6,       0.0);         ( 566976.0,
4149499.0,       8.4,       8.4,       0.0);
     ( 566976.0, 4149519.0,       8.2,       8.2,       0.0);         ( 566976.0,
4149539.0,       8.0,       8.0,       0.0);
     ( 566976.0, 4149559.0,       7.8,       7.8,       0.0);         ( 566976.0,
4149579.0,       7.7,       7.7,       0.0);
     ( 566976.0, 4149599.0,       7.6,       7.6,       0.0);         ( 566976.0,
4149619.0,       7.5,       7.5,       0.0);
     ( 566976.0, 4149659.0,       7.2,       7.2,       0.0);         ( 566996.0,
4149359.0,       8.9,       8.9,       0.0);
     ( 566996.0, 4149379.0,       9.1,       9.1,       0.0);         ( 566996.0,
4149399.0,       8.9,       8.9,       0.0);
     ( 566996.0, 4149419.0,       8.7,       8.7,       0.0);         ( 566996.0,
4149439.0,       8.5,       8.5,       0.0);
     ( 566996.0, 4149459.0,       8.5,       8.5,       0.0);         ( 566996.0,
4149479.0,       8.4,       8.4,       0.0);
     ( 566996.0, 4149499.0,       8.2,       8.2,       0.0);         ( 566996.0,
4149519.0,       8.0,       8.0,       0.0);
     ( 566996.0, 4149539.0,       7.8,       7.8,       0.0);         ( 566996.0,
4149559.0,       7.6,       7.6,       0.0);
     ( 566996.0, 4149579.0,       7.4,       7.4,       0.0);         ( 566996.0,
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     ( 567016.0, 4149359.0,       8.6,       8.6,       0.0);         ( 567016.0,
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4149419.0,       8.5,       8.5,       0.0);
     ( 567016.0, 4149439.0,       8.3,       8.3,       0.0);         ( 567016.0,
4149459.0,       8.3,       8.3,       0.0);
     ( 567016.0, 4149479.0,       8.2,       8.2,       0.0);         ( 567016.0,
4149499.0,       8.0,       8.0,       0.0);
     ( 567016.0, 4149519.0,       7.8,       7.8,       0.0);         ( 567016.0,
4149539.0,       7.6,       7.6,       0.0);
     ( 567016.0, 4149559.0,       7.4,       7.4,       0.0);         ( 567016.0,
4149579.0,       7.3,       7.3,       0.0);
     ( 567016.0, 4149599.0,       7.2,       7.2,       0.0);         ( 567016.0,
4149819.0,       5.9,       5.9,       0.0);
     ( 567036.0, 4149319.0,       8.7,       8.7,       0.0);         ( 567036.0,
4149339.0,       8.6,       8.6,       0.0);
     ( 567036.0, 4149359.0,       8.5,       8.5,       0.0);         ( 567036.0,
4149379.0,       8.4,       8.4,       0.0);
     ( 567036.0, 4149399.0,       8.3,       8.3,       0.0);         ( 567036.0,
4149419.0,       8.2,       8.2,       0.0);
     ( 567036.0, 4149439.0,       8.1,       8.1,       0.0);         ( 567036.0,
```

4149459.0,   8.1,   8.1,   0.0);
     (567036.0, 4149479.0,   8.0,   8.0,   0.0);   (567036.0,
4149499.0,   7.9,   7.9,   0.0);
     (567036.0, 4149519.0,   7.6,   7.6,   0.0);   (567036.0,
4149539.0,   7.4,   7.4,   0.0);
     (567036.0, 4149559.0,   7.3,   7.3,   0.0);   (567036.0,
4149579.0,   7.2,   7.2,   0.0);
     (567036.0, 4149799.0,   5.9,   5.9,   0.0);   (567036.0,
4149819.0,   5.7,   5.7,   0.0);
     (567036.0, 4149839.0,   5.6,   5.6,   0.0);   (567056.0,
4149299.0,   8.7,   8.7,   0.0);
     (567056.0, 4149319.0,   8.5,   8.5,   0.0);   (567056.0,
4149339.0,   8.5,   8.5,   0.0);
     (567056.0, 4149359.0,   8.4,   8.4,   0.0);   (567056.0,
4149379.0,   8.2,   8.2,   0.0);
     (567056.0, 4149399.0,   8.0,   8.0,   0.0);   (567056.0,
4149419.0,   7.9,   7.9,   0.0);
     (567056.0, 4149439.0,   7.9,   7.9,   0.0);   (567056.0,
4149459.0,   7.9,   7.9,   0.0);
     (567056.0, 4149479.0,   7.9,   7.9,   0.0);   (567056.0,
4149499.0,   7.8,   7.8,   0.0);
     (567056.0, 4149519.0,   7.5,   7.5,   0.0);   (567056.0,
4149539.0,   7.3,   7.3,   0.0);
     (567056.0, 4149559.0,   7.3,   7.3,   0.0);   (567056.0,
4149779.0,   5.9,   5.9,   0.0);
     (567056.0, 4149799.0,   5.7,   5.7,   0.0);   (567056.0,
4149819.0,   5.6,   5.6,   0.0);
     (567056.0, 4149839.0,   5.5,   5.5,   0.0);   (567056.0,
4149859.0,   5.5,   5.5,   0.0);
     (567076.0, 4149279.0,   8.6,   8.6,   0.0);   (567076.0,
4149299.0,   8.5,   8.5,   0.0);
     (567076.0, 4149319.0,   8.3,   8.3,   0.0);   (567076.0,
4149339.0,   8.1,   8.1,   0.0);
     (567076.0, 4149359.0,   8.0,   8.0,   0.0);   (567076.0,
4149379.0,   8.0,   8.0,   0.0);
     (567076.0, 4149399.0,   7.8,   7.8,   0.0);   (567076.0,
4149419.0,   7.7,   7.7,   0.0);
     (567076.0, 4149439.0,   7.7,   7.7,   0.0);   (567076.0,
4149459.0,   7.7,   7.7,   0.0);
     (567076.0, 4149479.0,   7.7,   7.7,   0.0);   (567076.0,
4149499.0,   7.7,   7.7,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                                *** DISCRETE CARTESIAN RECEPTORS ***

(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567076.0, 4149519.0, 7.4, 7.4, 0.0); (567076.0, 4149539.0, 7.2, 7.2, 0.0);
(567076.0, 4149759.0, 5.9, 5.9, 0.0); (567076.0, 4149779.0, 5.7, 5.7, 0.0);
(567076.0, 4149799.0, 5.5, 5.5, 0.0); (567076.0, 4149819.0, 5.5, 5.5, 0.0);
(567076.0, 4149839.0, 5.5, 5.5, 0.0); (567076.0, 4149859.0, 5.5, 5.5, 0.0);
(567096.0, 4149279.0, 8.4, 8.4, 0.0); (567096.0, 4149299.0, 8.3, 8.3, 0.0);
(567096.0, 4149319.0, 8.1, 8.1, 0.0); (567096.0, 4149339.0, 8.0, 8.0, 0.0);
(567096.0, 4149359.0, 7.9, 7.9, 0.0); (567096.0, 4149379.0, 7.8, 7.8, 0.0);
(567096.0, 4149399.0, 7.7, 7.7, 0.0); (567096.0, 4149419.0, 7.6, 7.6, 0.0);
(567096.0, 4149439.0, 7.5, 7.5, 0.0); (567096.0, 4149459.0, 7.5, 7.5, 0.0);
(567096.0, 4149479.0, 7.5, 7.5, 0.0); (567096.0, 4149499.0, 7.5, 7.5, 0.0);
(567096.0, 4149519.0, 7.3, 7.3, 0.0); (567096.0, 4149759.0, 5.8, 5.8, 0.0);
(567096.0, 4149779.0, 5.7, 5.7, 0.0); (567096.0, 4149799.0, 5.5, 5.5, 0.0);
(567096.0, 4149819.0, 5.4, 5.4, 0.0); (567096.0, 4149839.0, 5.4, 5.4, 0.0);
(567096.0, 4149859.0, 5.3, 5.3, 0.0); (567116.0, 4149279.0, 8.3, 8.3, 0.0);
(567116.0, 4149299.0, 8.1, 8.1, 0.0); (567116.0, 4149319.0, 7.9, 7.9, 0.0);
(567116.0, 4149339.0, 7.9, 7.9, 0.0); (567116.0, 4149359.0, 7.8, 7.8, 0.0);
(567116.0, 4149379.0, 7.6, 7.6, 0.0); (567116.0, 4149399.0, 7.6, 7.6, 0.0);
(567116.0, 4149419.0, 7.5, 7.5, 0.0); (567116.0, 4149439.0, 7.3, 7.3, 0.0);
(567116.0, 4149459.0, 7.3, 7.3, 0.0); (567116.0, 4149479.0, 7.3, 7.3, 0.0);
(567116.0, 4149499.0, 7.3, 7.3, 0.0); (567116.0, 4149739.0, 5.8, 5.8, 0.0);
(567116.0, 4149759.0, 5.7, 5.7, 0.0); (567116.0, 4149779.0, 5.6, 5.6, 0.0);
(567116.0, 4149799.0, 5.4, 5.4, 0.0); (567116.0, 4149819.0, 5.2, 5.2, 0.0);
(567116.0, 4149839.0, 5.2, 5.2, 0.0); (567116.0, 4149859.0, 5.1, 5.1, 0.0);
(567116.0, 4149879.0, 5.0, 5.0, 0.0); (567136.0,

```
4149259.0,       8.3,       8.3,       0.0);
     ( 567136.0, 4149279.0,       8.1,       8.1,       0.0);         ( 567136.0,
4149299.0,       8.0,       8.0,       0.0);
     ( 567136.0, 4149319.0,       7.9,       7.9,       0.0);         ( 567136.0,
4149339.0,       7.8,       7.8,       0.0);
     ( 567136.0, 4149359.0,       7.6,       7.6,       0.0);         ( 567136.0,
4149379.0,       7.4,       7.4,       0.0);
     ( 567136.0, 4149399.0,       7.4,       7.4,       0.0);         ( 567136.0,
4149419.0,       7.3,       7.3,       0.0);
     ( 567136.0, 4149439.0,       7.1,       7.1,       0.0);         ( 567136.0,
4149459.0,       7.1,       7.1,       0.0);
     ( 567136.0, 4149479.0,       7.1,       7.1,       0.0);         ( 567136.0,
4149719.0,       5.7,       5.7,       0.0);
     ( 567136.0, 4149739.0,       5.5,       5.5,       0.0);         ( 567136.0,
4149759.0,       5.4,       5.4,       0.0);
     ( 567136.0, 4149779.0,       5.3,       5.3,       0.0);         ( 567136.0,
4149799.0,       5.2,       5.2,       0.0);
     ( 567136.0, 4149819.0,       5.2,       5.2,       0.0);         ( 567136.0,
4149839.0,       5.1,       5.1,       0.0);
     ( 567136.0, 4149859.0,       4.9,       4.9,       0.0);         ( 567136.0,
4149879.0,       4.9,       4.9,       0.0);
     ( 567156.0, 4149259.0,       8.1,       8.1,       0.0);         ( 567156.0,
4149279.0,       8.0,       8.0,       0.0);
     ( 567156.0, 4149299.0,       7.9,       7.9,       0.0);         ( 567156.0,
4149319.0,       7.8,       7.8,       0.0);
     ( 567156.0, 4149339.0,       7.6,       7.6,       0.0);         ( 567156.0,
4149359.0,       7.4,       7.4,       0.0);
     ( 567156.0, 4149379.0,       7.3,       7.3,       0.0);         ( 567156.0,
4149399.0,       7.2,       7.2,       0.0);
     ( 567156.0, 4149419.0,       7.1,       7.1,       0.0);         ( 567156.0,
4149439.0,       7.0,       7.0,       0.0);
     ( 567156.0, 4149459.0,       6.9,       6.9,       0.0);         ( 567156.0,
4149479.0,       6.9,       6.9,       0.0);
     ( 567156.0, 4149699.0,       5.7,       5.7,       0.0);         ( 567156.0,
4149719.0,       5.5,       5.5,       0.0);
     ( 567156.0, 4149739.0,       5.3,       5.3,       0.0);         ( 567156.0,
4149759.0,       5.1,       5.1,       0.0);
     ( 567156.0, 4149779.0,       5.0,       5.0,       0.0);         ( 567156.0,
4149799.0,       5.0,       5.0,       0.0);
     ( 567156.0, 4149819.0,       5.0,       5.0,       0.0);         ( 567156.0,
4149839.0,       5.0,       5.0,       0.0);
     ( 567156.0, 4149859.0,       4.9,       4.9,       0.0);         ( 567156.0,
4149879.0,       4.8,       4.8,       0.0);
```


 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567176.0, 4149259.0, 7.9, 7.9, 0.0); (567176.0, 4149279.0, 7.9, 7.9, 0.0);
(567176.0, 4149299.0, 7.8, 7.8, 0.0); (567176.0, 4149319.0, 7.6, 7.6, 0.0);
(567176.0, 4149339.0, 7.4, 7.4, 0.0); (567176.0, 4149359.0, 7.3, 7.3, 0.0);
(567176.0, 4149379.0, 7.3, 7.3, 0.0); (567176.0, 4149399.0, 7.1, 7.1, 0.0);
(567176.0, 4149419.0, 7.0, 7.0, 0.0); (567176.0, 4149439.0, 7.0, 7.0, 0.0);
(567176.0, 4149459.0, 6.8, 6.8, 0.0); (567176.0, 4149479.0, 6.7, 6.7, 0.0);
(567176.0, 4149679.0, 5.7, 5.7, 0.0); (567176.0, 4149699.0, 5.5, 5.5, 0.0);
(567176.0, 4149719.0, 5.3, 5.3, 0.0); (567176.0, 4149739.0, 5.1, 5.1, 0.0);
(567176.0, 4149759.0, 4.9, 4.9, 0.0); (567176.0, 4149779.0, 4.8, 4.8, 0.0);
(567176.0, 4149799.0, 4.8, 4.8, 0.0); (567176.0, 4149819.0, 4.8, 4.8, 0.0);
(567176.0, 4149839.0, 4.8, 4.8, 0.0); (567176.0, 4149859.0, 4.8, 4.8, 0.0);
(567176.0, 4149879.0, 4.6, 4.6, 0.0); (567196.0, 4149239.0, 7.7, 7.7, 0.0);
(567196.0, 4149259.0, 7.7, 7.7, 0.0); (567196.0, 4149279.0, 7.7, 7.7, 0.0);
(567196.0, 4149299.0, 7.6, 7.6, 0.0); (567196.0, 4149319.0, 7.4, 7.4, 0.0);
(567196.0, 4149339.0, 7.2, 7.2, 0.0); (567196.0, 4149359.0, 7.1, 7.1, 0.0);
(567196.0, 4149379.0, 7.1, 7.1, 0.0); (567196.0, 4149399.0, 6.9, 6.9, 0.0);
(567196.0, 4149419.0, 6.8, 6.8, 0.0); (567196.0, 4149439.0, 6.8, 6.8, 0.0);
(567196.0, 4149459.0, 6.5, 6.5, 0.0); (567196.0, 4149699.0, 5.3, 5.3, 0.0);
(567196.0, 4149719.0, 5.1, 5.1, 0.0); (567196.0, 4149739.0, 4.9, 4.9, 0.0);
(567196.0, 4149759.0, 4.7, 4.7, 0.0); (567196.0, 4149779.0, 4.5, 4.5, 0.0);
(567196.0, 4149799.0, 4.4, 4.4, 0.0); (567196.0, 4149819.0, 4.4, 4.4, 0.0);
(567196.0, 4149839.0, 4.5, 4.5, 0.0); (567196.0, 4149859.0, 4.6, 4.6, 0.0);
(567196.0, 4149879.0, 4.4, 4.4, 0.0); (567216.0,

```
4149239.0,       7.4,       7.4,       0.0);
     ( 567216.0, 4149259.0,       7.4,       7.4,       0.0);         ( 567216.0,
4149279.0,       7.4,       7.4,       0.0);
     ( 567216.0, 4149299.0,       7.3,       7.3,       0.0);         ( 567216.0,
4149319.0,       7.2,       7.2,       0.0);
     ( 567216.0, 4149339.0,       7.0,       7.0,       0.0);         ( 567216.0,
4149359.0,       6.9,       6.9,       0.0);
     ( 567216.0, 4149379.0,       6.9,       6.9,       0.0);         ( 567216.0,
4149399.0,       6.6,       6.6,       0.0);
     ( 567216.0, 4149419.0,       6.6,       6.6,       0.0);         ( 567216.0,
4149439.0,       6.5,       6.5,       0.0);
     ( 567216.0, 4149719.0,       4.9,       4.9,       0.0);         ( 567216.0,
4149739.0,       4.7,       4.7,       0.0);
     ( 567216.0, 4149759.0,       4.5,       4.5,       0.0);         ( 567216.0,
4149779.0,       4.4,       4.4,       0.0);
     ( 567216.0, 4149799.0,       4.3,       4.3,       0.0);         ( 567216.0,
4149819.0,       4.2,       4.2,       0.0);
     ( 567216.0, 4149839.0,       4.2,       4.2,       0.0);         ( 567216.0,
4149859.0,       4.3,       4.3,       0.0);
     ( 567216.0, 4149879.0,       4.2,       4.2,       0.0);         ( 567236.0,
4149239.0,       7.2,       7.2,       0.0);
     ( 567236.0, 4149259.0,       7.0,       7.0,       0.0);         ( 567236.0,
4149279.0,       7.0,       7.0,       0.0);
     ( 567236.0, 4149299.0,       7.0,       7.0,       0.0);         ( 567236.0,
4149319.0,       7.0,       7.0,       0.0);
     ( 567236.0, 4149339.0,       6.8,       6.8,       0.0);         ( 567236.0,
4149359.0,       6.7,       6.7,       0.0);
     ( 567236.0, 4149379.0,       6.6,       6.6,       0.0);         ( 567236.0,
4149399.0,       6.5,       6.5,       0.0);
     ( 567236.0, 4149419.0,       6.4,       6.4,       0.0);         ( 567236.0,
4149739.0,       4.5,       4.5,       0.0);
     ( 567236.0, 4149759.0,       4.3,       4.3,       0.0);         ( 567236.0,
4149779.0,       4.3,       4.3,       0.0);
     ( 567236.0, 4149799.0,       4.2,       4.2,       0.0);         ( 567236.0,
4149819.0,       4.0,       4.0,       0.0);
     ( 567236.0, 4149839.0,       3.9,       3.9,       0.0);         ( 567236.0,
4149859.0,       3.9,       3.9,       0.0);
     ( 567236.0, 4149879.0,       3.9,       3.9,       0.0);         ( 567236.0,
4149899.0,       3.8,       3.8,       0.0);
     ( 567256.0, 4149219.0,       7.0,       7.0,       0.0);         ( 567256.0,
4149239.0,       7.0,       7.0,       0.0);
     ( 567256.0, 4149259.0,       6.8,       6.8,       0.0);         ( 567256.0,
4149279.0,       6.8,       6.8,       0.0);
     ( 567256.0, 4149299.0,       6.8,       6.8,       0.0);         ( 567256.0,
4149319.0,       6.8,       6.8,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***       15:52:58
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567256.0, 4149339.0, 6.5, 6.5, 0.0); (567256.0, 4149359.0, 6.5, 6.5, 0.0);
(567256.0, 4149379.0, 6.5, 6.5, 0.0); (567256.0, 4149399.0, 6.2, 6.2, 0.0);
(567256.0, 4149759.0, 4.3, 4.3, 0.0); (567256.0, 4149779.0, 4.2, 4.2, 0.0);
(567256.0, 4149799.0, 4.0, 4.0, 0.0); (567256.0, 4149819.0, 3.8, 3.8, 0.0);
(567256.0, 4149839.0, 3.7, 3.7, 0.0); (567256.0, 4149859.0, 3.7, 3.7, 0.0);
(567256.0, 4149879.0, 3.6, 3.6, 0.0); (567256.0, 4149899.0, 3.5, 3.5, 0.0);
(567276.0, 4149219.0, 6.8, 6.8, 0.0); (567276.0, 4149239.0, 6.8, 6.8, 0.0);
(567276.0, 4149259.0, 6.7, 6.7, 0.0); (567276.0, 4149279.0, 6.7, 6.7, 0.0);
(567276.0, 4149299.0, 6.6, 6.6, 0.0); (567276.0, 4149319.0, 6.6, 6.6, 0.0);
(567276.0, 4149339.0, 6.5, 6.5, 0.0); (567276.0, 4149359.0, 6.3, 6.3, 0.0);
(567276.0, 4149379.0, 6.2, 6.2, 0.0); (567276.0, 4149759.0, 4.2, 4.2, 0.0);
(567276.0, 4149779.0, 4.0, 4.0, 0.0); (567276.0, 4149799.0, 3.8, 3.8, 0.0);
(567276.0, 4149819.0, 3.7, 3.7, 0.0); (567276.0, 4149839.0, 3.6, 3.6, 0.0);
(567276.0, 4149859.0, 3.5, 3.5, 0.0); (567276.0, 4149879.0, 3.3, 3.3, 0.0);
(567276.0, 4149899.0, 3.2, 3.2, 0.0); (567276.0, 4149919.0, 3.2, 3.2, 0.0);
(567296.0, 4149219.0, 6.6, 6.6, 0.0); (567296.0, 4149239.0, 6.7, 6.7, 0.0);
(567296.0, 4149259.0, 6.7, 6.7, 0.0); (567296.0, 4149279.0, 6.7, 6.7, 0.0);
(567296.0, 4149299.0, 6.5, 6.5, 0.0); (567296.0, 4149319.0, 6.4, 6.4, 0.0);
(567296.0, 4149339.0, 6.4, 6.4, 0.0); (567296.0, 4149359.0, 6.2, 6.2, 0.0);
(567296.0, 4149739.0, 4.2, 4.2, 0.0); (567296.0, 4149759.0, 4.0, 4.0, 0.0);
(567296.0, 4149779.0, 3.8, 3.8, 0.0); (567296.0, 4149799.0, 3.7, 3.7, 0.0);
(567296.0, 4149819.0, 3.6, 3.6, 0.0); (567296.0,

```
4149839.0,       3.5,       3.5,       0.0);
     ( 567296.0, 4149859.0,       3.3,       3.3,       0.0);         ( 567296.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567296.0, 4149899.0,       3.0,       3.0,       0.0);         ( 567296.0,
4149919.0,       3.0,       3.0,       0.0);
     ( 567316.0, 4149219.0,       6.4,       6.4,       0.0);         ( 567316.0,
4149239.0,       6.5,       6.5,       0.0);
     ( 567316.0, 4149259.0,       6.5,       6.5,       0.0);         ( 567316.0,
4149279.0,       6.5,       6.5,       0.0);
     ( 567316.0, 4149299.0,       6.3,       6.3,       0.0);         ( 567316.0,
4149319.0,       6.2,       6.2,       0.0);
     ( 567316.0, 4149339.0,       6.2,       6.2,       0.0);         ( 567316.0,
4149719.0,       4.2,       4.2,       0.0);
     ( 567316.0, 4149739.0,       4.0,       4.0,       0.0);         ( 567316.0,
4149759.0,       3.8,       3.8,       0.0);
     ( 567316.0, 4149779.0,       3.7,       3.7,       0.0);         ( 567316.0,
4149799.0,       3.6,       3.6,       0.0);
     ( 567316.0, 4149819.0,       3.5,       3.5,       0.0);         ( 567316.0,
4149839.0,       3.4,       3.4,       0.0);
     ( 567316.0, 4149859.0,       3.3,       3.3,       0.0);         ( 567316.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567316.0, 4149899.0,       2.9,       2.9,       0.0);         ( 567316.0,
4149919.0,       2.8,       2.8,       0.0);
     ( 567336.0, 4149219.0,       6.2,       6.2,       0.0);         ( 567336.0,
4149239.0,       6.3,       6.3,       0.0);
     ( 567336.0, 4149259.0,       6.4,       6.4,       0.0);         ( 567336.0,
4149279.0,       6.3,       6.3,       0.0);
     ( 567336.0, 4149299.0,       6.1,       6.1,       0.0);         ( 567336.0,
4149319.0,       6.0,       6.0,       0.0);
     ( 567336.0, 4149699.0,       4.2,       4.2,       0.0);         ( 567336.0,
4149719.0,       4.0,       4.0,       0.0);
     ( 567336.0, 4149739.0,       3.8,       3.8,       0.0);         ( 567336.0,
4149759.0,       3.7,       3.7,       0.0);
     ( 567336.0, 4149779.0,       3.6,       3.6,       0.0);         ( 567336.0,
4149799.0,       3.5,       3.5,       0.0);
     ( 567336.0, 4149819.0,       3.3,       3.3,       0.0);         ( 567336.0,
4149839.0,       3.2,       3.2,       0.0);
     ( 567336.0, 4149859.0,       3.2,       3.2,       0.0);         ( 567336.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567336.0, 4149899.0,       2.9,       2.9,       0.0);         ( 567336.0,
4149919.0,       2.7,       2.7,       0.0);
     ( 567356.0, 4149219.0,       6.0,       6.0,       0.0);         ( 567356.0,
4149239.0,       6.2,       6.2,       0.0);
     ( 567356.0, 4149259.0,       6.3,       6.3,       0.0);         ( 567356.0,
4149279.0,       6.1,       6.1,       0.0);
     ( 567356.0, 4149299.0,       5.9,       5.9,       0.0);         ( 567356.0,
4149659.0,       4.3,       4.3,       0.0);
↟ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567356.0, 4149679.0, 4.2, 4.2, 0.0); (567356.0, 4149699.0, 4.0, 4.0, 0.0);
(567356.0, 4149719.0, 3.8, 3.8, 0.0); (567356.0, 4149739.0, 3.7, 3.7, 0.0);
(567356.0, 4149759.0, 3.6, 3.6, 0.0); (567356.0, 4149779.0, 3.5, 3.5, 0.0);
(567356.0, 4149799.0, 3.3, 3.3, 0.0); (567356.0, 4149819.0, 3.1, 3.1, 0.0);
(567356.0, 4149839.0, 3.0, 3.0, 0.0); (567356.0, 4149859.0, 3.0, 3.0, 0.0);
(567356.0, 4149879.0, 3.0, 3.0, 0.0); (567356.0, 4149899.0, 2.9, 2.9, 0.0);
(567356.0, 4149919.0, 2.7, 2.7, 0.0); (567376.0, 4149219.0, 5.8, 5.8, 0.0);
(567376.0, 4149239.0, 6.0, 6.0, 0.0); (567376.0, 4149259.0, 6.1, 6.1, 0.0);
(567376.0, 4149279.0, 5.9, 5.9, 0.0); (567376.0, 4149659.0, 4.2, 4.2, 0.0);
(567376.0, 4149679.0, 4.0, 4.0, 0.0); (567376.0, 4149699.0, 3.8, 3.8, 0.0);
(567376.0, 4149719.0, 3.7, 3.7, 0.0); (567376.0, 4149739.0, 3.6, 3.6, 0.0);
(567376.0, 4149759.0, 3.5, 3.5, 0.0); (567376.0, 4149779.0, 3.4, 3.4, 0.0);
(567376.0, 4149799.0, 3.3, 3.3, 0.0); (567376.0, 4149819.0, 3.1, 3.1, 0.0);
(567376.0, 4149839.0, 2.9, 2.9, 0.0); (567376.0, 4149859.0, 2.8, 2.8, 0.0);
(567376.0, 4149879.0, 2.8, 2.8, 0.0); (567376.0, 4149899.0, 2.8, 2.8, 0.0);
(567376.0, 4149919.0, 2.7, 2.7, 0.0); (567396.0, 4149219.0, 5.7, 5.7, 0.0);
(567396.0, 4149239.0, 5.7, 5.7, 0.0); (567396.0, 4149259.0, 5.8, 5.8, 0.0);
(567396.0, 4149619.0, 4.1, 4.1, 0.0); (567396.0, 4149639.0, 4.1, 4.1, 0.0);
(567396.0, 4149659.0, 4.0, 4.0, 0.0); (567396.0, 4149679.0, 3.8, 3.8, 0.0);
(567396.0, 4149699.0, 3.7, 3.7, 0.0); (567396.0, 4149719.0, 3.6, 3.6, 0.0);
(567396.0, 4149739.0, 3.5, 3.5, 0.0); (567396.0,

```
4149759.0,       3.3,       3.3,       0.0);
     ( 567396.0, 4149779.0,       3.2,       3.2,       0.0);         ( 567396.0,
4149799.0,       3.2,       3.2,       0.0);
     ( 567396.0, 4149819.0,       3.0,       3.0,       0.0);         ( 567396.0,
4149839.0,       2.8,       2.8,       0.0);
     ( 567396.0, 4149859.0,       2.7,       2.7,       0.0);         ( 567396.0,
4149879.0,       2.6,       2.6,       0.0);
     ( 567396.0, 4149899.0,       2.6,       2.6,       0.0);         ( 567396.0,
4149919.0,       2.6,       2.6,       0.0);
     ( 567416.0, 4149219.0,       5.5,       5.5,       0.0);         ( 567416.0,
4149239.0,       5.5,       5.5,       0.0);
     ( 567416.0, 4149599.0,       4.1,       4.1,       0.0);         ( 567416.0,
4149619.0,       4.0,       4.0,       0.0);
     ( 567416.0, 4149639.0,       3.9,       3.9,       0.0);         ( 567416.0,
4149659.0,       3.8,       3.8,       0.0);
     ( 567416.0, 4149679.0,       3.7,       3.7,       0.0);         ( 567416.0,
4149699.0,       3.6,       3.6,       0.0);
     ( 567416.0, 4149719.0,       3.5,       3.5,       0.0);         ( 567416.0,
4149739.0,       3.3,       3.3,       0.0);
     ( 567416.0, 4149759.0,       3.1,       3.1,       0.0);         ( 567416.0,
4149779.0,       3.0,       3.0,       0.0);
     ( 567416.0, 4149799.0,       3.0,       3.0,       0.0);         ( 567416.0,
4149819.0,       2.8,       2.8,       0.0);
     ( 567416.0, 4149839.0,       2.7,       2.7,       0.0);         ( 567416.0,
4149859.0,       2.7,       2.7,       0.0);
     ( 567416.0, 4149879.0,       2.5,       2.5,       0.0);         ( 567416.0,
4149899.0,       2.4,       2.4,       0.0);
     ( 567416.0, 4149919.0,       2.4,       2.4,       0.0);         ( 567436.0,
4149219.0,       5.3,       5.3,       0.0);
     ( 567436.0, 4149579.0,       4.1,       4.1,       0.0);         ( 567436.0,
4149599.0,       4.0,       4.0,       0.0);
     ( 567436.0, 4149619.0,       3.9,       3.9,       0.0);         ( 567436.0,
4149639.0,       3.8,       3.8,       0.0);
     ( 567436.0, 4149659.0,       3.7,       3.7,       0.0);         ( 567436.0,
4149679.0,       3.6,       3.6,       0.0);
     ( 567436.0, 4149699.0,       3.5,       3.5,       0.0);         ( 567436.0,
4149719.0,       3.4,       3.4,       0.0);
     ( 567436.0, 4149739.0,       3.3,       3.3,       0.0);         ( 567436.0,
4149759.0,       3.1,       3.1,       0.0);
     ( 567436.0, 4149779.0,       3.0,       3.0,       0.0);         ( 567436.0,
4149799.0,       3.0,       3.0,       0.0);
     ( 567436.0, 4149819.0,       2.8,       2.8,       0.0);         ( 567436.0,
4149839.0,       2.7,       2.7,       0.0);
     ( 567436.0, 4149859.0,       2.7,       2.7,       0.0);         ( 567436.0,
4149879.0,       2.5,       2.5,       0.0);
     ( 567436.0, 4149899.0,       2.3,       2.3,       0.0);         ( 567436.0,
4149919.0,       2.2,       2.2,       0.0);
     ( 567456.0, 4149559.0,       4.1,       4.1,       0.0);         ( 567456.0,
4149579.0,       4.0,       4.0,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 567456.0, 4149599.0,       3.9,       3.9,      0.0);        ( 567456.0,
4149619.0,       3.8,       3.8,       0.0);
     ( 567456.0, 4149639.0,       3.7,       3.7,      0.0);        ( 567456.0,
4149659.0,       3.6,       3.6,       0.0);
     ( 567456.0, 4149679.0,       3.5,       3.5,      0.0);        ( 567456.0,
4149699.0,       3.3,       3.3,       0.0);
     ( 567456.0, 4149719.0,       3.2,       3.2,      0.0);        ( 567456.0,
4149739.0,       3.2,       3.2,       0.0);
     ( 567456.0, 4149759.0,       3.0,       3.0,      0.0);        ( 567456.0,
4149779.0,       2.9,       2.9,       0.0);
     ( 567456.0, 4149799.0,       2.9,       2.9,      0.0);        ( 567456.0,
4149819.0,       2.7,       2.7,       0.0);
     ( 567456.0, 4149839.0,       2.6,       2.6,      0.0);        ( 567456.0,
4149859.0,       2.6,       2.6,       0.0);
     ( 567456.0, 4149879.0,       2.5,       2.5,      0.0);        ( 567456.0,
4149899.0,       2.3,       2.3,       0.0);
     ( 567456.0, 4149919.0,       2.1,       2.1,      0.0);        ( 567476.0,
4149539.0,       4.1,       4.1,       0.0);
     ( 567476.0, 4149559.0,       3.9,       3.9,      0.0);        ( 567476.0,
4149579.0,       3.9,       3.9,       0.0);
     ( 567476.0, 4149599.0,       3.8,       3.8,      0.0);        ( 567476.0,
4149619.0,       3.6,       3.6,       0.0);
     ( 567476.0, 4149639.0,       3.6,       3.6,      0.0);        ( 567476.0,
4149659.0,       3.5,       3.5,       0.0);
     ( 567476.0, 4149679.0,       3.3,       3.3,      0.0);        ( 567476.0,
4149699.0,       3.1,       3.1,       0.0);
     ( 567476.0, 4149719.0,       3.0,       3.0,      0.0);        ( 567476.0,
4149739.0,       3.0,       3.0,       0.0);
     ( 567476.0, 4149759.0,       2.8,       2.8,      0.0);        ( 567476.0,
4149779.0,       2.7,       2.7,       0.0);
     ( 567476.0, 4149799.0,       2.7,       2.7,      0.0);        ( 567476.0,
4149819.0,       2.5,       2.5,       0.0);
     ( 567476.0, 4149839.0,       2.4,       2.4,      0.0);        ( 567476.0,
4149859.0,       2.4,       2.4,       0.0);
     ( 567476.0, 4149879.0,       2.4,       2.4,      0.0);        ( 567476.0,
4149899.0,       2.3,       2.3,       0.0);
     ( 567476.0, 4149919.0,       2.1,       2.1,      0.0);        ( 567496.0,
4149519.0,       4.0,       4.0,       0.0);
     ( 567496.0, 4149539.0,       3.9,       3.9,      0.0);        ( 567496.0,
```

```
4149559.0,       3.7,       3.7,       0.0);
     ( 567496.0, 4149579.0,       3.6,       3.6,       0.0);         ( 567496.0,
4149599.0,       3.5,       3.5,       0.0);
     ( 567496.0, 4149619.0,       3.4,       3.4,       0.0);         ( 567496.0,
4149639.0,       3.4,       3.4,       0.0);
     ( 567496.0, 4149659.0,       3.3,       3.3,       0.0);         ( 567496.0,
4149679.0,       3.1,       3.1,       0.0);
     ( 567496.0, 4149699.0,       3.1,       3.1,       0.0);         ( 567496.0,
4149719.0,       2.9,       2.9,       0.0);
     ( 567496.0, 4149739.0,       2.8,       2.8,       0.0);         ( 567496.0,
4149759.0,       2.8,       2.8,       0.0);
     ( 567496.0, 4149779.0,       2.7,       2.7,       0.0);         ( 567496.0,
4149799.0,       2.7,       2.7,       0.0);
     ( 567496.0, 4149819.0,       2.5,       2.5,       0.0);         ( 567496.0,
4149839.0,       2.4,       2.4,       0.0);
     ( 567496.0, 4149859.0,       2.4,       2.4,       0.0);         ( 567496.0,
4149879.0,       2.3,       2.3,       0.0);
     ( 567496.0, 4149899.0,       2.2,       2.2,       0.0);         ( 567516.0,
4149499.0,       3.8,       3.8,       0.0);
     ( 567516.0, 4149519.0,       3.8,       3.8,       0.0);         ( 567516.0,
4149539.0,       3.7,       3.7,       0.0);
     ( 567516.0, 4149559.0,       3.5,       3.5,       0.0);         ( 567516.0,
4149579.0,       3.3,       3.3,       0.0);
     ( 567516.0, 4149599.0,       3.2,       3.2,       0.0);         ( 567516.0,
4149619.0,       3.2,       3.2,       0.0);
     ( 567516.0, 4149639.0,       3.2,       3.2,       0.0);         ( 567516.0,
4149659.0,       3.1,       3.1,       0.0);
     ( 567516.0, 4149679.0,       3.0,       3.0,       0.0);         ( 567516.0,
4149699.0,       3.0,       3.0,       0.0);
     ( 567516.0, 4149719.0,       2.9,       2.9,       0.0);         ( 567516.0,
4149739.0,       2.7,       2.7,       0.0);
     ( 567516.0, 4149759.0,       2.7,       2.7,       0.0);         ( 567516.0,
4149779.0,       2.7,       2.7,       0.0);
     ( 567516.0, 4149799.0,       2.6,       2.6,       0.0);         ( 567516.0,
4149819.0,       2.5,       2.5,       0.0);
     ( 567516.0, 4149839.0,       2.4,       2.4,       0.0);         ( 567516.0,
4149859.0,       2.3,       2.3,       0.0);
     ( 567516.0, 4149879.0,       2.1,       2.1,       0.0);         ( 567536.0,
4149479.0,       3.8,       3.8,       0.0);
     ( 567536.0, 4149499.0,       3.7,       3.7,       0.0);         ( 567536.0,
4149519.0,       3.6,       3.6,       0.0);
     ( 567536.0, 4149539.0,       3.5,       3.5,       0.0);         ( 567536.0,
4149559.0,       3.3,       3.3,       0.0);
     ( 567536.0, 4149579.0,       3.1,       3.1,       0.0);         ( 567536.0,
4149599.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149619.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149639.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149659.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149679.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149699.0,       3.0,       3.0,       0.0);         ( 567536.0,
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 567536.0, 4149739.0,       2.7,       2.7,       0.0);         ( 567536.0,
4149759.0,       2.7,       2.7,       0.0);
     ( 567536.0, 4149779.0,       2.6,       2.6,       0.0);         ( 567536.0,
4149799.0,       2.4,       2.4,       0.0);
     ( 567536.0, 4149819.0,       2.4,       2.4,       0.0);         ( 567536.0,
4149839.0,       2.3,       2.3,       0.0);
     ( 567536.0, 4149859.0,       2.1,       2.1,       0.0);         ( 567556.0,
4149219.0,       4.6,       4.6,       0.0);
     ( 567556.0, 4149459.0,       3.8,       3.8,       0.0);         ( 567556.0,
4149479.0,       3.7,       3.7,       0.0);
     ( 567556.0, 4149499.0,       3.6,       3.6,       0.0);         ( 567556.0,
4149519.0,       3.5,       3.5,       0.0);
     ( 567556.0, 4149539.0,       3.3,       3.3,       0.0);         ( 567556.0,
4149559.0,       3.1,       3.1,       0.0);
     ( 567556.0, 4149579.0,       3.1,       3.1,       0.0);         ( 567556.0,
4149599.0,       2.9,       2.9,       0.0);
     ( 567556.0, 4149619.0,       2.8,       2.8,       0.0);         ( 567556.0,
4149639.0,       2.8,       2.8,       0.0);
     ( 567556.0, 4149659.0,       2.8,       2.8,       0.0);         ( 567556.0,
4149679.0,       2.8,       2.8,       0.0);
     ( 567556.0, 4149699.0,       2.8,       2.8,       0.0);         ( 567556.0,
4149719.0,       2.8,       2.8,       0.0);
     ( 567556.0, 4149739.0,       2.7,       2.7,       0.0);         ( 567556.0,
4149759.0,       2.6,       2.6,       0.0);
     ( 567556.0, 4149779.0,       2.5,       2.5,       0.0);         ( 567556.0,
4149799.0,       2.4,       2.4,       0.0);
     ( 567556.0, 4149819.0,       2.3,       2.3,       0.0);         ( 567556.0,
4149839.0,       2.2,       2.2,       0.0);
     ( 567576.0, 4149219.0,       4.5,       4.5,       0.0);         ( 567576.0,
4149239.0,       4.3,       4.3,       0.0);
     ( 567576.0, 4149419.0,       4.0,       4.0,       0.0);         ( 567576.0,
4149439.0,       3.8,       3.8,       0.0);
     ( 567576.0, 4149459.0,       3.6,       3.6,       0.0);         ( 567576.0,
4149479.0,       3.5,       3.5,       0.0);
     ( 567576.0, 4149499.0,       3.4,       3.4,       0.0);         ( 567576.0,
4149519.0,       3.3,       3.3,       0.0);
     ( 567576.0, 4149539.0,       3.1,       3.1,       0.0);         ( 567576.0,
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4149559.0,       3.0,       3.0,       0.0);
     ( 567576.0, 4149579.0,       2.9,       2.9,       0.0);         ( 567576.0,
4149599.0,       2.8,       2.8,       0.0);
     ( 567576.0, 4149619.0,       2.7,       2.7,       0.0);         ( 567576.0,
4149639.0,       2.7,       2.7,       0.0);
     ( 567576.0, 4149659.0,       2.7,       2.7,       0.0);         ( 567576.0,
4149679.0,       2.6,       2.6,       0.0);
     ( 567576.0, 4149699.0,       2.6,       2.6,       0.0);         ( 567576.0,
4149719.0,       2.6,       2.6,       0.0);
     ( 567576.0, 4149739.0,       2.6,       2.6,       0.0);         ( 567576.0,
4149759.0,       2.5,       2.5,       0.0);
     ( 567576.0, 4149779.0,       2.4,       2.4,       0.0);         ( 567576.0,
4149799.0,       2.3,       2.3,       0.0);
     ( 567576.0, 4149819.0,       2.2,       2.2,       0.0);         ( 567596.0,
4149219.0,       4.3,       4.3,       0.0);
     ( 567596.0, 4149239.0,       4.1,       4.1,       0.0);         ( 567596.0,
4149259.0,       4.0,       4.0,       0.0);
     ( 567596.0, 4149399.0,       3.9,       3.9,       0.0);         ( 567596.0,
4149419.0,       3.8,       3.8,       0.0);
     ( 567596.0, 4149439.0,       3.6,       3.6,       0.0);         ( 567596.0,
4149459.0,       3.4,       3.4,       0.0);
     ( 567596.0, 4149479.0,       3.2,       3.2,       0.0);         ( 567596.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567596.0, 4149519.0,       3.0,       3.0,       0.0);         ( 567596.0,
4149539.0,       3.0,       3.0,       0.0);
     ( 567596.0, 4149559.0,       3.0,       3.0,       0.0);         ( 567596.0,
4149579.0,       2.8,       2.8,       0.0);
     ( 567596.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567596.0,
4149619.0,       2.7,       2.7,       0.0);
     ( 567596.0, 4149639.0,       2.7,       2.7,       0.0);         ( 567596.0,
4149659.0,       2.6,       2.6,       0.0);
     ( 567596.0, 4149679.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149699.0,       2.4,       2.4,       0.0);
     ( 567596.0, 4149719.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149739.0,       2.4,       2.4,       0.0);
     ( 567596.0, 4149759.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149779.0,       2.3,       2.3,       0.0);
     ( 567596.0, 4149799.0,       2.1,       2.1,       0.0);         ( 567616.0,
4149219.0,       4.0,       4.0,       0.0);
     ( 567616.0, 4149239.0,       4.0,       4.0,       0.0);         ( 567616.0,
4149259.0,       4.0,       4.0,       0.0);
     ( 567616.0, 4149399.0,       3.8,       3.8,       0.0);         ( 567616.0,
4149419.0,       3.6,       3.6,       0.0);
     ( 567616.0, 4149439.0,       3.4,       3.4,       0.0);         ( 567616.0,
4149459.0,       3.4,       3.4,       0.0);
     ( 567616.0, 4149479.0,       3.2,       3.2,       0.0);         ( 567616.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567616.0, 4149519.0,       3.0,       3.0,       0.0);         ( 567616.0,
4149539.0,       2.9,       2.9,       0.0);
     ( 567616.0, 4149559.0,       2.8,       2.8,       0.0);         ( 567616.0,
```

4149579.0,   2.8,   2.8,   0.0);
     (567616.0, 4149599.0,   2.7,   2.7,   0.0);   (567616.0,
4149619.0,   2.7,   2.7,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (567616.0, 4149639.0,   2.7,   2.7,   0.0);   (567616.0,
4149659.0,   2.6,   2.6,   0.0);
     (567616.0, 4149679.0,   2.4,   2.4,   0.0);   (567616.0,
4149699.0,   2.4,   2.4,   0.0);
     (567616.0, 4149719.0,   2.4,   2.4,   0.0);   (567616.0,
4149739.0,   2.4,   2.4,   0.0);
     (567616.0, 4149759.0,   2.4,   2.4,   0.0);   (567616.0,
4149779.0,   2.3,   2.3,   0.0);
     (567616.0, 4149799.0,   2.1,   2.1,   0.0);   (567636.0,
4149219.0,   4.0,   4.0,   0.0);
     (567636.0, 4149239.0,   4.0,   4.0,   0.0);   (567636.0,
4149259.0,   3.9,   3.9,   0.0);
     (567636.0, 4149279.0,   3.9,   3.9,   0.0);   (567636.0,
4149359.0,   3.7,   3.7,   0.0);
     (567636.0, 4149379.0,   3.8,   3.8,   0.0);   (567636.0,
4149399.0,   3.6,   3.6,   0.0);
     (567636.0, 4149419.0,   3.5,   3.5,   0.0);   (567636.0,
4149439.0,   3.3,   3.3,   0.0);
     (567636.0, 4149459.0,   3.3,   3.3,   0.0);   (567636.0,
4149479.0,   3.1,   3.1,   0.0);
     (567636.0, 4149499.0,   3.0,   3.0,   0.0);   (567636.0,
4149519.0,   2.9,   2.9,   0.0);
     (567636.0, 4149539.0,   2.8,   2.8,   0.0);   (567636.0,
4149559.0,   2.7,   2.7,   0.0);
     (567636.0, 4149579.0,   2.7,   2.7,   0.0);   (567636.0,
4149599.0,   2.7,   2.7,   0.0);
     (567636.0, 4149619.0,   2.7,   2.7,   0.0);   (567636.0,
4149639.0,   2.6,   2.6,   0.0);
     (567636.0, 4149659.0,   2.5,   2.5,   0.0);   (567636.0,
4149679.0,   2.4,   2.4,   0.0);
     (567636.0, 4149699.0,   2.4,   2.4,   0.0);   (567636.0,
4149719.0,   2.4,   2.4,   0.0);
     (567636.0, 4149739.0,   2.3,   2.3,   0.0);   (567636.0,
4149759.0,   2.3,   2.3,   0.0);
     (567636.0, 4149779.0,   2.2,   2.2,   0.0);   (567636.0,

```
4149799.0,       2.1,       2.1,       0.0);
     ( 567656.0, 4149219.0,       4.0,       4.0,       0.0);         ( 567656.0,
4149239.0,       3.9,       3.9,       0.0);
     ( 567656.0, 4149259.0,       3.9,       3.9,       0.0);         ( 567656.0,
4149279.0,       3.7,       3.7,       0.0);
     ( 567656.0, 4149299.0,       3.6,       3.6,       0.0);         ( 567656.0,
4149339.0,       3.7,       3.7,       0.0);
     ( 567656.0, 4149359.0,       3.6,       3.6,       0.0);         ( 567656.0,
4149379.0,       3.6,       3.6,       0.0);
     ( 567656.0, 4149399.0,       3.4,       3.4,       0.0);         ( 567656.0,
4149419.0,       3.3,       3.3,       0.0);
     ( 567656.0, 4149439.0,       3.3,       3.3,       0.0);         ( 567656.0,
4149459.0,       3.1,       3.1,       0.0);
     ( 567656.0, 4149479.0,       3.0,       3.0,       0.0);         ( 567656.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567656.0, 4149519.0,       2.8,       2.8,       0.0);         ( 567656.0,
4149539.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149559.0,       2.7,       2.7,       0.0);         ( 567656.0,
4149579.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567656.0,
4149619.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149639.0,       2.5,       2.5,       0.0);         ( 567656.0,
4149659.0,       2.4,       2.4,       0.0);
     ( 567656.0, 4149679.0,       2.4,       2.4,       0.0);         ( 567656.0,
4149699.0,       2.4,       2.4,       0.0);
     ( 567656.0, 4149719.0,       2.3,       2.3,       0.0);         ( 567656.0,
4149739.0,       2.1,       2.1,       0.0);
     ( 567656.0, 4149759.0,       2.1,       2.1,       0.0);         ( 567656.0,
4149779.0,       2.1,       2.1,       0.0);
     ( 567676.0, 4149219.0,       3.9,       3.9,       0.0);         ( 567676.0,
4149239.0,       3.9,       3.9,       0.0);
     ( 567676.0, 4149259.0,       3.7,       3.7,       0.0);         ( 567676.0,
4149279.0,       3.5,       3.5,       0.0);
     ( 567676.0, 4149299.0,       3.5,       3.5,       0.0);         ( 567676.0,
4149319.0,       3.7,       3.7,       0.0);
     ( 567676.0, 4149339.0,       3.7,       3.7,       0.0);         ( 567676.0,
4149359.0,       3.6,       3.6,       0.0);
     ( 567676.0, 4149379.0,       3.4,       3.4,       0.0);         ( 567676.0,
4149399.0,       3.2,       3.2,       0.0);
     ( 567676.0, 4149419.0,       3.1,       3.1,       0.0);         ( 567676.0,
4149439.0,       3.1,       3.1,       0.0);
     ( 567676.0, 4149459.0,       3.1,       3.1,       0.0);         ( 567676.0,
4149479.0,       2.9,       2.9,       0.0);
     ( 567676.0, 4149499.0,       2.8,       2.8,       0.0);         ( 567676.0,
4149519.0,       2.8,       2.8,       0.0);
     ( 567676.0, 4149539.0,       2.7,       2.7,       0.0);         ( 567676.0,
4149559.0,       2.7,       2.7,       0.0);
     ( 567676.0, 4149579.0,       2.7,       2.7,       0.0);         ( 567676.0,
4149599.0,       2.6,       2.6,       0.0);
     ( 567676.0, 4149619.0,       2.5,       2.5,       0.0);         ( 567676.0,
```

4149639.0,   2.5,   2.5,   0.0);
     (567676.0, 4149659.0,   2.4,   2.4,   0.0);   (567676.0,
4149679.0,   2.4,   2.4,   0.0);
     (567676.0, 4149699.0,   2.4,   2.4,   0.0);   (567676.0,
4149719.0,   2.3,   2.3,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (567676.0, 4149739.0,   2.1,   2.1,   0.0);   (567676.0,
4149759.0,   2.1,   2.1,   0.0);
     (567676.0, 4149779.0,   2.0,   2.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                         *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                            (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

               NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON

WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC
Met Version: 14134
Profile file: C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 93231 Upper air station no.: 23230
Name: SAN_CARLOS_AIRPORT Name: OAKLAND/WSO_AP
Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55						

```
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 07   -3.0  0.063 -9.000 -9.000 -999.   38.      7.5  0.04   0.55
1.00    1.76    5.   10.0  281.1    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
0.74    0.00    0.   10.0  280.1    2.0
 09 01 01   1 09 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
0.38  999.00  999.   -9.0  280.1    2.0
 09 01 01   1 10    5.5  0.179  0.236  0.014   87.  181.    -95.0  0.04   0.55
0.26    2.36   61.   10.0  280.1    2.0
 09 01 01   1 11   12.1 -9.000 -9.000 -9.000  156. -999. -99999.0  0.04   0.55
0.21    0.00    0.   10.0  280.1    2.0
 09 01 01   1 12   16.0  0.328  0.455  0.016  215.  451.   -201.4  0.04   0.55
0.20    4.36  336.   10.0  281.1    2.0
 09 01 01   1 13   16.6  0.226  0.493  0.015  262.  263.    -63.2  0.04   0.55
0.19    2.86  293.   10.0  281.1    2.0
 09 01 01   1 14   69.0 -9.000 -9.000 -9.000  402. -999. -99999.0  0.04   0.55
0.20    0.00    0.   10.0  282.1    2.0
 09 01 01   1 15   49.6  0.205  0.847  0.017  445.  223.    -15.9  0.04   0.55
0.23    2.36  999.   10.0  283.1    2.0
 09 01 01   1 16   18.0  0.192  0.607  0.016  451.  202.    -35.7  0.04   0.55
0.31    2.36  999.   10.0  283.1    2.0
 09 01 01   1 17  -17.1  0.203 -9.000 -9.000 -999.  220.     44.6  0.04   0.55
0.55    3.36  999.   10.0  282.1    2.0
 09 01 01   1 18  -11.3  0.104 -9.000 -9.000 -999.   86.      9.1  0.04   0.55
1.00    2.86  337.   10.0  282.1    2.0
 09 01 01   1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↟ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                PAGE  16
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
566976.00	4149399.00	0.00005	566976.00	4149419.00	0.00005
566976.00	4149439.00	0.00005	566976.00	4149459.00	0.00005
566976.00	4149479.00	0.00005	566976.00	4149499.00	0.00005
566976.00	4149519.00	0.00006	566976.00	4149539.00	0.00006
566976.00	4149559.00	0.00006	566976.00	4149579.00	0.00006
566976.00	4149599.00	0.00006	566976.00	4149619.00	0.00006
566976.00	4149659.00	0.00007	566996.00	4149359.00	0.00005
566996.00	4149379.00	0.00005	566996.00	4149399.00	0.00005
566996.00	4149419.00	0.00005	566996.00	4149439.00	0.00006
566996.00	4149459.00	0.00006	566996.00	4149479.00	0.00006
566996.00	4149499.00	0.00006	566996.00	4149519.00	0.00006
566996.00	4149539.00	0.00006	566996.00	4149559.00	0.00006
566996.00	4149579.00	0.00006	566996.00	4149599.00	0.00007
566996.00	4149619.00	0.00007	567016.00	4149339.00	0.00006
567016.00	4149359.00	0.00006	567016.00	4149379.00	0.00006
567016.00	4149399.00	0.00006	567016.00	4149419.00	0.00006

```
         567016.00    4149439.00        0.00006                    567016.00
4149459.00        0.00006
         567016.00    4149479.00        0.00006                    567016.00
4149499.00        0.00006
         567016.00    4149519.00        0.00006                    567016.00
4149539.00        0.00007
         567016.00    4149559.00        0.00007                    567016.00
4149579.00        0.00007
         567016.00    4149599.00        0.00007                    567016.00
4149819.00        0.00012
         567036.00    4149319.00        0.00006                    567036.00
4149339.00        0.00006
         567036.00    4149359.00        0.00006                    567036.00
4149379.00        0.00006
         567036.00    4149399.00        0.00006                    567036.00
4149419.00        0.00006
         567036.00    4149439.00        0.00007                    567036.00
4149459.00        0.00007
         567036.00    4149479.00        0.00007                    567036.00
4149499.00        0.00007
         567036.00    4149519.00        0.00007                    567036.00
4149539.00        0.00007
         567036.00    4149559.00        0.00007                    567036.00
4149579.00        0.00008
         567036.00    4149799.00        0.00013                    567036.00
4149819.00        0.00014
         567036.00    4149839.00        0.00015                    567056.00
4149299.00        0.00006
         567056.00    4149319.00        0.00007                    567056.00
4149339.00        0.00007
         567056.00    4149359.00        0.00007                    567056.00
4149379.00        0.00007
         567056.00    4149399.00        0.00007                    567056.00
4149419.00        0.00007
         567056.00    4149439.00        0.00007                    567056.00
4149459.00        0.00007
         567056.00    4149479.00        0.00007                    567056.00
4149499.00        0.00007
         567056.00    4149519.00        0.00008                    567056.00
4149539.00        0.00008
         567056.00    4149559.00        0.00008                    567056.00
4149779.00        0.00014
         567056.00    4149799.00        0.00015                    567056.00
4149819.00        0.00016
         567056.00    4149839.00        0.00017                    567056.00
4149859.00        0.00017
         567076.00    4149279.00        0.00007                    567076.00
4149299.00        0.00007
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 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                     **

       X-COORD (M)   Y-COORD (M)        CONC                         X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         567076.00    4149319.00        0.00007                        567076.00
4149339.00        0.00007
         567076.00    4149359.00        0.00007                        567076.00
4149379.00        0.00007
         567076.00    4149399.00        0.00008                        567076.00
4149419.00        0.00008
         567076.00    4149439.00        0.00008                        567076.00
4149459.00        0.00008
         567076.00    4149479.00        0.00008                        567076.00
4149499.00        0.00008
         567076.00    4149519.00        0.00008                        567076.00
4149539.00        0.00009
         567076.00    4149759.00        0.00015                        567076.00
4149779.00        0.00016
         567076.00    4149799.00        0.00017                        567076.00
4149819.00        0.00018
         567076.00    4149839.00        0.00019                        567076.00
4149859.00        0.00020
         567096.00    4149279.00        0.00008                        567096.00
4149299.00        0.00008
         567096.00    4149319.00        0.00008                        567096.00
4149339.00        0.00008
         567096.00    4149359.00        0.00008                        567096.00
4149379.00        0.00008
         567096.00    4149399.00        0.00008                        567096.00
4149419.00        0.00008
         567096.00    4149439.00        0.00009                        567096.00
4149459.00        0.00009
```

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         567096.00    4149479.00        0.00009                    567096.00
4149499.00        0.00009
         567096.00    4149519.00        0.00009                    567096.00
4149759.00        0.00017
         567096.00    4149779.00        0.00018                    567096.00
4149799.00        0.00019
         567096.00    4149819.00        0.00020                    567096.00
4149839.00        0.00021
         567096.00    4149859.00        0.00022                    567116.00
4149279.00        0.00008
         567116.00    4149299.00        0.00009                    567116.00
4149319.00        0.00009
         567116.00    4149339.00        0.00009                    567116.00
4149359.00        0.00009
         567116.00    4149379.00        0.00009                    567116.00
4149399.00        0.00009
         567116.00    4149419.00        0.00009                    567116.00
4149439.00        0.00010
         567116.00    4149459.00        0.00010                    567116.00
4149479.00        0.00010
         567116.00    4149499.00        0.00010                    567116.00
4149739.00        0.00018
         567116.00    4149759.00        0.00019                    567116.00
4149779.00        0.00021
         567116.00    4149799.00        0.00022                    567116.00
4149819.00        0.00023
         567116.00    4149839.00        0.00024                    567116.00
4149859.00        0.00025
         567116.00    4149879.00        0.00025                    567136.00
4149259.00        0.00009
         567136.00    4149279.00        0.00009                    567136.00
4149299.00        0.00010
         567136.00    4149319.00        0.00010                    567136.00
4149339.00        0.00010
         567136.00    4149359.00        0.00010                    567136.00
4149379.00        0.00010
         567136.00    4149399.00        0.00010                    567136.00
4149419.00        0.00011
         567136.00    4149439.00        0.00011                    567136.00
4149459.00        0.00011
         567136.00    4149479.00        0.00011                    567136.00
4149719.00        0.00019
         567136.00    4149739.00        0.00020                    567136.00
4149759.00        0.00022
         567136.00    4149779.00        0.00024                    567136.00
4149799.00        0.00025
         567136.00    4149819.00        0.00027                    567136.00
4149839.00        0.00027
         567136.00    4149859.00        0.00028                    567136.00
4149879.00        0.00028
```

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                INCLUDING SOURCE(S):   A0000001   , A0000002
 , A0000003   , A0000004   , A0000005   ,
                A0000006   , A0000007   , A0000008   ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         567156.00   4149299.00   0.00011   567156.00
4149319.00   0.00011
         567156.00   4149339.00   0.00011   567156.00
4149359.00   0.00011
         567156.00   4149379.00   0.00012   567156.00
4149399.00   0.00012
         567156.00   4149419.00   0.00012   567156.00
4149439.00   0.00012
         567156.00   4149459.00   0.00012   567156.00
4149479.00   0.00013
         567156.00   4149699.00   0.00020   567156.00
4149719.00   0.00022
         567156.00   4149739.00   0.00024   567156.00
4149759.00   0.00026
         567156.00   4149779.00   0.00028   567156.00
4149799.00   0.00030
         567156.00   4149819.00   0.00031   567156.00
4149839.00   0.00031
         567156.00   4149859.00   0.00031   567156.00
4149879.00   0.00030
         567176.00   4149259.00   0.00012   567176.00
4149279.00   0.00012
         567176.00   4149299.00   0.00012   567176.00
4149319.00   0.00012

```
         567176.00    4149339.00        0.00013                    567176.00
4149359.00        0.00013
         567176.00    4149379.00        0.00013                    567176.00
4149399.00        0.00013
         567176.00    4149419.00        0.00014                    567176.00
4149439.00        0.00014
         567176.00    4149459.00        0.00014                    567176.00
4149479.00        0.00015
         567176.00    4149679.00        0.00022                    567176.00
4149699.00        0.00024
         567176.00    4149719.00        0.00026                    567176.00
4149739.00        0.00029
         567176.00    4149759.00        0.00031                    567176.00
4149779.00        0.00033
         567176.00    4149799.00        0.00035                    567176.00
4149819.00        0.00035
         567176.00    4149839.00        0.00035                    567176.00
4149859.00        0.00034
         567176.00    4149879.00        0.00033                    567196.00
4149239.00        0.00013
         567196.00    4149259.00        0.00013                    567196.00
4149279.00        0.00013
         567196.00    4149299.00        0.00014                    567196.00
4149319.00        0.00014
         567196.00    4149339.00        0.00014                    567196.00
4149359.00        0.00015
         567196.00    4149379.00        0.00015                    567196.00
4149399.00        0.00016
         567196.00    4149419.00        0.00016                    567196.00
4149439.00        0.00016
         567196.00    4149459.00        0.00017                    567196.00
4149699.00        0.00029
         567196.00    4149719.00        0.00032                    567196.00
4149739.00        0.00035
         567196.00    4149759.00        0.00038                    567196.00
4149779.00        0.00040
         567196.00    4149799.00        0.00040                    567196.00
4149819.00        0.00040
         567196.00    4149839.00        0.00038                    567196.00
4149859.00        0.00037
         567196.00    4149879.00        0.00035                    567216.00
4149239.00        0.00014
         567216.00    4149259.00        0.00015                    567216.00
4149279.00        0.00015
         567216.00    4149299.00        0.00016                    567216.00
4149319.00        0.00016
         567216.00    4149339.00        0.00017                    567216.00
4149359.00        0.00017
         567216.00    4149379.00        0.00018                    567216.00
4149399.00        0.00018
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
567216.00	4149419.00	0.00019	567216.00	4149439.00	0.00019
567216.00	4149719.00	0.00040	567216.00	4149739.00	0.00044
567216.00	4149759.00	0.00046	567216.00	4149779.00	0.00047
567216.00	4149799.00	0.00046	567216.00	4149819.00	0.00044
567216.00	4149839.00	0.00042	567216.00	4149859.00	0.00039
567216.00	4149879.00	0.00037	567236.00	4149239.00	0.00016
567236.00	4149259.00	0.00017	567236.00	4149279.00	0.00017
567236.00	4149299.00	0.00018	567236.00	4149319.00	0.00019
567236.00	4149339.00	0.00019	567236.00	4149359.00	0.00020
567236.00	4149379.00	0.00021	567236.00	4149399.00	0.00022
567236.00	4149419.00	0.00022	567236.00	4149739.00	0.00056
567236.00	4149759.00	0.00057	567236.00	4149779.00	0.00055
567236.00	4149799.00	0.00052	567236.00	4149819.00	0.00048

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        567236.00    4149839.00        0.00044                    567236.00
4149859.00        0.00041
        567236.00    4149879.00        0.00038                    567236.00
4149899.00        0.00036
        567256.00    4149219.00        0.00018                    567256.00
4149239.00        0.00018
        567256.00    4149259.00        0.00019                    567256.00
4149279.00        0.00020
        567256.00    4149299.00        0.00021                    567256.00
4149319.00        0.00021
        567256.00    4149339.00        0.00022                    567256.00
4149359.00        0.00023
        567256.00    4149379.00        0.00024                    567256.00
4149399.00        0.00026
        567256.00    4149759.00        0.00068                    567256.00
4149779.00        0.00063
        567256.00    4149799.00        0.00057                    567256.00
4149819.00        0.00051
        567256.00    4149839.00        0.00047                    567256.00
4149859.00        0.00043
        567256.00    4149879.00        0.00040                    567256.00
4149899.00        0.00037
        567276.00    4149219.00        0.00020                    567276.00
4149239.00        0.00021
        567276.00    4149259.00        0.00022                    567276.00
4149279.00        0.00023
        567276.00    4149299.00        0.00024                    567276.00
4149319.00        0.00025
        567276.00    4149339.00        0.00026                    567276.00
4149359.00        0.00027
        567276.00    4149379.00        0.00029                    567276.00
4149759.00        0.00078
        567276.00    4149779.00        0.00069                    567276.00
4149799.00        0.00061
        567276.00    4149819.00        0.00054                    567276.00
4149839.00        0.00049
        567276.00    4149859.00        0.00045                    567276.00
4149879.00        0.00041
        567276.00    4149899.00        0.00038                    567276.00
4149919.00        0.00035
        567296.00    4149219.00        0.00022                    567296.00
4149239.00        0.00023
        567296.00    4149259.00        0.00025                    567296.00
4149279.00        0.00026
        567296.00    4149299.00        0.00027                    567296.00
4149319.00        0.00029
        567296.00    4149339.00        0.00030                    567296.00
4149359.00        0.00032
        567296.00    4149739.00        0.00104                    567296.00
4149759.00        0.00086
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         567296.00    4149779.00        0.00074                       567296.00
4149799.00        0.00064
         567296.00    4149819.00        0.00057                       567296.00
4149839.00        0.00051
         567296.00    4149859.00        0.00046                       567296.00
4149879.00        0.00042
         567296.00    4149899.00        0.00039                       567296.00
4149919.00        0.00036
         567316.00    4149219.00        0.00025                       567316.00
4149239.00        0.00026
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                   PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                    INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         567316.00    4149259.00        0.00028                       567316.00
4149279.00        0.00029
         567316.00    4149299.00        0.00031                       567316.00
4149319.00        0.00033
         567316.00    4149339.00        0.00035                       567316.00
4149719.00        0.00150
         567316.00    4149739.00        0.00114                       567316.00
4149759.00        0.00092
         567316.00    4149779.00        0.00077                       567316.00
4149799.00        0.00066
         567316.00    4149819.00        0.00058                       567316.00
4149839.00        0.00052
         567316.00    4149859.00        0.00047                       567316.00
4149879.00        0.00043
         567316.00    4149899.00        0.00039                       567316.00
4149919.00        0.00036
```

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         567336.00    4149219.00        0.00028                    567336.00
4149239.00        0.00030
         567336.00    4149259.00        0.00032                    567336.00
4149279.00        0.00034
         567336.00    4149299.00        0.00036                    567336.00
4149319.00        0.00038
         567336.00    4149699.00        0.00231                    567336.00
4149719.00        0.00155
         567336.00    4149739.00        0.00117                    567336.00
4149759.00        0.00094
         567336.00    4149779.00        0.00079                    567336.00
4149799.00        0.00068
         567336.00    4149819.00        0.00059                    567336.00
4149839.00        0.00053
         567336.00    4149859.00        0.00048                    567336.00
4149879.00        0.00044
         567336.00    4149899.00        0.00040                    567336.00
4149919.00        0.00037
         567356.00    4149219.00        0.00032                    567356.00
4149239.00        0.00034
         567356.00    4149259.00        0.00036                    567356.00
4149279.00        0.00038
         567356.00    4149299.00        0.00041                    567356.00
4149659.00        0.00884
         567356.00    4149679.00        0.00404                    567356.00
4149699.00        0.00211
         567356.00    4149719.00        0.00148                    567356.00
4149739.00        0.00115
         567356.00    4149759.00        0.00094                    567356.00
4149779.00        0.00079
         567356.00    4149799.00        0.00068                    567356.00
4149819.00        0.00060
         567356.00    4149839.00        0.00053                    567356.00
4149859.00        0.00048
         567356.00    4149879.00        0.00044                    567356.00
4149899.00        0.00040
         567356.00    4149919.00        0.00037                    567376.00
4149219.00        0.00035
         567376.00    4149239.00        0.00038                    567376.00
4149259.00        0.00040
         567376.00    4149279.00        0.00043                    567376.00
4149659.00        0.00553
         567376.00    4149679.00        0.00317                    567376.00
4149699.00        0.00192
         567376.00    4149719.00        0.00137                    567376.00
4149739.00        0.00110
         567376.00    4149759.00        0.00091                    567376.00
4149779.00        0.00078
         567376.00    4149799.00        0.00068                    567376.00
4149819.00        0.00060
```

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         567376.00    4149839.00        0.00053                       567376.00
4149859.00        0.00048
         567376.00    4149879.00        0.00044                       567376.00
4149899.00        0.00040
         567376.00    4149919.00        0.00037                       567396.00
4149219.00        0.00040
         567396.00    4149239.00        0.00042                       567396.00
4149259.00        0.00046
         567396.00    4149619.00        0.00988                       567396.00
4149639.00        0.00625
         567396.00    4149659.00        0.00403                       567396.00
4149679.00        0.00260
         567396.00    4149699.00        0.00174                       567396.00
4149719.00        0.00128
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                  PAGE  21
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         567396.00    4149739.00        0.00103                       567396.00
4149759.00        0.00087
         567396.00    4149779.00        0.00075                       567396.00
4149799.00        0.00066
         567396.00    4149819.00        0.00059                       567396.00
4149839.00        0.00053
         567396.00    4149859.00        0.00048                       567396.00
4149879.00        0.00044
         567396.00    4149899.00        0.00040                       567396.00
4149919.00        0.00037
         567416.00    4149219.00        0.00044                       567416.00
4149239.00        0.00048
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         567416.00    4149599.00        0.00989                    567416.00
4149619.00        0.00653
         567416.00    4149639.00        0.00453                    567416.00
4149659.00        0.00317
         567416.00    4149679.00        0.00221                    567416.00
4149699.00        0.00159
         567416.00    4149719.00        0.00121                    567416.00
4149739.00        0.00098
         567416.00    4149759.00        0.00083                    567416.00
4149779.00        0.00073
         567416.00    4149799.00        0.00064                    567416.00
4149819.00        0.00058
         567416.00    4149839.00        0.00052                    567416.00
4149859.00        0.00048
         567416.00    4149879.00        0.00044                    567416.00
4149899.00        0.00040
         567416.00    4149919.00        0.00037                    567436.00
4149219.00        0.00050
         567436.00    4149579.00        0.00976                    567436.00
4149599.00        0.00672
         567436.00    4149619.00        0.00484                    567436.00
4149639.00        0.00354
         567436.00    4149659.00        0.00262                    567436.00
4149679.00        0.00194
         567436.00    4149699.00        0.00145                    567436.00
4149719.00        0.00113
         567436.00    4149739.00        0.00093                    567436.00
4149759.00        0.00079
         567436.00    4149779.00        0.00070                    567436.00
4149799.00        0.00063
         567436.00    4149819.00        0.00056                    567436.00
4149839.00        0.00051
         567436.00    4149859.00        0.00047                    567436.00
4149879.00        0.00043
         567436.00    4149899.00        0.00040                    567436.00
4149919.00        0.00037
         567456.00    4149559.00        0.00964                    567456.00
4149579.00        0.00678
         567456.00    4149599.00        0.00501                    567456.00
4149619.00        0.00380
         567456.00    4149639.00        0.00291                    567456.00
4149659.00        0.00223
         567456.00    4149679.00        0.00172                    567456.00
4149699.00        0.00134
         567456.00    4149719.00        0.00107                    567456.00
4149739.00        0.00089
         567456.00    4149759.00        0.00076                    567456.00
4149779.00        0.00067
         567456.00    4149799.00        0.00060                    567456.00
4149819.00        0.00055
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         567456.00    4149839.00        0.00050                       567456.00
4149859.00        0.00046
         567456.00    4149879.00        0.00043                       567456.00
4149899.00        0.00040
         567456.00    4149919.00        0.00037                       567476.00
4149539.00        0.00946
         567476.00    4149559.00        0.00677                       567476.00
4149579.00        0.00512
         567476.00    4149599.00        0.00396                       567476.00
4149619.00        0.00311
         567476.00    4149639.00        0.00246                       567476.00
4149659.00        0.00195
         567476.00    4149679.00        0.00155                       567476.00
4149699.00        0.00124
         567476.00    4149719.00        0.00101                       567476.00
4149739.00        0.00085
         567476.00    4149759.00        0.00073                       567476.00
4149779.00        0.00065
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                                   A0000006    , A0000007    , A0000008    ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                          X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         567476.00    4149799.00        0.00058                       567476.00
4149819.00        0.00053
         567476.00    4149839.00        0.00049                       567476.00
4149859.00        0.00045
         567476.00    4149879.00        0.00042                       567476.00
4149899.00        0.00039
         567476.00    4149919.00        0.00036                       567496.00
4149519.00        0.00921
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         567496.00    4149539.00        0.00674                    567496.00
4149559.00        0.00514
         567496.00    4149579.00        0.00404                    567496.00
4149599.00        0.00324
         567496.00    4149619.00        0.00262                    567496.00
4149639.00        0.00213
         567496.00    4149659.00        0.00173                    567496.00
4149679.00        0.00141
         567496.00    4149699.00        0.00115                    567496.00
4149719.00        0.00096
         567496.00    4149739.00        0.00081                    567496.00
4149759.00        0.00071
         567496.00    4149779.00        0.00063                    567496.00
4149799.00        0.00057
         567496.00    4149819.00        0.00052                    567496.00
4149839.00        0.00048
         567496.00    4149859.00        0.00044                    567496.00
4149879.00        0.00041
         567496.00    4149899.00        0.00038                    567516.00
4149499.00        0.00888
         567516.00    4149519.00        0.00665                    567516.00
4149539.00        0.00516
         567516.00    4149559.00        0.00410                    567516.00
4149579.00        0.00333
         567516.00    4149599.00        0.00274                    567516.00
4149619.00        0.00227
         567516.00    4149639.00        0.00188                    567516.00
4149659.00        0.00156
         567516.00    4149679.00        0.00129                    567516.00
4149699.00        0.00108
         567516.00    4149719.00        0.00091                    567516.00
4149739.00        0.00078
         567516.00    4149759.00        0.00068                    567516.00
4149779.00        0.00061
         567516.00    4149799.00        0.00055                    567516.00
4149819.00        0.00050
         567516.00    4149839.00        0.00046                    567516.00
4149859.00        0.00043
         567516.00    4149879.00        0.00040                    567536.00
4149479.00        0.00867
         567536.00    4149499.00        0.00653                    567536.00
4149519.00        0.00515
         567536.00    4149539.00        0.00415                    567536.00
4149559.00        0.00340
         567536.00    4149579.00        0.00282                    567536.00
4149599.00        0.00237
         567536.00    4149619.00        0.00200                    567536.00
4149639.00        0.00168
         567536.00    4149659.00        0.00142                    567536.00
4149679.00        0.00120
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         567536.00    4149699.00        0.00102                      567536.00
4149719.00        0.00087
         567536.00    4149739.00        0.00075                      567536.00
4149759.00        0.00066
         567536.00    4149779.00        0.00059                      567536.00
4149799.00        0.00053
         567536.00    4149819.00        0.00049                      567536.00
4149839.00        0.00045
         567536.00    4149859.00        0.00042                      567556.00
4149219.00        0.00106
         567556.00    4149459.00        0.00845                      567556.00
4149479.00        0.00646
         567556.00    4149499.00        0.00514                      567556.00
4149519.00        0.00418
         567556.00    4149539.00        0.00346                      567556.00
4149559.00        0.00290
         567556.00    4149579.00        0.00246                      567556.00
4149599.00        0.00209
         567556.00    4149619.00        0.00178                      567556.00
4149639.00        0.00152
         567556.00    4149659.00        0.00130                      567556.00
4149679.00        0.00112
```

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         567556.00    4149699.00        0.00096                      567556.00
4149719.00        0.00083
         567556.00    4149739.00        0.00072                      567556.00
4149759.00        0.00064
```

```
         567556.00    4149779.00        0.00057                    567556.00
4149799.00        0.00052
         567556.00    4149819.00        0.00048                    567556.00
4149839.00        0.00044
         567576.00    4149219.00        0.00125                    567576.00
4149239.00        0.00145
         567576.00    4149419.00        0.01150                    567576.00
4149439.00        0.00825
         567576.00    4149459.00        0.00634                    567576.00
4149479.00        0.00508
         567576.00    4149499.00        0.00417                    567576.00
4149519.00        0.00349
         567576.00    4149539.00        0.00296                    567576.00
4149559.00        0.00253
         567576.00    4149579.00        0.00217                    567576.00
4149599.00        0.00187
         567576.00    4149619.00        0.00162                    567576.00
4149639.00        0.00140
         567576.00    4149659.00        0.00121                    567576.00
4149679.00        0.00105
         567576.00    4149699.00        0.00091                    567576.00
4149719.00        0.00079
         567576.00    4149739.00        0.00070                    567576.00
4149759.00        0.00062
         567576.00    4149779.00        0.00056                    567576.00
4149799.00        0.00051
         567576.00    4149819.00        0.00046                    567596.00
4149219.00        0.00148
         567596.00    4149239.00        0.00175                    567596.00
4149259.00        0.00212
         567596.00    4149399.00        0.01100                    567596.00
4149419.00        0.00805
         567596.00    4149439.00        0.00625                    567596.00
4149459.00        0.00503
         567596.00    4149479.00        0.00416                    567596.00
4149499.00        0.00349
         567596.00    4149519.00        0.00299                    567596.00
4149539.00        0.00258
         567596.00    4149559.00        0.00224                    567596.00
4149579.00        0.00194
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4149619.00        0.00148
         567596.00    4149639.00        0.00129                    567596.00
4149659.00        0.00113
         567596.00    4149679.00        0.00098                    567596.00
4149699.00        0.00086
         567596.00    4149719.00        0.00076                    567596.00
4149739.00        0.00067
         567596.00    4149759.00        0.00060                    567596.00
4149779.00        0.00054
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         567596.00    4149799.00        0.00049                      567616.00
4149219.00        0.00178
         567616.00    4149239.00        0.00216                      567616.00
4149259.00        0.00271
         567616.00    4149399.00        0.00785                      567616.00
4149419.00        0.00615
         567616.00    4149439.00        0.00499                      567616.00
4149459.00        0.00417
         567616.00    4149479.00        0.00353                      567616.00
4149499.00        0.00302
         567616.00    4149519.00        0.00262                      567616.00
4149539.00        0.00229
         567616.00    4149559.00        0.00200                      567616.00
4149579.00        0.00176
         567616.00    4149599.00        0.00155                      567616.00
4149619.00        0.00137
         567616.00    4149639.00        0.00120                      567616.00
4149659.00        0.00106
         567616.00    4149679.00        0.00093                      567616.00
4149699.00        0.00082
         567616.00    4149719.00        0.00073                      567616.00
4149739.00        0.00065
         567616.00    4149759.00        0.00059                      567616.00
4149779.00        0.00053
         567616.00    4149799.00        0.00048                      567636.00
4149219.00        0.00218
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                  PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                      ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
```

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         567636.00    4149239.00        0.00275                    567636.00
4149259.00        0.00362
         567636.00    4149279.00        0.00501                    567636.00
4149359.00        0.01011
         567636.00    4149379.00        0.00769                    567636.00
4149399.00        0.00606
         567636.00    4149419.00        0.00496                    567636.00
4149439.00        0.00415
         567636.00    4149459.00        0.00354                    567636.00
4149479.00        0.00305
         567636.00    4149499.00        0.00266                    567636.00
4149519.00        0.00233
         567636.00    4149539.00        0.00206                    567636.00
4149559.00        0.00182
         567636.00    4149579.00        0.00161                    567636.00
4149599.00        0.00143
         567636.00    4149619.00        0.00127                    567636.00
4149639.00        0.00113
         567636.00    4149659.00        0.00100                    567636.00
4149679.00        0.00089
         567636.00    4149699.00        0.00079                    567636.00
4149719.00        0.00070
         567636.00    4149739.00        0.00063                    567636.00
4149759.00        0.00057
         567636.00    4149779.00        0.00052                    567636.00
4149799.00        0.00047
         567656.00    4149219.00        0.00274                    567656.00
4149239.00        0.00360
         567656.00    4149259.00        0.00506                    567656.00
4149279.00        0.00780
         567656.00    4149299.00        0.01451                    567656.00
4149339.00        0.00979
         567656.00    4149359.00        0.00748                    567656.00
4149379.00        0.00598
         567656.00    4149399.00        0.00491                    567656.00
4149419.00        0.00414
         567656.00    4149439.00        0.00355                    567656.00
4149459.00        0.00307
         567656.00    4149479.00        0.00269                    567656.00
4149499.00        0.00237
         567656.00    4149519.00        0.00210                    567656.00
4149539.00        0.00187
         567656.00    4149559.00        0.00167                    567656.00
4149579.00        0.00149
         567656.00    4149599.00        0.00133                    567656.00
4149619.00        0.00119
         567656.00    4149639.00        0.00106                    567656.00
4149659.00        0.00095
         567656.00    4149679.00        0.00085                    567656.00
4149699.00        0.00076
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         567656.00    4149719.00        0.00068                      567656.00
4149739.00        0.00061
         567656.00    4149759.00        0.00055                      567656.00
4149779.00        0.00050
         567676.00    4149219.00        0.00353                      567676.00
4149239.00        0.00492
         567676.00    4149259.00        0.00756                      567676.00
4149279.00        0.01480
         567676.00    4149299.00        0.01504                      567676.00
4149319.00        0.00969
         567676.00    4149339.00        0.00739                      567676.00
4149359.00        0.00591
         567676.00    4149379.00        0.00488                      567676.00
4149399.00        0.00411
         567676.00    4149419.00        0.00354                      567676.00
4149439.00        0.00309
         567676.00    4149459.00        0.00271                      567676.00
4149479.00        0.00240
         567676.00    4149499.00        0.00214                      567676.00
4149519.00        0.00191
         567676.00    4149539.00        0.00171                      567676.00
4149559.00        0.00154
         567676.00    4149579.00        0.00139                      567676.00
4149599.00        0.00124
         567676.00    4149619.00        0.00112                      567676.00
4149639.00        0.00100
         567676.00    4149659.00        0.00090                      567676.00
4149679.00        0.00081
         567676.00    4149699.00        0.00073                      567676.00
4149719.00        0.00066
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                  PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **
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       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         567676.00    4149739.00        0.00059                       567676.00
4149759.00        0.00054
         567676.00    4149779.00        0.00049

↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:52:58

                                   PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
        566976.00   4149399.00        0.01302  (13072702)               566976.00
 4149419.00        0.01289  (13072702)
        566976.00   4149439.00        0.01301  (13071906)               566976.00
 4149459.00        0.01319  (13071906)
        566976.00   4149479.00        0.01291  (13071906)               566976.00
 4149499.00        0.01314  (11112308)
        566976.00   4149519.00        0.01327  (11112308)               566976.00
 4149539.00        0.01341  (13122222)
        566976.00   4149559.00        0.01328  (13122222)               566976.00
 4149579.00        0.01319  (13122222)
        566976.00   4149599.00        0.01326  (10121208)               566976.00
 4149619.00        0.01399  (10121208)
        566976.00   4149659.00        0.01490  (13082002)               566996.00
 4149359.00        0.01290  (11123006)
        566996.00   4149379.00        0.01302  (13072702)               566996.00
 4149399.00        0.01329  (13072702)
        566996.00   4149419.00        0.01286  (13072702)               566996.00
 4149439.00        0.01303  (13071906)
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       566996.00   4149539.00        0.01352  (13122222)               566996.00
4149559.00        0.01356  (13122222)
       566996.00   4149579.00        0.01323  (13122222)               566996.00
4149599.00        0.01400  (10121208)
       566996.00   4149619.00        0.01463  (10121208)               567016.00
4149339.00        0.01283  (11123006)
       567016.00   4149359.00        0.01279  (11123006)               567016.00
4149379.00        0.01299  (13072702)
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4149419.00        0.01308  (13072702)
       567016.00   4149439.00        0.01346  (13071906)               567016.00
4149459.00        0.01366  (13071906)
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       567016.00   4149519.00        0.01369  (13122222)               567016.00
4149539.00        0.01386  (13122222)
       567016.00   4149559.00        0.01366  (13122222)               567016.00
4149579.00        0.01386  (10121208)
       567016.00   4149599.00        0.01464  (10121208)               567016.00
4149819.00        0.02149  (13011221)
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4149339.00        0.01314  (11123006)
       567036.00   4149359.00        0.01303  (11123006)               567036.00
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       567036.00   4149439.00        0.01377  (13071906)               567036.00
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       567036.00   4149519.00        0.01410  (13122222)               567036.00
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       567036.00   4149559.00        0.01393  (13122222)               567036.00
4149579.00        0.01458  (10121208)
       567036.00   4149799.00        0.02212  (10121007)               567036.00
4149819.00        0.02332  (13011221)
       567036.00   4149839.00        0.02396  (10012308)               567056.00
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       567056.00   4149359.00        0.01328  (11123006)               567056.00
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       567056.00   4149439.00        0.01417  (13071906)               567056.00
4149459.00        0.01425  (13071906)
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       567096.00   4149279.00        0.01335  (12122904)               567096.00
4149299.00        0.01369  (12082403)
       567096.00   4149319.00        0.01407  (12082403)               567096.00
4149339.00        0.01409  (11123006)
       567096.00   4149359.00        0.01394  (11123006)               567096.00
4149379.00        0.01420  (13072702)
       567096.00   4149399.00        0.01428  (13072702)               567096.00
4149419.00        0.01445  (13071906)
       567096.00   4149439.00        0.01470  (13071906)               567096.00
4149459.00        0.01483  (11112308)
       567096.00   4149479.00        0.01496  (11112308)               567096.00
4149499.00        0.01515  (13122222)
       567096.00   4149519.00        0.01513  (13122222)               567096.00
4149759.00        0.02507  (10121007)
       567096.00   4149779.00        0.02679  (13011221)               567096.00
4149799.00        0.02797  (10012308)
       567096.00   4149819.00        0.02939  (12111507)               567096.00
4149839.00        0.02925  (12031522)
       567096.00   4149859.00        0.02845  (12122802)               567116.00
4149279.00        0.01362  (12122904)
       567116.00   4149299.00        0.01395  (12082403)               567116.00
4149319.00        0.01444  (12082403)
       567116.00   4149339.00        0.01446  (11123006)               567116.00
4149359.00        0.01415  (13072702)
       567116.00   4149379.00        0.01462  (13072702)               567116.00
4149399.00        0.01461  (13072702)
       567116.00   4149419.00        0.01492  (13071906)               567116.00
4149439.00        0.01494  (13071906)
       567116.00   4149459.00        0.01522  (11112308)               567116.00
4149479.00        0.01532  (13122222)
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4149739.00        0.02575  (10121007)
       567116.00   4149759.00        0.02745  (13011221)               567116.00
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       567116.00   4149799.00        0.03111  (12111507)               567116.00
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4149859.00        0.03059  (11121506)
       567116.00   4149879.00        0.03060  (12093019)               567136.00
4149259.00        0.01430  (11032707)
       567136.00   4149279.00        0.01394  (11032707)               567136.00
4149299.00        0.01439  (12082403)
       567136.00   4149319.00        0.01483  (12082403)               567136.00
4149339.00        0.01454  (11123006)
       567136.00   4149359.00        0.01466  (13072702)               567136.00
4149379.00        0.01489  (13072702)
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 4149459.00        0.01565  (11112308)
       567136.00   4149479.00        0.01584  (13122222)                567136.00
 4149719.00        0.02621  (10121007)
       567136.00   4149739.00        0.02790  (13011221)                567136.00
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       567136.00   4149779.00        0.03277  (12111507)                567136.00
 4149799.00        0.03338  (11052506)
       567136.00   4149819.00        0.03308  (12122802)                567136.00
 4149839.00        0.03311  (11011920)
       567136.00   4149859.00        0.03312  (12093019)                567136.00
 4149879.00        0.03162  (12050306)
       567156.00   4149259.00        0.01460  (11032707)                567156.00
 4149279.00        0.01427  (12122904)
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View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                  PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 4149319.00        0.01493  (12082403)
       567156.00   4149339.00        0.01492  (11123006)                567156.00
 4149359.00        0.01510  (13072702)
       567156.00   4149379.00        0.01530  (13072702)                567156.00
 4149399.00        0.01548  (13071906)
       567156.00   4149419.00        0.01578  (13071906)                567156.00
 4149439.00        0.01598  (11112308)
       567156.00   4149459.00        0.01608  (11112308)                567156.00
 4149479.00        0.01636  (13122222)
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       567156.00   4149779.00        0.03615  (12111507)               567156.00
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       567156.00   4149819.00        0.03606  (11011920)               567156.00
4149839.00        0.03610  (12093019)
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       567216.00   4149719.00        0.04409  (12111507)                567216.00
 4149739.00        0.04762  (12031522)
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 4149779.00        0.04966  (12093019)
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View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:52:58

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 4149239.00        0.01555  (13031922)
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       567236.00   4149379.00        0.01739  (13071906)               567236.00
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4149399.00        0.01834  (13071906)
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:52:58

                                   PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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4149899.00        0.01451  (11012907)
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:52:58

                                   PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                A0000006    , A0000007    , A0000008    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
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 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
        567396.00   4149739.00        0.02169  (10120207)                567396.00
 4149759.00         0.01970  (11012907)
        567396.00   4149779.00        0.01825  (11012907)                567396.00
 4149799.00         0.01703  (11012907)
        567396.00   4149819.00        0.01596  (11012907)                567396.00
 4149839.00         0.01503  (11012907)
        567396.00   4149859.00        0.01421  (11012907)                567396.00
 4149879.00         0.01348  (11012907)
        567396.00   4149899.00        0.01282  (11012907)                567396.00
 4149919.00         0.01222  (11012907)
        567416.00   4149219.00        0.02096  (13031922)                567416.00
 4149239.00         0.02148  (11032707)
        567416.00   4149599.00        0.07297  (12020106)                567416.00
 4149619.00         0.04994  (13042222)
        567416.00   4149639.00        0.03874  (13050322)                567416.00
 4149659.00         0.03186  (13050322)
        567416.00   4149679.00        0.02714  (13050604)                567416.00
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 4149599.00         0.04764  (13042222)
        567436.00   4149619.00        0.03736  (13050322)                567436.00
 4149639.00         0.03073  (13050604)
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 4149719.00         0.01928  (11012907)
        567436.00   4149739.00        0.01785  (11012907)                567436.00
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 4149919.00         0.01072  (11123123)
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       567456.00   4149639.00        0.02545  (10120207)               567456.00
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 4149779.00        0.01438  (11012907)
       567456.00   4149799.00        0.01355  (11012907)               567456.00
 4149819.00        0.01279  (11012907)
       567456.00   4149839.00        0.01212  (11123123)               567456.00
 4149859.00        0.01153  (11123123)
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 4149579.00        0.03437  (13050322)
       567476.00   4149599.00        0.02858  (13050604)               567476.00
 4149619.00        0.02500  (11012907)
       567476.00   4149639.00        0.02246  (11012907)               567476.00
 4149659.00        0.02040  (11012907)
       567476.00   4149679.00        0.01870  (11012907)               567476.00
 4149699.00        0.01728  (11012907)
       567476.00   4149719.00        0.01606  (11012907)               567476.00
 4149739.00        0.01500  (11012907)
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:52:58

                                   PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                A0000006    , A0000007    , A0000008    ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                      ** CONC OF PM_2.5   IN MICROGRAMS/M**3
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**

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567476.00	4149799.00	0.01250	(11123123)	567476.00	4149819.00	0.01184	(11123123)
567476.00	4149839.00	0.01124	(11123123)	567476.00	4149859.00	0.01071	(11123123)
567476.00	4149879.00	0.01024	(13033124)	567476.00	4149899.00	0.00988	(13033124)
567476.00	4149919.00	0.00955	(13033124)	567496.00	4149519.00	0.05662	(13042222)
567496.00	4149539.00	0.04148	(13050322)	567496.00	4149559.00	0.03287	(13050604)
567496.00	4149579.00	0.02779	(11012907)	567496.00	4149599.00	0.02453	(11012907)
567496.00	4149619.00	0.02203	(11012907)	567496.00	4149639.00	0.02001	(11012907)
567496.00	4149659.00	0.01833	(11012907)	567496.00	4149679.00	0.01690	(11012907)
567496.00	4149699.00	0.01568	(11012907)	567496.00	4149719.00	0.01461	(11012907)
567496.00	4149739.00	0.01369	(11123123)	567496.00	4149759.00	0.01289	(11123123)
567496.00	4149779.00	0.01217	(11123123)	567496.00	4149799.00	0.01153	(11123123)
567496.00	4149819.00	0.01098	(13033124)	567496.00	4149839.00	0.01056	(13033124)
567496.00	4149859.00	0.01017	(13033124)	567496.00	4149879.00	0.00981	(13033124)
567496.00	4149899.00	0.00949	(13033124)	567516.00	4149499.00	0.05284	(13050322)
567516.00	4149519.00	0.03930	(13050322)	567516.00	4149539.00	0.03161	(11012907)
567516.00	4149559.00	0.02722	(11012907)	567516.00	4149579.00	0.02399	(11012907)
567516.00	4149599.00	0.02152	(11012907)	567516.00	4149619.00	0.01952	(11012907)
567516.00	4149639.00	0.01786	(11012907)	567516.00	4149659.00	0.01644	(11012907)
567516.00	4149679.00	0.01523	(11123123)	567516.00	4149699.00	0.01421	(11123123)
567516.00	4149719.00	0.01331	(11123123)	567516.00	4149739.00	0.01251	(11123123)
567516.00	4149759.00	0.01187	(13033124)	567516.00	4149779.00	0.01136	(13033124)
567516.00	4149799.00	0.01089	(13033124)	567516.00	4149819.00	0.01047	(13033124)

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       567516.00   4149879.00        0.00939  (13033124)                567536.00
 4149479.00        0.05090  (11112724)
       567536.00   4149499.00        0.03732  (12013119)                567536.00
 4149519.00        0.03083  (11012907)
       567536.00   4149539.00        0.02658  (11012907)                567536.00
 4149559.00        0.02340  (11012907)
       567536.00   4149579.00        0.02091  (11012907)                567536.00
 4149599.00        0.01891  (11012907)
       567536.00   4149619.00        0.01727  (11012907)                567536.00
 4149639.00        0.01591  (11123123)
       567536.00   4149659.00        0.01475  (11123123)                567536.00
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       567536.00   4149699.00        0.01297  (13033124)                567536.00
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       567536.00   4149739.00        0.01175  (13033124)                567536.00
 4149759.00        0.01124  (13033124)
       567536.00   4149779.00        0.01078  (13033124)                567536.00
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       567536.00   4149819.00        0.00997  (13033124)                567536.00
 4149839.00        0.00961  (13033124)
       567536.00   4149859.00        0.00928  (13033124)                567556.00
 4149219.00        0.02932  (13031922)
       567556.00   4149459.00        0.04989  (11112724)                567556.00
 4149479.00        0.03672  (12013119)
       567556.00   4149499.00        0.02996  (11012907)                567556.00
 4149519.00        0.02578  (11012907)
       567556.00   4149539.00        0.02263  (11012907)                567556.00
 4149559.00        0.02017  (11012907)
       567556.00   4149579.00        0.01822  (11123123)                567556.00
 4149599.00        0.01663  (11123123)
       567556.00   4149619.00        0.01530  (11123123)                567556.00
 4149639.00        0.01430  (13033124)
       567556.00   4149659.00        0.01349  (13033124)                567556.00
 4149679.00        0.01279  (13033124)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                  PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                A0000006    , A0000007    , A0000008    ,
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*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
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567556.00	4149779.00	0.01019	(13033124)	567556.00	4149799.00	0.00981	(13033124)
567556.00	4149819.00	0.00945	(13033124)	567556.00	4149839.00	0.00912	(13033124)
567576.00	4149219.00	0.03110	(13031922)	567576.00	4149239.00	0.03218	(11032707)
567576.00	4149419.00	0.07470	(13063024)	567576.00	4149439.00	0.04887	(11112724)
567576.00	4149459.00	0.03601	(12013119)	567576.00	4149479.00	0.02976	(12013119)
567576.00	4149499.00	0.02470	(11012907)	567576.00	4149519.00	0.02165	(11012907)
567576.00	4149539.00	0.01931	(11123123)	567576.00	4149559.00	0.01746	(11123123)
567576.00	4149579.00	0.01607	(13033124)	567576.00	4149599.00	0.01498	(13033124)
567576.00	4149619.00	0.01405	(13033124)	567576.00	4149639.00	0.01325	(13033124)
567576.00	4149659.00	0.01255	(13033124)	567576.00	4149679.00	0.01191	(13033124)
567576.00	4149699.00	0.01136	(13033124)	567576.00	4149719.00	0.01086	(13033124)
567576.00	4149739.00	0.01040	(13033124)	567576.00	4149759.00	0.00998	(13033124)
567576.00	4149779.00	0.00960	(13033124)	567576.00	4149799.00	0.00925	(13033124)
567576.00	4149819.00	0.00893	(13033124)	567596.00	4149219.00	0.03315	(13031922)
567596.00	4149239.00	0.03447	(11032707)	567596.00	4149259.00	0.03712	(12082403)
567596.00	4149399.00	0.07113	(13063024)	567596.00	4149419.00	0.04785	(11112724)
567596.00	4149439.00	0.03534	(12013119)	567596.00	4149459.00	0.02951	(12013119)
567596.00	4149479.00	0.02483	(12013119)	567596.00	4149499.00	0.02072	(13091202)

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 4149579.00        0.01463  (13033124)
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 4149259.00        0.04072  (12082403)
       567616.00   4149399.00        0.04682  (11112724)                567616.00
 4149419.00        0.03491  (11112724)
       567616.00   4149439.00        0.02921  (12013119)                567616.00
 4149459.00        0.02496  (12013119)
       567616.00   4149479.00        0.02121  (13091202)                567616.00
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       567616.00   4149679.00        0.01024  (13033124)                567616.00
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       567616.00   4149759.00        0.00878  (13033124)                567616.00
 4149779.00        0.00848  (13033124)
       567616.00   4149799.00        0.00821  (13033124)                567636.00
 4149219.00        0.03837  (13031922)
↟ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                  PAGE  34
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
```

INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567636.00	4149239.00	0.04064	(11032707)	567636.00	4149259.00	0.04542	(12082403)
567636.00	4149279.00	0.05313	(13072702)	567636.00	4149359.00	0.06506	(13063024)
567636.00	4149379.00	0.04585	(11112724)	567636.00	4149399.00	0.03478	(11112724)
567636.00	4149419.00	0.02888	(12013119)	567636.00	4149439.00	0.02493	(12013119)
567636.00	4149459.00	0.02147	(13091202)	567636.00	4149479.00	0.01821	(13091202)
567636.00	4149499.00	0.01624	(09011321)	567636.00	4149519.00	0.01493	(11113005)
567636.00	4149539.00	0.01391	(11113005)	567636.00	4149559.00	0.01288	(11113005)
567636.00	4149579.00	0.01209	(12103120)	567636.00	4149599.00	0.01148	(12103120)
567636.00	4149619.00	0.01094	(12103120)	567636.00	4149639.00	0.01045	(12103120)
567636.00	4149659.00	0.01000	(12103120)	567636.00	4149679.00	0.00960	(12103120)
567636.00	4149699.00	0.00924	(12103120)	567636.00	4149719.00	0.00891	(12103120)
567636.00	4149739.00	0.00860	(12103120)	567636.00	4149759.00	0.00832	(12103120)
567636.00	4149779.00	0.00806	(12103120)	567636.00	4149799.00	0.00781	(12103120)
567656.00	4149219.00	0.04181	(13031922)	567656.00	4149239.00	0.04498	(11032707)
567656.00	4149259.00	0.05269	(12042021)	567656.00	4149279.00	0.08298	(13113024)
567656.00	4149299.00	0.13349	(12053121)	567656.00	4149339.00	0.06254	(13063024)
567656.00	4149359.00	0.04478	(11112724)	567656.00	4149379.00	0.03458	(11112724)
567656.00	4149399.00	0.02850	(12013119)	567656.00	4149419.00	0.02480	(12013119)

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 4149499.00        0.01483  (11113005)
       567656.00   4149519.00        0.01387  (11113005)                567656.00
 4149539.00        0.01298  (11113005)
       567656.00   4149559.00        0.01201  (11113005)                567656.00
 4149579.00        0.01134  (13081223)
       567656.00   4149599.00        0.01072  (12103120)                567656.00
 4149619.00        0.01025  (12103120)
       567656.00   4149639.00        0.00981  (12103120)                567656.00
 4149659.00        0.00942  (12103120)
       567656.00   4149679.00        0.00907  (12103120)                567656.00
 4149699.00        0.00875  (12103120)
       567656.00   4149719.00        0.00845  (12103120)                567656.00
 4149739.00        0.00817  (12103120)
       567656.00   4149759.00        0.00791  (12103120)                567656.00
 4149779.00        0.00767  (12103120)
       567676.00   4149219.00        0.04616  (13031922)                567676.00
 4149239.00        0.05391  (10071106)
       567676.00   4149259.00        0.08344  (13113024)                567676.00
 4149279.00        0.13774  (12053121)
       567676.00   4149299.00        0.11147  (12093019)                567676.00
 4149319.00        0.06035  (13063024)
       567676.00   4149339.00        0.04388  (11112724)                567676.00
 4149359.00        0.03431  (11112724)
       567676.00   4149379.00        0.02812  (12013119)                567676.00
 4149399.00        0.02461  (12013119)
       567676.00   4149419.00        0.02165  (12013119)                567676.00
 4149439.00        0.01897  (13091202)
       567676.00   4149459.00        0.01639  (11011218)                567676.00
 4149479.00        0.01492  (09011321)
       567676.00   4149499.00        0.01380  (11113005)                567676.00
 4149519.00        0.01298  (11113005)
       567676.00   4149539.00        0.01217  (11113005)                567676.00
 4149559.00        0.01134  (13081223)
       567676.00   4149579.00        0.01075  (13081223)                567676.00
 4149599.00        0.01007  (12103120)
       567676.00   4149619.00        0.00965  (12103120)                567676.00
 4149639.00        0.00927  (12103120)
       567676.00   4149659.00        0.00892  (12103120)                567676.00
 4149679.00        0.00860  (12103120)
       567676.00   4149699.00        0.00832  (13033124)                567676.00
 4149719.00        0.00805  (13033124)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                PAGE  35
```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567676.00	4149739.00	0.00780	(13033124)	567676.00	4149759.00	0.00757	(13033124)
567676.00	4149779.00	0.00736	(13033124)				

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 5 YEARS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	0.01504	AT (567676.00, 4149299.00, 3.52, 3.52, 0.00)	DC	
	2ND HIGHEST VALUE IS	0.01480	AT (567676.00, 4149279.00, 3.50, 3.50, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.01451	AT (567656.00, 4149299.00, 3.64, 3.64, 0.00)	DC	

```
          4TH HIGHEST VALUE IS       0.01150 AT (  567576.00,  4149419.00,
4.01,     4.01,    0.00)  DC
          5TH HIGHEST VALUE IS       0.01100 AT (  567596.00,  4149399.00,
3.94,     3.94,    0.00)  DC
          6TH HIGHEST VALUE IS       0.01011 AT (  567636.00,  4149359.00,
3.73,     3.73,    0.00)  DC
          7TH HIGHEST VALUE IS       0.00989 AT (  567416.00,  4149599.00,
4.13,     4.13,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00988 AT (  567396.00,  4149619.00,
4.14,     4.14,    0.00)  DC
          9TH HIGHEST VALUE IS       0.00979 AT (  567656.00,  4149339.00,
3.66,     3.66,    0.00)  DC
         10TH HIGHEST VALUE IS       0.00976 AT (  567436.00,  4149579.00,
4.09,     4.09,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:52:58

                                   PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **

                                                      DATE
                                          NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.13774  ON 12053121: AT (  567676.00,
4149279.00,     3.50,     3.50,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   20266 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   7316 Calm Hours Identified

 A Total of   12950 Missing Hours Identified (29.52 Percent)

 CAUTION!: Number of Missing Hours Exceeds 10 Percent of Total!
            Data May Not Be Acceptable for Regulatory Applications.
            See Section 5.3.2 of "Meteorological Monitoring Guidance
            for Regulatory Modeling Applications" (EPA-454/R-99-005).

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
        48

    ****
    *** AERMOD Finishes Successfully ***
    ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 11/21/2022
** File: C:\Lakes\AERMOD View\1125Arguello_WaterLine\1125Arguello_WaterLine.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\1125Arguello_WaterLine\1125Arguello_WaterLine.i
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   URBANOPT 86200 Redwood_City
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 1125Arguello_WaterLine.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN1
** DESCRSRC
** PREFIX
** Length of Side = 21.00
** Ratio = 10
** Vertical Dimension = 2.37
** Emission Rate = 3.7186E-08
** Nodes = 5
** 567318.538, 4149679.314, 4.32, 2.55
** 567656.641, 4149301.895, 3.68, 2.55
** 567859.503, 4149135.203, 3.31, 2.55
** 567968.012, 4149223.265, 2.74, 2.55
** 568225.914, 4149245.283, 2.12, 2.55
```

```
** ------------------------------------------------------------------
   LOCATION A0000001     AREA     567310.717 4149672.308 4.44
   LOCATION A0000002     AREA     567423.418 4149546.501 4.34
   LOCATION A0000003     AREA     567536.119 4149420.695 4.40
   LOCATION A0000004     AREA     567649.975 4149293.782 3.69
   LOCATION A0000005     AREA     567751.406 4149210.436 3.35
   LOCATION A0000006     AREA     567866.120 4149127.050 3.23
   LOCATION A0000007     AREA     567968.905 4149212.803 2.81
   LOCATION A0000008     AREA     568097.856 4149223.812 2.44
** End of LINE AREA Source ID = ARLN1
** Source Parameters **
** LINE AREA Source ID = ARLN1
   SRCPARAM A0000001     3.7186E-08     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000002     3.7186E-08     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000003     3.7186E-08     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000004     3.7186E-08     2.550   131.281    21.000    39.410
2.372
   SRCPARAM A0000005     3.7186E-08     2.550   131.281    21.000    39.410
2.372
   SRCPARAM A0000006     3.7186E-08     2.550   139.747    21.000   -39.062
2.372
   SRCPARAM A0000007     3.7186E-08     2.550   129.420    21.000    -4.880
2.372
   SRCPARAM A0000008     3.7186E-08     2.550   129.420    21.000    -4.880
2.372
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED 1125Arguello_WaterLine.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC"
   PROFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL"
```

```
   SURFDATA 93231 2009 San_Carlos_Airport
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 2.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 1125ARGUELLO_WATERLINE.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 1125ARGUELLO_WATERLINE.AD\AN00GALL.PLT 32
   SUMMFILE 1125Arguello_WaterLine.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     10
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 11/21/2022
** File: C:\Lakes\AERMOD View\1125Arguello_WaterLine\1125Arguello_WaterLine.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\1125Arguello_WaterLine\1125Arguello_WaterLine.i
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   URBANOPT 86200 Redwood_City
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 1125Arguello_WaterLine.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN1
** DESCRSRC
** PREFIX
** Length of Side = 21.00
** Ratio = 10
** Vertical Dimension = 2.37
** Emission Rate = 3.7186E-08
** Nodes = 5
** 567318.538, 4149679.314, 4.32, 2.55
** 567656.641, 4149301.895, 3.68, 2.55
** 567859.503, 4149135.203, 3.31, 2.55
** 567968.012, 4149223.265, 2.74, 2.55
** 568225.914, 4149245.283, 2.12, 2.55
```

```
** ------------------------------------------------------------------
   LOCATION A0000001     AREA     567310.717 4149672.308 4.44
   LOCATION A0000002     AREA     567423.418 4149546.501 4.34
   LOCATION A0000003     AREA     567536.119 4149420.695 4.40
   LOCATION A0000004     AREA     567649.975 4149293.782 3.69
   LOCATION A0000005     AREA     567751.406 4149210.436 3.35
   LOCATION A0000006     AREA     567866.120 4149127.050 3.23
   LOCATION A0000007     AREA     567968.905 4149212.803 2.81
   LOCATION A0000008     AREA     568097.856 4149223.812 2.44
** End of LINE AREA Source ID = ARLN1
** Source Parameters **
** LINE AREA Source ID = ARLN1
   SRCPARAM A0000001     3.7186E-08     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000002     3.7186E-08     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000003     3.7186E-08     2.550   168.905    21.000    48.145
2.372
   SRCPARAM A0000004     3.7186E-08     2.550   131.281    21.000    39.410
2.372
   SRCPARAM A0000005     3.7186E-08     2.550   131.281    21.000    39.410
2.372
   SRCPARAM A0000006     3.7186E-08     2.550   139.747    21.000   -39.062
2.372
   SRCPARAM A0000007     3.7186E-08     2.550   129.420    21.000    -4.880
2.372
   SRCPARAM A0000008     3.7186E-08     2.550   129.420    21.000    -4.880
2.372
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED 1125Arguello_WaterLine.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC"
   PROFFILE "C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL"
```

```
   SURFDATA 93231 2009 San_Carlos_Airport
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 2.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 1125ARGUELLO_WATERLINE.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 1125ARGUELLO_WATERLINE.AD\AN00GALL.PLT 32
   SUMMFILE 1125Arguello_WaterLine.sum
OU FINISHED

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***       15:33:20

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for     8 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =     86200.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
```

```
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      8 Source(s);       1 Source Group(s); and     723
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      8 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     2.00 ;  Decay
```

Coef. =   0.000   ; Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC   ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =   3.6 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: 1125Arguello_WaterLine.err

 **File for Summary of Results: 1125Arguello_WaterLine.sum

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                                    *** AREA SOURCE DATA ***

               NUMBER EMISSION RATE COORD (SW CORNER) BASE   RELEASE X-DIM   Y-DIM   ORIENT.   INIT.   URBAN EMISSION RATE
   SOURCE   PART. (GRAMS/SEC   X   Y   ELEV.   HEIGHT OF AREA OF AREA   OF AREA   SZ   SOURCE SCALAR VARY
     ID   CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)   (DEG.) (METERS)   BY
 -

 A0000001   0   0.37186E-07 567310.7 4149672.3   4.4   2.55   168.91   21.00   48.15   2.37   YES
 A0000002   0   0.37186E-07 567423.4 4149546.5   4.3   2.55   168.91   21.00   48.15   2.37   YES
 A0000003   0   0.37186E-07 567536.1 4149420.7   4.4   2.55   168.91   21.00   48.15   2.37   YES
 A0000004   0   0.37186E-07 567650.0 4149293.8   3.7   2.55   131.28   21.00   39.41   2.37   YES
 A0000005   0   0.37186E-07 567751.4 4149210.4   3.3   2.55   131.28   21.00   39.41   2.37   YES
 A0000006   0   0.37186E-07 567866.1 4149127.0   3.2   2.55   139.75   21.00   -39.06   2.37   YES
 A0000007   0   0.37186E-07 567968.9 4149212.8   2.8   2.55   129.42   21.00   -4.88   2.37   YES

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
86200.	A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 566976.0, 4149399.0,       9.1,       9.1,       0.0);         ( 566976.0,
4149419.0,       9.0,       9.0,       0.0);
     ( 566976.0, 4149439.0,       8.9,       8.9,       0.0);         ( 566976.0,
4149459.0,       8.8,       8.8,       0.0);
     ( 566976.0, 4149479.0,       8.6,       8.6,       0.0);         ( 566976.0,
4149499.0,       8.4,       8.4,       0.0);
     ( 566976.0, 4149519.0,       8.2,       8.2,       0.0);         ( 566976.0,
4149539.0,       8.0,       8.0,       0.0);
     ( 566976.0, 4149559.0,       7.8,       7.8,       0.0);         ( 566976.0,
4149579.0,       7.7,       7.7,       0.0);
     ( 566976.0, 4149599.0,       7.6,       7.6,       0.0);         ( 566976.0,
4149619.0,       7.5,       7.5,       0.0);
     ( 566976.0, 4149659.0,       7.2,       7.2,       0.0);         ( 566996.0,
4149359.0,       8.9,       8.9,       0.0);
     ( 566996.0, 4149379.0,       9.1,       9.1,       0.0);         ( 566996.0,
4149399.0,       8.9,       8.9,       0.0);
     ( 566996.0, 4149419.0,       8.7,       8.7,       0.0);         ( 566996.0,
4149439.0,       8.5,       8.5,       0.0);
     ( 566996.0, 4149459.0,       8.5,       8.5,       0.0);         ( 566996.0,
4149479.0,       8.4,       8.4,       0.0);
     ( 566996.0, 4149499.0,       8.2,       8.2,       0.0);         ( 566996.0,
4149519.0,       8.0,       8.0,       0.0);
     ( 566996.0, 4149539.0,       7.8,       7.8,       0.0);         ( 566996.0,
4149559.0,       7.6,       7.6,       0.0);
     ( 566996.0, 4149579.0,       7.4,       7.4,       0.0);         ( 566996.0,
4149599.0,       7.3,       7.3,       0.0);
     ( 566996.0, 4149619.0,       7.3,       7.3,       0.0);         ( 567016.0,
4149339.0,       8.7,       8.7,       0.0);
     ( 567016.0, 4149359.0,       8.6,       8.6,       0.0);         ( 567016.0,
4149379.0,       8.7,       8.7,       0.0);
     ( 567016.0, 4149399.0,       8.6,       8.6,       0.0);         ( 567016.0,
4149419.0,       8.5,       8.5,       0.0);
     ( 567016.0, 4149439.0,       8.3,       8.3,       0.0);         ( 567016.0,
4149459.0,       8.3,       8.3,       0.0);
     ( 567016.0, 4149479.0,       8.2,       8.2,       0.0);         ( 567016.0,
4149499.0,       8.0,       8.0,       0.0);
     ( 567016.0, 4149519.0,       7.8,       7.8,       0.0);         ( 567016.0,
4149539.0,       7.6,       7.6,       0.0);
     ( 567016.0, 4149559.0,       7.4,       7.4,       0.0);         ( 567016.0,
4149579.0,       7.3,       7.3,       0.0);
     ( 567016.0, 4149599.0,       7.2,       7.2,       0.0);         ( 567016.0,
4149819.0,       5.9,       5.9,       0.0);
     ( 567036.0, 4149319.0,       8.7,       8.7,       0.0);         ( 567036.0,
4149339.0,       8.6,       8.6,       0.0);
     ( 567036.0, 4149359.0,       8.5,       8.5,       0.0);         ( 567036.0,
4149379.0,       8.4,       8.4,       0.0);
     ( 567036.0, 4149399.0,       8.3,       8.3,       0.0);         ( 567036.0,
4149419.0,       8.2,       8.2,       0.0);
     ( 567036.0, 4149439.0,       8.1,       8.1,       0.0);         ( 567036.0,
```

4149459.0,   8.1,   8.1,   0.0);
     (567036.0, 4149479.0,   8.0,   8.0,   0.0);   (567036.0,
4149499.0,   7.9,   7.9,   0.0);
     (567036.0, 4149519.0,   7.6,   7.6,   0.0);   (567036.0,
4149539.0,   7.4,   7.4,   0.0);
     (567036.0, 4149559.0,   7.3,   7.3,   0.0);   (567036.0,
4149579.0,   7.2,   7.2,   0.0);
     (567036.0, 4149799.0,   5.9,   5.9,   0.0);   (567036.0,
4149819.0,   5.7,   5.7,   0.0);
     (567036.0, 4149839.0,   5.6,   5.6,   0.0);   (567056.0,
4149299.0,   8.7,   8.7,   0.0);
     (567056.0, 4149319.0,   8.5,   8.5,   0.0);   (567056.0,
4149339.0,   8.5,   8.5,   0.0);
     (567056.0, 4149359.0,   8.4,   8.4,   0.0);   (567056.0,
4149379.0,   8.2,   8.2,   0.0);
     (567056.0, 4149399.0,   8.0,   8.0,   0.0);   (567056.0,
4149419.0,   7.9,   7.9,   0.0);
     (567056.0, 4149439.0,   7.9,   7.9,   0.0);   (567056.0,
4149459.0,   7.9,   7.9,   0.0);
     (567056.0, 4149479.0,   7.9,   7.9,   0.0);   (567056.0,
4149499.0,   7.8,   7.8,   0.0);
     (567056.0, 4149519.0,   7.5,   7.5,   0.0);   (567056.0,
4149539.0,   7.3,   7.3,   0.0);
     (567056.0, 4149559.0,   7.3,   7.3,   0.0);   (567056.0,
4149779.0,   5.9,   5.9,   0.0);
     (567056.0, 4149799.0,   5.7,   5.7,   0.0);   (567056.0,
4149819.0,   5.6,   5.6,   0.0);
     (567056.0, 4149839.0,   5.5,   5.5,   0.0);   (567056.0,
4149859.0,   5.5,   5.5,   0.0);
     (567076.0, 4149279.0,   8.6,   8.6,   0.0);   (567076.0,
4149299.0,   8.5,   8.5,   0.0);
     (567076.0, 4149319.0,   8.3,   8.3,   0.0);   (567076.0,
4149339.0,   8.1,   8.1,   0.0);
     (567076.0, 4149359.0,   8.0,   8.0,   0.0);   (567076.0,
4149379.0,   8.0,   8.0,   0.0);
     (567076.0, 4149399.0,   7.8,   7.8,   0.0);   (567076.0,
4149419.0,   7.7,   7.7,   0.0);
     (567076.0, 4149439.0,   7.7,   7.7,   0.0);   (567076.0,
4149459.0,   7.7,   7.7,   0.0);
     (567076.0, 4149479.0,   7.7,   7.7,   0.0);   (567076.0,
4149499.0,   7.7,   7.7,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                                *** DISCRETE CARTESIAN RECEPTORS ***

(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567076.0, 4149519.0, 7.4, 7.4, 0.0); (567076.0, 4149539.0, 7.2, 7.2, 0.0);
(567076.0, 4149759.0, 5.9, 5.9, 0.0); (567076.0, 4149779.0, 5.7, 5.7, 0.0);
(567076.0, 4149799.0, 5.5, 5.5, 0.0); (567076.0, 4149819.0, 5.5, 5.5, 0.0);
(567076.0, 4149839.0, 5.5, 5.5, 0.0); (567076.0, 4149859.0, 5.5, 5.5, 0.0);
(567096.0, 4149279.0, 8.4, 8.4, 0.0); (567096.0, 4149299.0, 8.3, 8.3, 0.0);
(567096.0, 4149319.0, 8.1, 8.1, 0.0); (567096.0, 4149339.0, 8.0, 8.0, 0.0);
(567096.0, 4149359.0, 7.9, 7.9, 0.0); (567096.0, 4149379.0, 7.8, 7.8, 0.0);
(567096.0, 4149399.0, 7.7, 7.7, 0.0); (567096.0, 4149419.0, 7.6, 7.6, 0.0);
(567096.0, 4149439.0, 7.5, 7.5, 0.0); (567096.0, 4149459.0, 7.5, 7.5, 0.0);
(567096.0, 4149479.0, 7.5, 7.5, 0.0); (567096.0, 4149499.0, 7.5, 7.5, 0.0);
(567096.0, 4149519.0, 7.3, 7.3, 0.0); (567096.0, 4149759.0, 5.8, 5.8, 0.0);
(567096.0, 4149779.0, 5.7, 5.7, 0.0); (567096.0, 4149799.0, 5.5, 5.5, 0.0);
(567096.0, 4149819.0, 5.4, 5.4, 0.0); (567096.0, 4149839.0, 5.4, 5.4, 0.0);
(567096.0, 4149859.0, 5.3, 5.3, 0.0); (567116.0, 4149279.0, 8.3, 8.3, 0.0);
(567116.0, 4149299.0, 8.1, 8.1, 0.0); (567116.0, 4149319.0, 7.9, 7.9, 0.0);
(567116.0, 4149339.0, 7.9, 7.9, 0.0); (567116.0, 4149359.0, 7.8, 7.8, 0.0);
(567116.0, 4149379.0, 7.6, 7.6, 0.0); (567116.0, 4149399.0, 7.6, 7.6, 0.0);
(567116.0, 4149419.0, 7.5, 7.5, 0.0); (567116.0, 4149439.0, 7.3, 7.3, 0.0);
(567116.0, 4149459.0, 7.3, 7.3, 0.0); (567116.0, 4149479.0, 7.3, 7.3, 0.0);
(567116.0, 4149499.0, 7.3, 7.3, 0.0); (567116.0, 4149739.0, 5.8, 5.8, 0.0);
(567116.0, 4149759.0, 5.7, 5.7, 0.0); (567116.0, 4149779.0, 5.6, 5.6, 0.0);
(567116.0, 4149799.0, 5.4, 5.4, 0.0); (567116.0, 4149819.0, 5.2, 5.2, 0.0);
(567116.0, 4149839.0, 5.2, 5.2, 0.0); (567116.0, 4149859.0, 5.1, 5.1, 0.0);
(567116.0, 4149879.0, 5.0, 5.0, 0.0); (567136.0,

```
4149259.0,       8.3,       8.3,       0.0);
     ( 567136.0, 4149279.0,       8.1,       8.1,       0.0);         ( 567136.0,
4149299.0,       8.0,       8.0,       0.0);
     ( 567136.0, 4149319.0,       7.9,       7.9,       0.0);         ( 567136.0,
4149339.0,       7.8,       7.8,       0.0);
     ( 567136.0, 4149359.0,       7.6,       7.6,       0.0);         ( 567136.0,
4149379.0,       7.4,       7.4,       0.0);
     ( 567136.0, 4149399.0,       7.4,       7.4,       0.0);         ( 567136.0,
4149419.0,       7.3,       7.3,       0.0);
     ( 567136.0, 4149439.0,       7.1,       7.1,       0.0);         ( 567136.0,
4149459.0,       7.1,       7.1,       0.0);
     ( 567136.0, 4149479.0,       7.1,       7.1,       0.0);         ( 567136.0,
4149719.0,       5.7,       5.7,       0.0);
     ( 567136.0, 4149739.0,       5.5,       5.5,       0.0);         ( 567136.0,
4149759.0,       5.4,       5.4,       0.0);
     ( 567136.0, 4149779.0,       5.3,       5.3,       0.0);         ( 567136.0,
4149799.0,       5.2,       5.2,       0.0);
     ( 567136.0, 4149819.0,       5.2,       5.2,       0.0);         ( 567136.0,
4149839.0,       5.1,       5.1,       0.0);
     ( 567136.0, 4149859.0,       4.9,       4.9,       0.0);         ( 567136.0,
4149879.0,       4.9,       4.9,       0.0);
     ( 567156.0, 4149259.0,       8.1,       8.1,       0.0);         ( 567156.0,
4149279.0,       8.0,       8.0,       0.0);
     ( 567156.0, 4149299.0,       7.9,       7.9,       0.0);         ( 567156.0,
4149319.0,       7.8,       7.8,       0.0);
     ( 567156.0, 4149339.0,       7.6,       7.6,       0.0);         ( 567156.0,
4149359.0,       7.4,       7.4,       0.0);
     ( 567156.0, 4149379.0,       7.3,       7.3,       0.0);         ( 567156.0,
4149399.0,       7.2,       7.2,       0.0);
     ( 567156.0, 4149419.0,       7.1,       7.1,       0.0);         ( 567156.0,
4149439.0,       7.0,       7.0,       0.0);
     ( 567156.0, 4149459.0,       6.9,       6.9,       0.0);         ( 567156.0,
4149479.0,       6.9,       6.9,       0.0);
     ( 567156.0, 4149699.0,       5.7,       5.7,       0.0);         ( 567156.0,
4149719.0,       5.5,       5.5,       0.0);
     ( 567156.0, 4149739.0,       5.3,       5.3,       0.0);         ( 567156.0,
4149759.0,       5.1,       5.1,       0.0);
     ( 567156.0, 4149779.0,       5.0,       5.0,       0.0);         ( 567156.0,
4149799.0,       5.0,       5.0,       0.0);
     ( 567156.0, 4149819.0,       5.0,       5.0,       0.0);         ( 567156.0,
4149839.0,       5.0,       5.0,       0.0);
     ( 567156.0, 4149859.0,       4.9,       4.9,       0.0);         ( 567156.0,
4149879.0,       4.8,       4.8,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:33:20

                                   PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567176.0, 4149259.0, 7.9, 7.9, 0.0); (567176.0, 4149279.0, 7.9, 7.9, 0.0);
(567176.0, 4149299.0, 7.8, 7.8, 0.0); (567176.0, 4149319.0, 7.6, 7.6, 0.0);
(567176.0, 4149339.0, 7.4, 7.4, 0.0); (567176.0, 4149359.0, 7.3, 7.3, 0.0);
(567176.0, 4149379.0, 7.3, 7.3, 0.0); (567176.0, 4149399.0, 7.1, 7.1, 0.0);
(567176.0, 4149419.0, 7.0, 7.0, 0.0); (567176.0, 4149439.0, 7.0, 7.0, 0.0);
(567176.0, 4149459.0, 6.8, 6.8, 0.0); (567176.0, 4149479.0, 6.7, 6.7, 0.0);
(567176.0, 4149679.0, 5.7, 5.7, 0.0); (567176.0, 4149699.0, 5.5, 5.5, 0.0);
(567176.0, 4149719.0, 5.3, 5.3, 0.0); (567176.0, 4149739.0, 5.1, 5.1, 0.0);
(567176.0, 4149759.0, 4.9, 4.9, 0.0); (567176.0, 4149779.0, 4.8, 4.8, 0.0);
(567176.0, 4149799.0, 4.8, 4.8, 0.0); (567176.0, 4149819.0, 4.8, 4.8, 0.0);
(567176.0, 4149839.0, 4.8, 4.8, 0.0); (567176.0, 4149859.0, 4.8, 4.8, 0.0);
(567176.0, 4149879.0, 4.6, 4.6, 0.0); (567196.0, 4149239.0, 7.7, 7.7, 0.0);
(567196.0, 4149259.0, 7.7, 7.7, 0.0); (567196.0, 4149279.0, 7.7, 7.7, 0.0);
(567196.0, 4149299.0, 7.6, 7.6, 0.0); (567196.0, 4149319.0, 7.4, 7.4, 0.0);
(567196.0, 4149339.0, 7.2, 7.2, 0.0); (567196.0, 4149359.0, 7.1, 7.1, 0.0);
(567196.0, 4149379.0, 7.1, 7.1, 0.0); (567196.0, 4149399.0, 6.9, 6.9, 0.0);
(567196.0, 4149419.0, 6.8, 6.8, 0.0); (567196.0, 4149439.0, 6.8, 6.8, 0.0);
(567196.0, 4149459.0, 6.5, 6.5, 0.0); (567196.0, 4149699.0, 5.3, 5.3, 0.0);
(567196.0, 4149719.0, 5.1, 5.1, 0.0); (567196.0, 4149739.0, 4.9, 4.9, 0.0);
(567196.0, 4149759.0, 4.7, 4.7, 0.0); (567196.0, 4149779.0, 4.5, 4.5, 0.0);
(567196.0, 4149799.0, 4.4, 4.4, 0.0); (567196.0, 4149819.0, 4.4, 4.4, 0.0);
(567196.0, 4149839.0, 4.5, 4.5, 0.0); (567196.0, 4149859.0, 4.6, 4.6, 0.0);
(567196.0, 4149879.0, 4.4, 4.4, 0.0); (567216.0,

```
4149239.0,       7.4,       7.4,       0.0);
     ( 567216.0, 4149259.0,       7.4,       7.4,       0.0);         ( 567216.0,
4149279.0,       7.4,       7.4,       0.0);
     ( 567216.0, 4149299.0,       7.3,       7.3,       0.0);         ( 567216.0,
4149319.0,       7.2,       7.2,       0.0);
     ( 567216.0, 4149339.0,       7.0,       7.0,       0.0);         ( 567216.0,
4149359.0,       6.9,       6.9,       0.0);
     ( 567216.0, 4149379.0,       6.9,       6.9,       0.0);         ( 567216.0,
4149399.0,       6.6,       6.6,       0.0);
     ( 567216.0, 4149419.0,       6.6,       6.6,       0.0);         ( 567216.0,
4149439.0,       6.5,       6.5,       0.0);
     ( 567216.0, 4149719.0,       4.9,       4.9,       0.0);         ( 567216.0,
4149739.0,       4.7,       4.7,       0.0);
     ( 567216.0, 4149759.0,       4.5,       4.5,       0.0);         ( 567216.0,
4149779.0,       4.4,       4.4,       0.0);
     ( 567216.0, 4149799.0,       4.3,       4.3,       0.0);         ( 567216.0,
4149819.0,       4.2,       4.2,       0.0);
     ( 567216.0, 4149839.0,       4.2,       4.2,       0.0);         ( 567216.0,
4149859.0,       4.3,       4.3,       0.0);
     ( 567216.0, 4149879.0,       4.2,       4.2,       0.0);         ( 567236.0,
4149239.0,       7.2,       7.2,       0.0);
     ( 567236.0, 4149259.0,       7.0,       7.0,       0.0);         ( 567236.0,
4149279.0,       7.0,       7.0,       0.0);
     ( 567236.0, 4149299.0,       7.0,       7.0,       0.0);         ( 567236.0,
4149319.0,       7.0,       7.0,       0.0);
     ( 567236.0, 4149339.0,       6.8,       6.8,       0.0);         ( 567236.0,
4149359.0,       6.7,       6.7,       0.0);
     ( 567236.0, 4149379.0,       6.6,       6.6,       0.0);         ( 567236.0,
4149399.0,       6.5,       6.5,       0.0);
     ( 567236.0, 4149419.0,       6.4,       6.4,       0.0);         ( 567236.0,
4149739.0,       4.5,       4.5,       0.0);
     ( 567236.0, 4149759.0,       4.3,       4.3,       0.0);         ( 567236.0,
4149779.0,       4.3,       4.3,       0.0);
     ( 567236.0, 4149799.0,       4.2,       4.2,       0.0);         ( 567236.0,
4149819.0,       4.0,       4.0,       0.0);
     ( 567236.0, 4149839.0,       3.9,       3.9,       0.0);         ( 567236.0,
4149859.0,       3.9,       3.9,       0.0);
     ( 567236.0, 4149879.0,       3.9,       3.9,       0.0);         ( 567236.0,
4149899.0,       3.8,       3.8,       0.0);
     ( 567256.0, 4149219.0,       7.0,       7.0,       0.0);         ( 567256.0,
4149239.0,       7.0,       7.0,       0.0);
     ( 567256.0, 4149259.0,       6.8,       6.8,       0.0);         ( 567256.0,
4149279.0,       6.8,       6.8,       0.0);
     ( 567256.0, 4149299.0,       6.8,       6.8,       0.0);         ( 567256.0,
4149319.0,       6.8,       6.8,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***       15:33:20
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567256.0, 4149339.0, 6.5, 6.5, 0.0); (567256.0, 4149359.0, 6.5, 6.5, 0.0);
(567256.0, 4149379.0, 6.5, 6.5, 0.0); (567256.0, 4149399.0, 6.2, 6.2, 0.0);
(567256.0, 4149759.0, 4.3, 4.3, 0.0); (567256.0, 4149779.0, 4.2, 4.2, 0.0);
(567256.0, 4149799.0, 4.0, 4.0, 0.0); (567256.0, 4149819.0, 3.8, 3.8, 0.0);
(567256.0, 4149839.0, 3.7, 3.7, 0.0); (567256.0, 4149859.0, 3.7, 3.7, 0.0);
(567256.0, 4149879.0, 3.6, 3.6, 0.0); (567256.0, 4149899.0, 3.5, 3.5, 0.0);
(567276.0, 4149219.0, 6.8, 6.8, 0.0); (567276.0, 4149239.0, 6.8, 6.8, 0.0);
(567276.0, 4149259.0, 6.7, 6.7, 0.0); (567276.0, 4149279.0, 6.7, 6.7, 0.0);
(567276.0, 4149299.0, 6.6, 6.6, 0.0); (567276.0, 4149319.0, 6.6, 6.6, 0.0);
(567276.0, 4149339.0, 6.5, 6.5, 0.0); (567276.0, 4149359.0, 6.3, 6.3, 0.0);
(567276.0, 4149379.0, 6.2, 6.2, 0.0); (567276.0, 4149759.0, 4.2, 4.2, 0.0);
(567276.0, 4149779.0, 4.0, 4.0, 0.0); (567276.0, 4149799.0, 3.8, 3.8, 0.0);
(567276.0, 4149819.0, 3.7, 3.7, 0.0); (567276.0, 4149839.0, 3.6, 3.6, 0.0);
(567276.0, 4149859.0, 3.5, 3.5, 0.0); (567276.0, 4149879.0, 3.3, 3.3, 0.0);
(567276.0, 4149899.0, 3.2, 3.2, 0.0); (567276.0, 4149919.0, 3.2, 3.2, 0.0);
(567296.0, 4149219.0, 6.6, 6.6, 0.0); (567296.0, 4149239.0, 6.7, 6.7, 0.0);
(567296.0, 4149259.0, 6.7, 6.7, 0.0); (567296.0, 4149279.0, 6.7, 6.7, 0.0);
(567296.0, 4149299.0, 6.5, 6.5, 0.0); (567296.0, 4149319.0, 6.4, 6.4, 0.0);
(567296.0, 4149339.0, 6.4, 6.4, 0.0); (567296.0, 4149359.0, 6.2, 6.2, 0.0);
(567296.0, 4149739.0, 4.2, 4.2, 0.0); (567296.0, 4149759.0, 4.0, 4.0, 0.0);
(567296.0, 4149779.0, 3.8, 3.8, 0.0); (567296.0, 4149799.0, 3.7, 3.7, 0.0);
(567296.0, 4149819.0, 3.6, 3.6, 0.0); (567296.0,

```
4149839.0,       3.5,       3.5,       0.0);
     ( 567296.0, 4149859.0,       3.3,       3.3,       0.0);         ( 567296.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567296.0, 4149899.0,       3.0,       3.0,       0.0);         ( 567296.0,
4149919.0,       3.0,       3.0,       0.0);
     ( 567316.0, 4149219.0,       6.4,       6.4,       0.0);         ( 567316.0,
4149239.0,       6.5,       6.5,       0.0);
     ( 567316.0, 4149259.0,       6.5,       6.5,       0.0);         ( 567316.0,
4149279.0,       6.5,       6.5,       0.0);
     ( 567316.0, 4149299.0,       6.3,       6.3,       0.0);         ( 567316.0,
4149319.0,       6.2,       6.2,       0.0);
     ( 567316.0, 4149339.0,       6.2,       6.2,       0.0);         ( 567316.0,
4149719.0,       4.2,       4.2,       0.0);
     ( 567316.0, 4149739.0,       4.0,       4.0,       0.0);         ( 567316.0,
4149759.0,       3.8,       3.8,       0.0);
     ( 567316.0, 4149779.0,       3.7,       3.7,       0.0);         ( 567316.0,
4149799.0,       3.6,       3.6,       0.0);
     ( 567316.0, 4149819.0,       3.5,       3.5,       0.0);         ( 567316.0,
4149839.0,       3.4,       3.4,       0.0);
     ( 567316.0, 4149859.0,       3.3,       3.3,       0.0);         ( 567316.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567316.0, 4149899.0,       2.9,       2.9,       0.0);         ( 567316.0,
4149919.0,       2.8,       2.8,       0.0);
     ( 567336.0, 4149219.0,       6.2,       6.2,       0.0);         ( 567336.0,
4149239.0,       6.3,       6.3,       0.0);
     ( 567336.0, 4149259.0,       6.4,       6.4,       0.0);         ( 567336.0,
4149279.0,       6.3,       6.3,       0.0);
     ( 567336.0, 4149299.0,       6.1,       6.1,       0.0);         ( 567336.0,
4149319.0,       6.0,       6.0,       0.0);
     ( 567336.0, 4149699.0,       4.2,       4.2,       0.0);         ( 567336.0,
4149719.0,       4.0,       4.0,       0.0);
     ( 567336.0, 4149739.0,       3.8,       3.8,       0.0);         ( 567336.0,
4149759.0,       3.7,       3.7,       0.0);
     ( 567336.0, 4149779.0,       3.6,       3.6,       0.0);         ( 567336.0,
4149799.0,       3.5,       3.5,       0.0);
     ( 567336.0, 4149819.0,       3.3,       3.3,       0.0);         ( 567336.0,
4149839.0,       3.2,       3.2,       0.0);
     ( 567336.0, 4149859.0,       3.2,       3.2,       0.0);         ( 567336.0,
4149879.0,       3.1,       3.1,       0.0);
     ( 567336.0, 4149899.0,       2.9,       2.9,       0.0);         ( 567336.0,
4149919.0,       2.7,       2.7,       0.0);
     ( 567356.0, 4149219.0,       6.0,       6.0,       0.0);         ( 567356.0,
4149239.0,       6.2,       6.2,       0.0);
     ( 567356.0, 4149259.0,       6.3,       6.3,       0.0);         ( 567356.0,
4149279.0,       6.1,       6.1,       0.0);
     ( 567356.0, 4149299.0,       5.9,       5.9,       0.0);         ( 567356.0,
4149659.0,       4.3,       4.3,       0.0);
↟ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(567356.0, 4149679.0, 4.2, 4.2, 0.0); (567356.0, 4149699.0, 4.0, 4.0, 0.0);
(567356.0, 4149719.0, 3.8, 3.8, 0.0); (567356.0, 4149739.0, 3.7, 3.7, 0.0);
(567356.0, 4149759.0, 3.6, 3.6, 0.0); (567356.0, 4149779.0, 3.5, 3.5, 0.0);
(567356.0, 4149799.0, 3.3, 3.3, 0.0); (567356.0, 4149819.0, 3.1, 3.1, 0.0);
(567356.0, 4149839.0, 3.0, 3.0, 0.0); (567356.0, 4149859.0, 3.0, 3.0, 0.0);
(567356.0, 4149879.0, 3.0, 3.0, 0.0); (567356.0, 4149899.0, 2.9, 2.9, 0.0);
(567356.0, 4149919.0, 2.7, 2.7, 0.0); (567376.0, 4149219.0, 5.8, 5.8, 0.0);
(567376.0, 4149239.0, 6.0, 6.0, 0.0); (567376.0, 4149259.0, 6.1, 6.1, 0.0);
(567376.0, 4149279.0, 5.9, 5.9, 0.0); (567376.0, 4149659.0, 4.2, 4.2, 0.0);
(567376.0, 4149679.0, 4.0, 4.0, 0.0); (567376.0, 4149699.0, 3.8, 3.8, 0.0);
(567376.0, 4149719.0, 3.7, 3.7, 0.0); (567376.0, 4149739.0, 3.6, 3.6, 0.0);
(567376.0, 4149759.0, 3.5, 3.5, 0.0); (567376.0, 4149779.0, 3.4, 3.4, 0.0);
(567376.0, 4149799.0, 3.3, 3.3, 0.0); (567376.0, 4149819.0, 3.1, 3.1, 0.0);
(567376.0, 4149839.0, 2.9, 2.9, 0.0); (567376.0, 4149859.0, 2.8, 2.8, 0.0);
(567376.0, 4149879.0, 2.8, 2.8, 0.0); (567376.0, 4149899.0, 2.8, 2.8, 0.0);
(567376.0, 4149919.0, 2.7, 2.7, 0.0); (567396.0, 4149219.0, 5.7, 5.7, 0.0);
(567396.0, 4149239.0, 5.7, 5.7, 0.0); (567396.0, 4149259.0, 5.8, 5.8, 0.0);
(567396.0, 4149619.0, 4.1, 4.1, 0.0); (567396.0, 4149639.0, 4.1, 4.1, 0.0);
(567396.0, 4149659.0, 4.0, 4.0, 0.0); (567396.0, 4149679.0, 3.8, 3.8, 0.0);
(567396.0, 4149699.0, 3.7, 3.7, 0.0); (567396.0, 4149719.0, 3.6, 3.6, 0.0);
(567396.0, 4149739.0, 3.5, 3.5, 0.0); (567396.0,

```
4149759.0,       3.3,       3.3,       0.0);
     ( 567396.0, 4149779.0,       3.2,       3.2,       0.0);         ( 567396.0,
4149799.0,       3.2,       3.2,       0.0);
     ( 567396.0, 4149819.0,       3.0,       3.0,       0.0);         ( 567396.0,
4149839.0,       2.8,       2.8,       0.0);
     ( 567396.0, 4149859.0,       2.7,       2.7,       0.0);         ( 567396.0,
4149879.0,       2.6,       2.6,       0.0);
     ( 567396.0, 4149899.0,       2.6,       2.6,       0.0);         ( 567396.0,
4149919.0,       2.6,       2.6,       0.0);
     ( 567416.0, 4149219.0,       5.5,       5.5,       0.0);         ( 567416.0,
4149239.0,       5.5,       5.5,       0.0);
     ( 567416.0, 4149599.0,       4.1,       4.1,       0.0);         ( 567416.0,
4149619.0,       4.0,       4.0,       0.0);
     ( 567416.0, 4149639.0,       3.9,       3.9,       0.0);         ( 567416.0,
4149659.0,       3.8,       3.8,       0.0);
     ( 567416.0, 4149679.0,       3.7,       3.7,       0.0);         ( 567416.0,
4149699.0,       3.6,       3.6,       0.0);
     ( 567416.0, 4149719.0,       3.5,       3.5,       0.0);         ( 567416.0,
4149739.0,       3.3,       3.3,       0.0);
     ( 567416.0, 4149759.0,       3.1,       3.1,       0.0);         ( 567416.0,
4149779.0,       3.0,       3.0,       0.0);
     ( 567416.0, 4149799.0,       3.0,       3.0,       0.0);         ( 567416.0,
4149819.0,       2.8,       2.8,       0.0);
     ( 567416.0, 4149839.0,       2.7,       2.7,       0.0);         ( 567416.0,
4149859.0,       2.7,       2.7,       0.0);
     ( 567416.0, 4149879.0,       2.5,       2.5,       0.0);         ( 567416.0,
4149899.0,       2.4,       2.4,       0.0);
     ( 567416.0, 4149919.0,       2.4,       2.4,       0.0);         ( 567436.0,
4149219.0,       5.3,       5.3,       0.0);
     ( 567436.0, 4149579.0,       4.1,       4.1,       0.0);         ( 567436.0,
4149599.0,       4.0,       4.0,       0.0);
     ( 567436.0, 4149619.0,       3.9,       3.9,       0.0);         ( 567436.0,
4149639.0,       3.8,       3.8,       0.0);
     ( 567436.0, 4149659.0,       3.7,       3.7,       0.0);         ( 567436.0,
4149679.0,       3.6,       3.6,       0.0);
     ( 567436.0, 4149699.0,       3.5,       3.5,       0.0);         ( 567436.0,
4149719.0,       3.4,       3.4,       0.0);
     ( 567436.0, 4149739.0,       3.3,       3.3,       0.0);         ( 567436.0,
4149759.0,       3.1,       3.1,       0.0);
     ( 567436.0, 4149779.0,       3.0,       3.0,       0.0);         ( 567436.0,
4149799.0,       3.0,       3.0,       0.0);
     ( 567436.0, 4149819.0,       2.8,       2.8,       0.0);         ( 567436.0,
4149839.0,       2.7,       2.7,       0.0);
     ( 567436.0, 4149859.0,       2.7,       2.7,       0.0);         ( 567436.0,
4149879.0,       2.5,       2.5,       0.0);
     ( 567436.0, 4149899.0,       2.3,       2.3,       0.0);         ( 567436.0,
4149919.0,       2.2,       2.2,       0.0);
     ( 567456.0, 4149559.0,       4.1,       4.1,       0.0);         ( 567456.0,
4149579.0,       4.0,       4.0,       0.0);
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 567456.0, 4149599.0,       3.9,       3.9,      0.0);        ( 567456.0,
4149619.0,       3.8,       3.8,       0.0);
     ( 567456.0, 4149639.0,       3.7,       3.7,      0.0);        ( 567456.0,
4149659.0,       3.6,       3.6,       0.0);
     ( 567456.0, 4149679.0,       3.5,       3.5,      0.0);        ( 567456.0,
4149699.0,       3.3,       3.3,       0.0);
     ( 567456.0, 4149719.0,       3.2,       3.2,      0.0);        ( 567456.0,
4149739.0,       3.2,       3.2,       0.0);
     ( 567456.0, 4149759.0,       3.0,       3.0,      0.0);        ( 567456.0,
4149779.0,       2.9,       2.9,       0.0);
     ( 567456.0, 4149799.0,       2.9,       2.9,      0.0);        ( 567456.0,
4149819.0,       2.7,       2.7,       0.0);
     ( 567456.0, 4149839.0,       2.6,       2.6,      0.0);        ( 567456.0,
4149859.0,       2.6,       2.6,       0.0);
     ( 567456.0, 4149879.0,       2.5,       2.5,      0.0);        ( 567456.0,
4149899.0,       2.3,       2.3,       0.0);
     ( 567456.0, 4149919.0,       2.1,       2.1,      0.0);        ( 567476.0,
4149539.0,       4.1,       4.1,       0.0);
     ( 567476.0, 4149559.0,       3.9,       3.9,      0.0);        ( 567476.0,
4149579.0,       3.9,       3.9,       0.0);
     ( 567476.0, 4149599.0,       3.8,       3.8,      0.0);        ( 567476.0,
4149619.0,       3.6,       3.6,       0.0);
     ( 567476.0, 4149639.0,       3.6,       3.6,      0.0);        ( 567476.0,
4149659.0,       3.5,       3.5,       0.0);
     ( 567476.0, 4149679.0,       3.3,       3.3,      0.0);        ( 567476.0,
4149699.0,       3.1,       3.1,       0.0);
     ( 567476.0, 4149719.0,       3.0,       3.0,      0.0);        ( 567476.0,
4149739.0,       3.0,       3.0,       0.0);
     ( 567476.0, 4149759.0,       2.8,       2.8,      0.0);        ( 567476.0,
4149779.0,       2.7,       2.7,       0.0);
     ( 567476.0, 4149799.0,       2.7,       2.7,      0.0);        ( 567476.0,
4149819.0,       2.5,       2.5,       0.0);
     ( 567476.0, 4149839.0,       2.4,       2.4,      0.0);        ( 567476.0,
4149859.0,       2.4,       2.4,       0.0);
     ( 567476.0, 4149879.0,       2.4,       2.4,      0.0);        ( 567476.0,
4149899.0,       2.3,       2.3,       0.0);
     ( 567476.0, 4149919.0,       2.1,       2.1,      0.0);        ( 567496.0,
4149519.0,       4.0,       4.0,       0.0);
     ( 567496.0, 4149539.0,       3.9,       3.9,      0.0);        ( 567496.0,
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```
4149559.0,       3.7,       3.7,       0.0);
     ( 567496.0, 4149579.0,       3.6,       3.6,       0.0);         ( 567496.0,
4149599.0,       3.5,       3.5,       0.0);
     ( 567496.0, 4149619.0,       3.4,       3.4,       0.0);         ( 567496.0,
4149639.0,       3.4,       3.4,       0.0);
     ( 567496.0, 4149659.0,       3.3,       3.3,       0.0);         ( 567496.0,
4149679.0,       3.1,       3.1,       0.0);
     ( 567496.0, 4149699.0,       3.1,       3.1,       0.0);         ( 567496.0,
4149719.0,       2.9,       2.9,       0.0);
     ( 567496.0, 4149739.0,       2.8,       2.8,       0.0);         ( 567496.0,
4149759.0,       2.8,       2.8,       0.0);
     ( 567496.0, 4149779.0,       2.7,       2.7,       0.0);         ( 567496.0,
4149799.0,       2.7,       2.7,       0.0);
     ( 567496.0, 4149819.0,       2.5,       2.5,       0.0);         ( 567496.0,
4149839.0,       2.4,       2.4,       0.0);
     ( 567496.0, 4149859.0,       2.4,       2.4,       0.0);         ( 567496.0,
4149879.0,       2.3,       2.3,       0.0);
     ( 567496.0, 4149899.0,       2.2,       2.2,       0.0);         ( 567516.0,
4149499.0,       3.8,       3.8,       0.0);
     ( 567516.0, 4149519.0,       3.8,       3.8,       0.0);         ( 567516.0,
4149539.0,       3.7,       3.7,       0.0);
     ( 567516.0, 4149559.0,       3.5,       3.5,       0.0);         ( 567516.0,
4149579.0,       3.3,       3.3,       0.0);
     ( 567516.0, 4149599.0,       3.2,       3.2,       0.0);         ( 567516.0,
4149619.0,       3.2,       3.2,       0.0);
     ( 567516.0, 4149639.0,       3.2,       3.2,       0.0);         ( 567516.0,
4149659.0,       3.1,       3.1,       0.0);
     ( 567516.0, 4149679.0,       3.0,       3.0,       0.0);         ( 567516.0,
4149699.0,       3.0,       3.0,       0.0);
     ( 567516.0, 4149719.0,       2.9,       2.9,       0.0);         ( 567516.0,
4149739.0,       2.7,       2.7,       0.0);
     ( 567516.0, 4149759.0,       2.7,       2.7,       0.0);         ( 567516.0,
4149779.0,       2.7,       2.7,       0.0);
     ( 567516.0, 4149799.0,       2.6,       2.6,       0.0);         ( 567516.0,
4149819.0,       2.5,       2.5,       0.0);
     ( 567516.0, 4149839.0,       2.4,       2.4,       0.0);         ( 567516.0,
4149859.0,       2.3,       2.3,       0.0);
     ( 567516.0, 4149879.0,       2.1,       2.1,       0.0);         ( 567536.0,
4149479.0,       3.8,       3.8,       0.0);
     ( 567536.0, 4149499.0,       3.7,       3.7,       0.0);         ( 567536.0,
4149519.0,       3.6,       3.6,       0.0);
     ( 567536.0, 4149539.0,       3.5,       3.5,       0.0);         ( 567536.0,
4149559.0,       3.3,       3.3,       0.0);
     ( 567536.0, 4149579.0,       3.1,       3.1,       0.0);         ( 567536.0,
4149599.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149619.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149639.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149659.0,       3.0,       3.0,       0.0);         ( 567536.0,
4149679.0,       3.0,       3.0,       0.0);
     ( 567536.0, 4149699.0,       3.0,       3.0,       0.0);         ( 567536.0,
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 567536.0, 4149739.0,       2.7,       2.7,       0.0);         ( 567536.0,
4149759.0,       2.7,       2.7,       0.0);
     ( 567536.0, 4149779.0,       2.6,       2.6,       0.0);         ( 567536.0,
4149799.0,       2.4,       2.4,       0.0);
     ( 567536.0, 4149819.0,       2.4,       2.4,       0.0);         ( 567536.0,
4149839.0,       2.3,       2.3,       0.0);
     ( 567536.0, 4149859.0,       2.1,       2.1,       0.0);         ( 567556.0,
4149219.0,       4.6,       4.6,       0.0);
     ( 567556.0, 4149459.0,       3.8,       3.8,       0.0);         ( 567556.0,
4149479.0,       3.7,       3.7,       0.0);
     ( 567556.0, 4149499.0,       3.6,       3.6,       0.0);         ( 567556.0,
4149519.0,       3.5,       3.5,       0.0);
     ( 567556.0, 4149539.0,       3.3,       3.3,       0.0);         ( 567556.0,
4149559.0,       3.1,       3.1,       0.0);
     ( 567556.0, 4149579.0,       3.1,       3.1,       0.0);         ( 567556.0,
4149599.0,       2.9,       2.9,       0.0);
     ( 567556.0, 4149619.0,       2.8,       2.8,       0.0);         ( 567556.0,
4149639.0,       2.8,       2.8,       0.0);
     ( 567556.0, 4149659.0,       2.8,       2.8,       0.0);         ( 567556.0,
4149679.0,       2.8,       2.8,       0.0);
     ( 567556.0, 4149699.0,       2.8,       2.8,       0.0);         ( 567556.0,
4149719.0,       2.8,       2.8,       0.0);
     ( 567556.0, 4149739.0,       2.7,       2.7,       0.0);         ( 567556.0,
4149759.0,       2.6,       2.6,       0.0);
     ( 567556.0, 4149779.0,       2.5,       2.5,       0.0);         ( 567556.0,
4149799.0,       2.4,       2.4,       0.0);
     ( 567556.0, 4149819.0,       2.3,       2.3,       0.0);         ( 567556.0,
4149839.0,       2.2,       2.2,       0.0);
     ( 567576.0, 4149219.0,       4.5,       4.5,       0.0);         ( 567576.0,
4149239.0,       4.3,       4.3,       0.0);
     ( 567576.0, 4149419.0,       4.0,       4.0,       0.0);         ( 567576.0,
4149439.0,       3.8,       3.8,       0.0);
     ( 567576.0, 4149459.0,       3.6,       3.6,       0.0);         ( 567576.0,
4149479.0,       3.5,       3.5,       0.0);
     ( 567576.0, 4149499.0,       3.4,       3.4,       0.0);         ( 567576.0,
4149519.0,       3.3,       3.3,       0.0);
     ( 567576.0, 4149539.0,       3.1,       3.1,       0.0);         ( 567576.0,
```

```
4149559.0,       3.0,       3.0,       0.0);
     ( 567576.0, 4149579.0,       2.9,       2.9,       0.0);         ( 567576.0,
4149599.0,       2.8,       2.8,       0.0);
     ( 567576.0, 4149619.0,       2.7,       2.7,       0.0);         ( 567576.0,
4149639.0,       2.7,       2.7,       0.0);
     ( 567576.0, 4149659.0,       2.7,       2.7,       0.0);         ( 567576.0,
4149679.0,       2.6,       2.6,       0.0);
     ( 567576.0, 4149699.0,       2.6,       2.6,       0.0);         ( 567576.0,
4149719.0,       2.6,       2.6,       0.0);
     ( 567576.0, 4149739.0,       2.6,       2.6,       0.0);         ( 567576.0,
4149759.0,       2.5,       2.5,       0.0);
     ( 567576.0, 4149779.0,       2.4,       2.4,       0.0);         ( 567576.0,
4149799.0,       2.3,       2.3,       0.0);
     ( 567576.0, 4149819.0,       2.2,       2.2,       0.0);         ( 567596.0,
4149219.0,       4.3,       4.3,       0.0);
     ( 567596.0, 4149239.0,       4.1,       4.1,       0.0);         ( 567596.0,
4149259.0,       4.0,       4.0,       0.0);
     ( 567596.0, 4149399.0,       3.9,       3.9,       0.0);         ( 567596.0,
4149419.0,       3.8,       3.8,       0.0);
     ( 567596.0, 4149439.0,       3.6,       3.6,       0.0);         ( 567596.0,
4149459.0,       3.4,       3.4,       0.0);
     ( 567596.0, 4149479.0,       3.2,       3.2,       0.0);         ( 567596.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567596.0, 4149519.0,       3.0,       3.0,       0.0);         ( 567596.0,
4149539.0,       3.0,       3.0,       0.0);
     ( 567596.0, 4149559.0,       3.0,       3.0,       0.0);         ( 567596.0,
4149579.0,       2.8,       2.8,       0.0);
     ( 567596.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567596.0,
4149619.0,       2.7,       2.7,       0.0);
     ( 567596.0, 4149639.0,       2.7,       2.7,       0.0);         ( 567596.0,
4149659.0,       2.6,       2.6,       0.0);
     ( 567596.0, 4149679.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149699.0,       2.4,       2.4,       0.0);
     ( 567596.0, 4149719.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149739.0,       2.4,       2.4,       0.0);
     ( 567596.0, 4149759.0,       2.4,       2.4,       0.0);         ( 567596.0,
4149779.0,       2.3,       2.3,       0.0);
     ( 567596.0, 4149799.0,       2.1,       2.1,       0.0);         ( 567616.0,
4149219.0,       4.0,       4.0,       0.0);
     ( 567616.0, 4149239.0,       4.0,       4.0,       0.0);         ( 567616.0,
4149259.0,       4.0,       4.0,       0.0);
     ( 567616.0, 4149399.0,       3.8,       3.8,       0.0);         ( 567616.0,
4149419.0,       3.6,       3.6,       0.0);
     ( 567616.0, 4149439.0,       3.4,       3.4,       0.0);         ( 567616.0,
4149459.0,       3.4,       3.4,       0.0);
     ( 567616.0, 4149479.0,       3.2,       3.2,       0.0);         ( 567616.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567616.0, 4149519.0,       3.0,       3.0,       0.0);         ( 567616.0,
4149539.0,       2.9,       2.9,       0.0);
     ( 567616.0, 4149559.0,       2.8,       2.8,       0.0);         ( 567616.0,
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4149579.0,   2.8,   2.8,   0.0);
     (567616.0, 4149599.0,   2.7,   2.7,   0.0);   (567616.0,
4149619.0,   2.7,   2.7,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (567616.0, 4149639.0,   2.7,   2.7,   0.0);   (567616.0,
4149659.0,   2.6,   2.6,   0.0);
     (567616.0, 4149679.0,   2.4,   2.4,   0.0);   (567616.0,
4149699.0,   2.4,   2.4,   0.0);
     (567616.0, 4149719.0,   2.4,   2.4,   0.0);   (567616.0,
4149739.0,   2.4,   2.4,   0.0);
     (567616.0, 4149759.0,   2.4,   2.4,   0.0);   (567616.0,
4149779.0,   2.3,   2.3,   0.0);
     (567616.0, 4149799.0,   2.1,   2.1,   0.0);   (567636.0,
4149219.0,   4.0,   4.0,   0.0);
     (567636.0, 4149239.0,   4.0,   4.0,   0.0);   (567636.0,
4149259.0,   3.9,   3.9,   0.0);
     (567636.0, 4149279.0,   3.9,   3.9,   0.0);   (567636.0,
4149359.0,   3.7,   3.7,   0.0);
     (567636.0, 4149379.0,   3.8,   3.8,   0.0);   (567636.0,
4149399.0,   3.6,   3.6,   0.0);
     (567636.0, 4149419.0,   3.5,   3.5,   0.0);   (567636.0,
4149439.0,   3.3,   3.3,   0.0);
     (567636.0, 4149459.0,   3.3,   3.3,   0.0);   (567636.0,
4149479.0,   3.1,   3.1,   0.0);
     (567636.0, 4149499.0,   3.0,   3.0,   0.0);   (567636.0,
4149519.0,   2.9,   2.9,   0.0);
     (567636.0, 4149539.0,   2.8,   2.8,   0.0);   (567636.0,
4149559.0,   2.7,   2.7,   0.0);
     (567636.0, 4149579.0,   2.7,   2.7,   0.0);   (567636.0,
4149599.0,   2.7,   2.7,   0.0);
     (567636.0, 4149619.0,   2.7,   2.7,   0.0);   (567636.0,
4149639.0,   2.6,   2.6,   0.0);
     (567636.0, 4149659.0,   2.5,   2.5,   0.0);   (567636.0,
4149679.0,   2.4,   2.4,   0.0);
     (567636.0, 4149699.0,   2.4,   2.4,   0.0);   (567636.0,
4149719.0,   2.4,   2.4,   0.0);
     (567636.0, 4149739.0,   2.3,   2.3,   0.0);   (567636.0,
4149759.0,   2.3,   2.3,   0.0);
     (567636.0, 4149779.0,   2.2,   2.2,   0.0);   (567636.0,

```
4149799.0,       2.1,       2.1,       0.0);
     ( 567656.0, 4149219.0,       4.0,       4.0,       0.0);         ( 567656.0,
4149239.0,       3.9,       3.9,       0.0);
     ( 567656.0, 4149259.0,       3.9,       3.9,       0.0);         ( 567656.0,
4149279.0,       3.7,       3.7,       0.0);
     ( 567656.0, 4149299.0,       3.6,       3.6,       0.0);         ( 567656.0,
4149339.0,       3.7,       3.7,       0.0);
     ( 567656.0, 4149359.0,       3.6,       3.6,       0.0);         ( 567656.0,
4149379.0,       3.6,       3.6,       0.0);
     ( 567656.0, 4149399.0,       3.4,       3.4,       0.0);         ( 567656.0,
4149419.0,       3.3,       3.3,       0.0);
     ( 567656.0, 4149439.0,       3.3,       3.3,       0.0);         ( 567656.0,
4149459.0,       3.1,       3.1,       0.0);
     ( 567656.0, 4149479.0,       3.0,       3.0,       0.0);         ( 567656.0,
4149499.0,       3.0,       3.0,       0.0);
     ( 567656.0, 4149519.0,       2.8,       2.8,       0.0);         ( 567656.0,
4149539.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149559.0,       2.7,       2.7,       0.0);         ( 567656.0,
4149579.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149599.0,       2.7,       2.7,       0.0);         ( 567656.0,
4149619.0,       2.7,       2.7,       0.0);
     ( 567656.0, 4149639.0,       2.5,       2.5,       0.0);         ( 567656.0,
4149659.0,       2.4,       2.4,       0.0);
     ( 567656.0, 4149679.0,       2.4,       2.4,       0.0);         ( 567656.0,
4149699.0,       2.4,       2.4,       0.0);
     ( 567656.0, 4149719.0,       2.3,       2.3,       0.0);         ( 567656.0,
4149739.0,       2.1,       2.1,       0.0);
     ( 567656.0, 4149759.0,       2.1,       2.1,       0.0);         ( 567656.0,
4149779.0,       2.1,       2.1,       0.0);
     ( 567676.0, 4149219.0,       3.9,       3.9,       0.0);         ( 567676.0,
4149239.0,       3.9,       3.9,       0.0);
     ( 567676.0, 4149259.0,       3.7,       3.7,       0.0);         ( 567676.0,
4149279.0,       3.5,       3.5,       0.0);
     ( 567676.0, 4149299.0,       3.5,       3.5,       0.0);         ( 567676.0,
4149319.0,       3.7,       3.7,       0.0);
     ( 567676.0, 4149339.0,       3.7,       3.7,       0.0);         ( 567676.0,
4149359.0,       3.6,       3.6,       0.0);
     ( 567676.0, 4149379.0,       3.4,       3.4,       0.0);         ( 567676.0,
4149399.0,       3.2,       3.2,       0.0);
     ( 567676.0, 4149419.0,       3.1,       3.1,       0.0);         ( 567676.0,
4149439.0,       3.1,       3.1,       0.0);
     ( 567676.0, 4149459.0,       3.1,       3.1,       0.0);         ( 567676.0,
4149479.0,       2.9,       2.9,       0.0);
     ( 567676.0, 4149499.0,       2.8,       2.8,       0.0);         ( 567676.0,
4149519.0,       2.8,       2.8,       0.0);
     ( 567676.0, 4149539.0,       2.7,       2.7,       0.0);         ( 567676.0,
4149559.0,       2.7,       2.7,       0.0);
     ( 567676.0, 4149579.0,       2.7,       2.7,       0.0);         ( 567676.0,
4149599.0,       2.6,       2.6,       0.0);
     ( 567676.0, 4149619.0,       2.5,       2.5,       0.0);         ( 567676.0,
```

4149639.0,   2.5,   2.5,   0.0);
     (567676.0, 4149659.0,   2.4,   2.4,   0.0);   (567676.0,
4149679.0,   2.4,   2.4,   0.0);
     (567676.0, 4149699.0,   2.4,   2.4,   0.0);   (567676.0,
4149719.0,   2.3,   2.3,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (567676.0, 4149739.0,   2.1,   2.1,   0.0);   (567676.0,
4149759.0,   2.1,   2.1,   0.0);
     (567676.0, 4149779.0,   2.0,   2.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                           *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

               NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON

WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.SFC
Met Version: 14134
Profile file: C:\Users\kheck\Desktop\Met Data\SanCarlosAirport\724938.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 93231 Upper air station no.: 23230
Name: SAN_CARLOS_AIRPORT Name: OAKLAND/WSO_AP
Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.55						

```
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 07   -3.0  0.063 -9.000 -9.000 -999.   38.      7.5  0.04   0.55
1.00    1.76    5.   10.0  281.1    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
0.74    0.00    0.   10.0  280.1    2.0
 09 01 01   1 09 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
0.38  999.00  999.   -9.0  280.1    2.0
 09 01 01   1 10    5.5  0.179  0.236  0.014   87.  181.    -95.0  0.04   0.55
0.26    2.36   61.   10.0  280.1    2.0
 09 01 01   1 11   12.1 -9.000 -9.000 -9.000  156. -999. -99999.0  0.04   0.55
0.21    0.00    0.   10.0  280.1    2.0
 09 01 01   1 12   16.0  0.328  0.455  0.016  215.  451.   -201.4  0.04   0.55
0.20    4.36  336.   10.0  281.1    2.0
 09 01 01   1 13   16.6  0.226  0.493  0.015  262.  263.    -63.2  0.04   0.55
0.19    2.86  293.   10.0  281.1    2.0
 09 01 01   1 14   69.0 -9.000 -9.000 -9.000  402. -999. -99999.0  0.04   0.55
0.20    0.00    0.   10.0  282.1    2.0
 09 01 01   1 15   49.6  0.205  0.847  0.017  445.  223.    -15.9  0.04   0.55
0.23    2.36  999.   10.0  283.1    2.0
 09 01 01   1 16   18.0  0.192  0.607  0.016  451.  202.    -35.7  0.04   0.55
0.31    2.36  999.   10.0  283.1    2.0
 09 01 01   1 17  -17.1  0.203 -9.000 -9.000 -999.  220.     44.6  0.04   0.55
0.55    3.36  999.   10.0  282.1    2.0
 09 01 01   1 18  -11.3  0.104 -9.000 -9.000 -999.   86.      9.1  0.04   0.55
1.00    2.86  337.   10.0  282.1    2.0
 09 01 01   1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.55
1.00  999.00  999.   -9.0  999.0   -9.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↟ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                PAGE  16
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
566976.00	4149399.00	0.00028	566976.00	4149419.00	0.00028
566976.00	4149439.00	0.00028	566976.00	4149459.00	0.00029
566976.00	4149479.00	0.00029	566976.00	4149499.00	0.00030
566976.00	4149519.00	0.00031	566976.00	4149539.00	0.00031
566976.00	4149559.00	0.00032	566976.00	4149579.00	0.00033
566976.00	4149599.00	0.00034	566976.00	4149619.00	0.00035
566976.00	4149659.00	0.00037	566996.00	4149359.00	0.00029
566996.00	4149379.00	0.00029	566996.00	4149399.00	0.00030
566996.00	4149419.00	0.00030	566996.00	4149439.00	0.00030
566996.00	4149459.00	0.00031	566996.00	4149479.00	0.00031
566996.00	4149499.00	0.00032	566996.00	4149519.00	0.00033
566996.00	4149539.00	0.00034	566996.00	4149559.00	0.00035
566996.00	4149579.00	0.00035	566996.00	4149599.00	0.00036
566996.00	4149619.00	0.00037	567016.00	4149339.00	0.00031
567016.00	4149359.00	0.00031	567016.00	4149379.00	0.00032
567016.00	4149399.00	0.00032	567016.00	4149419.00	0.00032

```
         567016.00    4149439.00        0.00033                     567016.00
4149459.00        0.00033
         567016.00    4149479.00        0.00034                     567016.00
4149499.00        0.00035
         567016.00    4149519.00        0.00036                     567016.00
4149539.00        0.00036
         567016.00    4149559.00        0.00037                     567016.00
4149579.00        0.00038
         567016.00    4149599.00        0.00040                     567016.00
4149819.00        0.00068
         567036.00    4149319.00        0.00033                     567036.00
4149339.00        0.00033
         567036.00    4149359.00        0.00034                     567036.00
4149379.00        0.00034
         567036.00    4149399.00        0.00035                     567036.00
4149419.00        0.00035
         567036.00    4149439.00        0.00036                     567036.00
4149459.00        0.00036
         567036.00    4149479.00        0.00037                     567036.00
4149499.00        0.00038
         567036.00    4149519.00        0.00039                     567036.00
4149539.00        0.00040
         567036.00    4149559.00        0.00041                     567036.00
4149579.00        0.00042
         567036.00    4149799.00        0.00071                     567036.00
4149819.00        0.00076
         567036.00    4149839.00        0.00081                     567056.00
4149299.00        0.00035
         567056.00    4149319.00        0.00036                     567056.00
4149339.00        0.00036
         567056.00    4149359.00        0.00037                     567056.00
4149379.00        0.00037
         567056.00    4149399.00        0.00038                     567056.00
4149419.00        0.00038
         567056.00    4149439.00        0.00039                     567056.00
4149459.00        0.00039
         567056.00    4149479.00        0.00040                     567056.00
4149499.00        0.00041
         567056.00    4149519.00        0.00042                     567056.00
4149539.00        0.00043
         567056.00    4149559.00        0.00044                     567056.00
4149779.00        0.00075
         567056.00    4149799.00        0.00080                     567056.00
4149819.00        0.00086
         567056.00    4149839.00        0.00091                     567056.00
4149859.00        0.00096
         567076.00    4149279.00        0.00038                     567076.00
4149299.00        0.00039
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
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 *** AERMET - VERSION  14134 ***   ***
                        ***        15:33:20

                                   PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                           X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         567076.00    4149319.00        0.00039                          567076.00
4149339.00        0.00040
         567076.00    4149359.00        0.00040                          567076.00
4149379.00        0.00041
         567076.00    4149399.00        0.00041                          567076.00
4149419.00        0.00042
         567076.00    4149439.00        0.00043                          567076.00
4149459.00        0.00043
         567076.00    4149479.00        0.00044                          567076.00
4149499.00        0.00045
         567076.00    4149519.00        0.00046                          567076.00
4149539.00        0.00047
         567076.00    4149759.00        0.00079                          567076.00
4149779.00        0.00085
         567076.00    4149799.00        0.00091                          567076.00
4149819.00        0.00097
         567076.00    4149839.00        0.00103                          567076.00
4149859.00        0.00107
         567096.00    4149279.00        0.00042                          567096.00
4149299.00        0.00042
         567096.00    4149319.00        0.00043                          567096.00
4149339.00        0.00044
         567096.00    4149359.00        0.00044                          567096.00
4149379.00        0.00045
         567096.00    4149399.00        0.00046                          567096.00
4149419.00        0.00046
         567096.00    4149439.00        0.00047                          567096.00
4149459.00        0.00048
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         567096.00    4149479.00        0.00049                    567096.00
4149499.00        0.00050
         567096.00    4149519.00        0.00051                    567096.00
4149759.00        0.00090
         567096.00    4149779.00        0.00097                    567096.00
4149799.00        0.00104
         567096.00    4149819.00        0.00111                    567096.00
4149839.00        0.00116
         567096.00    4149859.00        0.00121                    567116.00
4149279.00        0.00046
         567116.00    4149299.00        0.00047                    567116.00
4149319.00        0.00048
         567116.00    4149339.00        0.00048                    567116.00
4149359.00        0.00049
         567116.00    4149379.00        0.00050                    567116.00
4149399.00        0.00051
         567116.00    4149419.00        0.00051                    567116.00
4149439.00        0.00052
         567116.00    4149459.00        0.00053                    567116.00
4149479.00        0.00054
         567116.00    4149499.00        0.00055                    567116.00
4149739.00        0.00096
         567116.00    4149759.00        0.00104                    567116.00
4149779.00        0.00112
         567116.00    4149799.00        0.00120                    567116.00
4149819.00        0.00127
         567116.00    4149839.00        0.00132                    567116.00
4149859.00        0.00135
         567116.00    4149879.00        0.00137                    567136.00
4149259.00        0.00050
         567136.00    4149279.00        0.00051                    567136.00
4149299.00        0.00052
         567136.00    4149319.00        0.00053                    567136.00
4149339.00        0.00054
         567136.00    4149359.00        0.00055                    567136.00
4149379.00        0.00056
         567136.00    4149399.00        0.00057                    567136.00
4149419.00        0.00058
         567136.00    4149439.00        0.00059                    567136.00
4149459.00        0.00060
         567136.00    4149479.00        0.00061                    567136.00
4149719.00        0.00103
         567136.00    4149739.00        0.00112                    567136.00
4149759.00        0.00121
         567136.00    4149779.00        0.00131                    567136.00
4149799.00        0.00139
         567136.00    4149819.00        0.00146                    567136.00
4149839.00        0.00150
         567136.00    4149859.00        0.00151                    567136.00
4149879.00        0.00151
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                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                INCLUDING SOURCE(S):   A0000001   , A0000002
 , A0000003   , A0000004   , A0000005   ,
                A0000006   , A0000007   , A0000008   ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         567156.00   4149299.00   0.00058   567156.00
4149319.00   0.00060
         567156.00   4149339.00   0.00061   567156.00
4149359.00   0.00062
         567156.00   4149379.00   0.00063   567156.00
4149399.00   0.00064
         567156.00   4149419.00   0.00066   567156.00
4149439.00   0.00067
         567156.00   4149459.00   0.00068   567156.00
4149479.00   0.00070
         567156.00   4149699.00   0.00112   567156.00
4149719.00   0.00121
         567156.00   4149739.00   0.00132   567156.00
4149759.00   0.00143
         567156.00   4149779.00   0.00154   567156.00
4149799.00   0.00162
         567156.00   4149819.00   0.00167   567156.00
4149839.00   0.00169
         567156.00   4149859.00   0.00168   567156.00
4149879.00   0.00165
         567176.00   4149259.00   0.00063   567176.00
4149279.00   0.00064
         567176.00   4149299.00   0.00066   567176.00
4149319.00   0.00067

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         567176.00    4149339.00        0.00069                    567176.00
4149359.00        0.00071
         567176.00    4149379.00        0.00072                    567176.00
4149399.00        0.00074
         567176.00    4149419.00        0.00075                    567176.00
4149439.00        0.00077
         567176.00    4149459.00        0.00078                    567176.00
4149479.00        0.00080
         567176.00    4149679.00        0.00122                    567176.00
4149699.00        0.00132
         567176.00    4149719.00        0.00144                    567176.00
4149739.00        0.00157
         567176.00    4149759.00        0.00171                    567176.00
4149779.00        0.00182
         567176.00    4149799.00        0.00189                    567176.00
4149819.00        0.00191
         567176.00    4149839.00        0.00189                    567176.00
4149859.00        0.00185
         567176.00    4149879.00        0.00178                    567196.00
4149239.00        0.00069
         567196.00    4149259.00        0.00071                    567196.00
4149279.00        0.00073
         567196.00    4149299.00        0.00075                    567196.00
4149319.00        0.00077
         567196.00    4149339.00        0.00079                    567196.00
4149359.00        0.00081
         567196.00    4149379.00        0.00083                    567196.00
4149399.00        0.00085
         567196.00    4149419.00        0.00087                    567196.00
4149439.00        0.00089
         567196.00    4149459.00        0.00092                    567196.00
4149699.00        0.00159
         567196.00    4149719.00        0.00175                    567196.00
4149739.00        0.00192
         567196.00    4149759.00        0.00207                    567196.00
4149779.00        0.00217
         567196.00    4149799.00        0.00220                    567196.00
4149819.00        0.00216
         567196.00    4149839.00        0.00209                    567196.00
4149859.00        0.00200
         567196.00    4149879.00        0.00190                    567216.00
4149239.00        0.00078
         567216.00    4149259.00        0.00080                    567216.00
4149279.00        0.00083
         567216.00    4149299.00        0.00085                    567216.00
4149319.00        0.00088
         567216.00    4149339.00        0.00091                    567216.00
4149359.00        0.00094
         567216.00    4149379.00        0.00096                    567216.00
4149399.00        0.00100
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                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   A0000001   , A0000002
 , A0000003   , A0000004   , A0000005   ,
                 A0000006   , A0000007   , A0000008   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         567216.00   4149799.00   0.00252   567216.00
4149819.00   0.00241
         567216.00   4149839.00   0.00228   567216.00
4149859.00   0.00214
         567216.00   4149879.00   0.00200   567236.00
4149239.00   0.00088
         567236.00   4149259.00   0.00091   567236.00
4149279.00   0.00094
         567236.00   4149299.00   0.00098   567236.00
4149319.00   0.00101
         567236.00   4149339.00   0.00105   567236.00
4149359.00   0.00109
         567236.00   4149379.00   0.00113   567236.00
4149399.00   0.00118
         567236.00   4149419.00   0.00122   567236.00
4149739.00   0.00304
         567236.00   4149759.00   0.00310   567236.00
4149779.00   0.00300
         567236.00   4149799.00   0.00283   567236.00
4149819.00   0.00263

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        567236.00    4149839.00        0.00243                    567236.00
4149859.00        0.00225
        567236.00    4149879.00        0.00209                    567236.00
4149899.00        0.00195
        567256.00    4149219.00        0.00097                    567256.00
4149239.00        0.00100
        567256.00    4149259.00        0.00104                    567256.00
4149279.00        0.00108
        567256.00    4149299.00        0.00112                    567256.00
4149319.00        0.00117
        567256.00    4149339.00        0.00122                    567256.00
4149359.00        0.00128
        567256.00    4149379.00        0.00134                    567256.00
4149399.00        0.00140
        567256.00    4149759.00        0.00372                    567256.00
4149779.00        0.00342
        567256.00    4149799.00        0.00310                    567256.00
4149819.00        0.00281
        567256.00    4149839.00        0.00257                    567256.00
4149859.00        0.00235
        567256.00    4149879.00        0.00217                    567256.00
4149899.00        0.00201
        567276.00    4149219.00        0.00109                    567276.00
4149239.00        0.00113
        567276.00    4149259.00        0.00118                    567276.00
4149279.00        0.00123
        567276.00    4149299.00        0.00129                    567276.00
4149319.00        0.00136
        567276.00    4149339.00        0.00143                    567276.00
4149359.00        0.00150
        567276.00    4149379.00        0.00158                    567276.00
4149759.00        0.00429
        567276.00    4149779.00        0.00376                    567276.00
4149799.00        0.00332
        567276.00    4149819.00        0.00297                    567276.00
4149839.00        0.00268
        567276.00    4149859.00        0.00244                    567276.00
4149879.00        0.00224
        567276.00    4149899.00        0.00206                    567276.00
4149919.00        0.00192
        567296.00    4149219.00        0.00123                    567296.00
4149239.00        0.00128
        567296.00    4149259.00        0.00134                    567296.00
4149279.00        0.00141
        567296.00    4149299.00        0.00149                    567296.00
4149319.00        0.00157
        567296.00    4149339.00        0.00166                    567296.00
4149359.00        0.00177
        567296.00    4149739.00        0.00570                    567296.00
4149759.00        0.00473
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
567296.00	4149779.00	0.00402	567296.00	4149799.00	0.00350
567296.00	4149819.00	0.00310	567296.00	4149839.00	0.00278
567296.00	4149859.00	0.00252	567296.00	4149879.00	0.00230
567296.00	4149899.00	0.00212	567296.00	4149919.00	0.00196
567316.00	4149219.00	0.00138	567316.00	4149239.00	0.00145
567316.00	4149259.00	0.00152	567316.00	4149279.00	0.00161
567316.00	4149299.00	0.00171	567316.00	4149319.00	0.00182
567316.00	4149339.00	0.00194	567316.00	4149719.00	0.00820
567316.00	4149739.00	0.00622	567316.00	4149759.00	0.00501
567316.00	4149779.00	0.00421	567316.00	4149799.00	0.00363
567316.00	4149819.00	0.00319	567316.00	4149839.00	0.00285
567316.00	4149859.00	0.00258	567316.00	4149879.00	0.00235
567316.00	4149899.00	0.00216	567316.00	4149919.00	0.00199

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         567336.00    4149219.00        0.00155                    567336.00
4149239.00        0.00163
         567336.00    4149259.00        0.00173                    567336.00
4149279.00        0.00183
         567336.00    4149299.00        0.00196                    567336.00
4149319.00        0.00210
         567336.00    4149699.00        0.01264                    567336.00
4149719.00        0.00849
         567336.00    4149739.00        0.00638                    567336.00
4149759.00        0.00513
         567336.00    4149779.00        0.00429                    567336.00
4149799.00        0.00370
         567336.00    4149819.00        0.00324                    567336.00
4149839.00        0.00289
         567336.00    4149859.00        0.00261                    567336.00
4149879.00        0.00238
         567336.00    4149899.00        0.00218                    567336.00
4149919.00        0.00202
         567356.00    4149219.00        0.00173                    567356.00
4149239.00        0.00183
         567356.00    4149259.00        0.00195                    567356.00
4149279.00        0.00209
         567356.00    4149299.00        0.00224                    567356.00
4149659.00        0.04832
         567356.00    4149679.00        0.02210                    567356.00
4149699.00        0.01156
         567356.00    4149719.00        0.00809                    567356.00
4149739.00        0.00627
         567356.00    4149759.00        0.00512                    567356.00
4149779.00        0.00430
         567356.00    4149799.00        0.00371                    567356.00
4149819.00        0.00326
         567356.00    4149839.00        0.00291                    567356.00
4149859.00        0.00263
         567356.00    4149879.00        0.00240                    567356.00
4149899.00        0.00220
         567356.00    4149919.00        0.00203                    567376.00
4149219.00        0.00194
         567376.00    4149239.00        0.00206                    567376.00
4149259.00        0.00220
         567376.00    4149279.00        0.00237                    567376.00
4149659.00        0.03024
         567376.00    4149679.00        0.01731                    567376.00
4149699.00        0.01050
         567376.00    4149719.00        0.00752                    567376.00
4149739.00        0.00599
         567376.00    4149759.00        0.00498                    567376.00
4149779.00        0.00425
         567376.00    4149799.00        0.00369                    567376.00
4149819.00        0.00326
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         567416.00    4149599.00        0.05406                    567416.00
4149619.00        0.03569
         567416.00    4149639.00        0.02479                    567416.00
4149659.00        0.01731
         567416.00    4149679.00        0.01211                    567416.00
4149699.00        0.00870
         567416.00    4149719.00        0.00659                    567416.00
4149739.00        0.00534
         567416.00    4149759.00        0.00454                    567416.00
4149779.00        0.00397
         567416.00    4149799.00        0.00353                    567416.00
4149819.00        0.00316
         567416.00    4149839.00        0.00286                    567416.00
4149859.00        0.00261
         567416.00    4149879.00        0.00239                    567416.00
4149899.00        0.00220
         567416.00    4149919.00        0.00204                    567436.00
4149219.00        0.00271
         567436.00    4149579.00        0.05334                    567436.00
4149599.00        0.03673
         567436.00    4149619.00        0.02645                    567436.00
4149639.00        0.01937
         567436.00    4149659.00        0.01430                    567436.00
4149679.00        0.01059
         567436.00    4149699.00        0.00795                    567436.00
4149719.00        0.00620
         567436.00    4149739.00        0.00509                    567436.00
4149759.00        0.00435
         567436.00    4149779.00        0.00382                    567436.00
4149799.00        0.00342
         567436.00    4149819.00        0.00308                    567436.00
4149839.00        0.00281
         567436.00    4149859.00        0.00257                    567436.00
4149879.00        0.00237
         567436.00    4149899.00        0.00219                    567436.00
4149919.00        0.00203
         567456.00    4149559.00        0.05271                    567456.00
4149579.00        0.03709
         567456.00    4149599.00        0.02741                    567456.00
4149619.00        0.02076
         567456.00    4149639.00        0.01589                    567456.00
4149659.00        0.01220
         567456.00    4149679.00        0.00940                    567456.00
4149699.00        0.00731
         567456.00    4149719.00        0.00585                    567456.00
4149739.00        0.00485
         567456.00    4149759.00        0.00416                    567456.00
4149779.00        0.00368
         567456.00    4149799.00        0.00331                    567456.00
4149819.00        0.00300
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         567456.00    4149839.00        0.00274                      567456.00
4149859.00        0.00253
         567456.00    4149879.00        0.00234                      567456.00
4149899.00        0.00217
         567456.00    4149919.00        0.00202                      567476.00
4149539.00        0.05173
         567476.00    4149559.00        0.03702                      567476.00
4149579.00        0.02799
         567476.00    4149599.00        0.02165                      567476.00
4149619.00        0.01698
         567476.00    4149639.00        0.01347                      567476.00
4149659.00        0.01066
         567476.00    4149679.00        0.00845                      567476.00
4149699.00        0.00676
         567476.00    4149719.00        0.00552                      567476.00
4149739.00        0.00464
         567476.00    4149759.00        0.00400                      567476.00
4149779.00        0.00354
```



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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         567476.00    4149799.00        0.00319                      567476.00
4149819.00        0.00291
         567476.00    4149839.00        0.00267                      567476.00
4149859.00        0.00247
         567476.00    4149879.00        0.00229                      567476.00
4149899.00        0.00214
         567476.00    4149919.00        0.00200                      567496.00
4149519.00        0.05038
```

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4149559.00        0.02809
         567496.00    4149579.00        0.02208                    567496.00
4149599.00        0.01770
         567496.00    4149619.00        0.01434                    567496.00
4149639.00        0.01166
         567496.00    4149659.00        0.00946                    567496.00
4149679.00        0.00768
         567496.00    4149699.00        0.00630                    567496.00
4149719.00        0.00524
         567496.00    4149739.00        0.00444                    567496.00
4149759.00        0.00386
         567496.00    4149779.00        0.00343                    567496.00
4149799.00        0.00310
         567496.00    4149819.00        0.00283                    567496.00
4149839.00        0.00261
         567496.00    4149859.00        0.00242                    567496.00
4149879.00        0.00225
         567496.00    4149899.00        0.00210                    567516.00
4149499.00        0.04855
         567516.00    4149519.00        0.03638                    567516.00
4149539.00        0.02823
         567516.00    4149559.00        0.02244                    567516.00
4149579.00        0.01818
         567516.00    4149599.00        0.01495                    567516.00
4149619.00        0.01239
         567516.00    4149639.00        0.01028                    567516.00
4149659.00        0.00852
         567516.00    4149679.00        0.00707                    567516.00
4149699.00        0.00591
         567516.00    4149719.00        0.00498                    567516.00
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4149779.00        0.00332
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4149479.00        0.04738
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4149519.00        0.02816
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4149559.00        0.01860
         567536.00    4149579.00        0.01544                    567536.00
4149599.00        0.01295
         567536.00    4149619.00        0.01091                    567536.00
4149639.00        0.00920
         567536.00    4149659.00        0.00776                    567536.00
4149679.00        0.00656
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         567536.00    4149699.00        0.00557                      567536.00
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4149839.00        0.00247
         567536.00    4149859.00        0.00230                      567556.00
4149219.00        0.00582
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4149479.00        0.03530
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4149519.00        0.02284
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4149559.00        0.01584
         567556.00    4149579.00        0.01344                      567556.00
4149599.00        0.01144
         567556.00    4149619.00        0.00975                      567556.00
4149639.00        0.00834
         567556.00    4149659.00        0.00713                      567556.00
4149679.00        0.00611
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                  PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                      ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         567556.00    4149699.00        0.00525                      567556.00
4149719.00        0.00454
         567556.00    4149739.00        0.00396                      567556.00
4149759.00        0.00350
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4149839.00        0.00241
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4149239.00        0.00790
         567576.00    4149419.00        0.06289                    567576.00
4149439.00        0.04510
         567576.00    4149459.00        0.03467                    567576.00
4149479.00        0.02776
         567576.00    4149499.00        0.02282                    567576.00
4149519.00        0.01909
         567576.00    4149539.00        0.01616                    567576.00
4149559.00        0.01381
         567576.00    4149579.00        0.01187                    567576.00
4149599.00        0.01024
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4149639.00        0.00764
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4149679.00        0.00572
         567576.00    4149699.00        0.00497                    567576.00
4149719.00        0.00434
         567576.00    4149739.00        0.00382                    567576.00
4149759.00        0.00339
         567576.00    4149779.00        0.00305                    567576.00
4149799.00        0.00277
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4149219.00        0.00808
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4149499.00        0.01911
         567596.00    4149519.00        0.01635                    567596.00
4149539.00        0.01411
         567596.00    4149559.00        0.01224                    567596.00
4149579.00        0.01063
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4149619.00        0.00810
         567596.00    4149639.00        0.00707                    567596.00
4149659.00        0.00617
         567596.00    4149679.00        0.00538                    567596.00
4149699.00        0.00472
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4149739.00        0.00368
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4149779.00        0.00297
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4149259.00        0.01484
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4149419.00        0.03363
         567616.00    4149439.00        0.02729                      567616.00
4149459.00        0.02279
         567616.00    4149479.00        0.01929                      567616.00
4149499.00        0.01653
         567616.00    4149519.00        0.01435                      567616.00
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         567616.00    4149559.00        0.01096                      567616.00
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4149619.00        0.00748
         567616.00    4149639.00        0.00659                      567616.00
4149659.00        0.00580
         567616.00    4149679.00        0.00510                      567616.00
4149699.00        0.00451
         567616.00    4149719.00        0.00400                      567616.00
4149739.00        0.00357
         567616.00    4149759.00        0.00320                      567616.00
4149779.00        0.00289
         567616.00    4149799.00        0.00264                      567636.00
4149219.00        0.01194
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                  PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
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         567636.00    4149239.00        0.01504                    567636.00
4149259.00        0.01977
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4149359.00        0.05528
         567636.00    4149379.00        0.04203                    567636.00
4149399.00        0.03313
         567636.00    4149419.00        0.02709                    567636.00
4149439.00        0.02270
         567636.00    4149459.00        0.01936                    567636.00
4149479.00        0.01670
         567636.00    4149499.00        0.01454                    567636.00
4149519.00        0.01275
         567636.00    4149539.00        0.01124                    567636.00
4149559.00        0.00994
         567636.00    4149579.00        0.00882                    567636.00
4149599.00        0.00783
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4149679.00        0.00485
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4149719.00        0.00385
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4149759.00        0.00311
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4149799.00        0.00258
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4149239.00        0.01970
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4149279.00        0.04265
         567656.00    4149299.00        0.07934                    567656.00
4149339.00        0.05354
         567656.00    4149359.00        0.04090                    567656.00
4149379.00        0.03269
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4149419.00        0.02262
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4149459.00        0.01679
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4149499.00        0.01297
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4149539.00        0.01021
         567656.00    4149559.00        0.00911                    567656.00
4149579.00        0.00815
         567656.00    4149599.00        0.00728                    567656.00
4149619.00        0.00650
         567656.00    4149639.00        0.00580                    567656.00
4149659.00        0.00518
         567656.00    4149679.00        0.00463                    567656.00
4149699.00        0.00415
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         567656.00    4149719.00        0.00372                      567656.00
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         567676.00    4149219.00        0.01928                      567676.00
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4149279.00        0.08091
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4149359.00        0.03231
         567676.00    4149379.00        0.02666                      567676.00
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         567676.00    4149419.00        0.01935                      567676.00
4149439.00        0.01688
         567676.00    4149459.00        0.01484                      567676.00
4149479.00        0.01313
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4149599.00        0.00680
         567676.00    4149619.00        0.00610                      567676.00
4149639.00        0.00548
         567676.00    4149659.00        0.00493                      567676.00
4149679.00        0.00443
         567676.00    4149699.00        0.00399                      567676.00
4149719.00        0.00360
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                  PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **
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```
       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         567676.00    4149739.00        0.00325                       567676.00
4149759.00        0.00295
         567676.00    4149779.00        0.00269

↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:33:20

                                   PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
        566976.00   4149399.00        0.07118  (13072702)                566976.00
 4149419.00        0.07050  (13072702)
        566976.00   4149439.00        0.07116  (13071906)                566976.00
 4149459.00        0.07211  (13071906)
        566976.00   4149479.00        0.07061  (13071906)                566976.00
 4149499.00        0.07184  (11112308)
        566976.00   4149519.00        0.07253  (11112308)                566976.00
 4149539.00        0.07332  (13122222)
        566976.00   4149559.00        0.07260  (13122222)                566976.00
 4149579.00        0.07214  (13122222)
        566976.00   4149599.00        0.07249  (10121208)                566976.00
 4149619.00        0.07648  (10121208)
        566976.00   4149659.00        0.08147  (13082002)                566996.00
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        566996.00   4149419.00        0.07030  (13072702)                566996.00
 4149439.00        0.07126  (13071906)
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       566996.00   4149459.00        0.07240  (13071906)               566996.00
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       567016.00   4149439.00        0.07358  (13071906)               567016.00
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       567016.00   4149479.00        0.07472  (11112308)               567016.00
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       567016.00   4149519.00        0.07487  (13122222)               567016.00
4149539.00        0.07580  (13122222)
       567016.00   4149559.00        0.07470  (13122222)               567016.00
4149579.00        0.07578  (10121208)
       567016.00   4149599.00        0.08003  (10121208)               567016.00
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       567036.00   4149319.00        0.07367  (12082403)               567036.00
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       567036.00   4149359.00        0.07122  (11123006)               567036.00
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4149419.00        0.07371  (13072702)
       567036.00   4149439.00        0.07529  (13071906)               567036.00
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       567036.00   4149479.00        0.07690  (11112308)               567036.00
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       567036.00   4149519.00        0.07707  (13122222)               567036.00
4149539.00        0.07685  (13122222)
       567036.00   4149559.00        0.07614  (13122222)               567036.00
4149579.00        0.07971  (10121208)
       567036.00   4149799.00        0.12096  (10121007)               567036.00
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       567036.00   4149839.00        0.13101  (10012308)               567056.00
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       567056.00   4149439.00        0.07746  (13071906)               567056.00
4149459.00        0.07789  (13071906)
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       567056.00   4149479.00        0.07903  (11112308)                567056.00
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       567056.00   4149519.00        0.07923  (13122222)                567056.00
 4149539.00        0.07857  (13122222)
       567056.00   4149559.00        0.07886  (10121208)                567056.00
 4149779.00        0.12547  (10121007)
       567056.00   4149799.00        0.13075  (13011221)                567056.00
 4149819.00        0.13621  (10012308)
       567056.00   4149839.00        0.14135  (12111507)                567056.00
 4149859.00        0.14229  (12111507)
       567076.00   4149279.00        0.07124  (12122904)                567076.00
 4149299.00        0.07341  (12082403)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                  PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                A0000006    , A0000007    , A0000008    ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
       567076.00   4149319.00        0.07539  (12082403)                567076.00
 4149339.00        0.07510  (11123006)
       567076.00   4149359.00        0.07474  (11123006)                567076.00
 4149379.00        0.07678  (13072702)
       567076.00   4149399.00        0.07629  (13072702)                567076.00
 4149419.00        0.07643  (13071906)
       567076.00   4149439.00        0.07828  (13071906)                567076.00
 4149459.00        0.07859  (11112308)
       567076.00   4149479.00        0.07978  (11112308)                567076.00
 4149499.00        0.08032  (13122222)
       567076.00   4149519.00        0.08073  (13122222)                567076.00
 4149539.00        0.08028  (13122222)
       567076.00   4149759.00        0.12879  (10121007)                567076.00
 4149779.00        0.13317  (13011221)
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       567076.00   4149799.00        0.14175  (13011221)               567076.00
4149819.00        0.14728  (12111507)
       567076.00   4149839.00        0.15131  (12111507)               567076.00
4149859.00        0.15019  (12031522)
       567096.00   4149279.00        0.07301  (12122904)               567096.00
4149299.00        0.07486  (12082403)
       567096.00   4149319.00        0.07691  (12082403)               567096.00
4149339.00        0.07704  (11123006)
       567096.00   4149359.00        0.07624  (11123006)               567096.00
4149379.00        0.07766  (13072702)
       567096.00   4149399.00        0.07808  (13072702)               567096.00
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       567096.00   4149439.00        0.08038  (13071906)               567096.00
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       567096.00   4149479.00        0.08180  (11112308)               567096.00
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       567096.00   4149519.00        0.08274  (13122222)               567096.00
4149759.00        0.13705  (10121007)
       567096.00   4149779.00        0.14649  (13011221)               567096.00
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4149839.00        0.15994  (12031522)
       567096.00   4149859.00        0.15556  (12122802)               567116.00
4149279.00        0.07444  (12122904)
       567116.00   4149299.00        0.07627  (12082403)               567116.00
4149319.00        0.07893  (12082403)
       567116.00   4149339.00        0.07905  (11123006)               567116.00
4149359.00        0.07739  (13072702)
       567116.00   4149379.00        0.07992  (13072702)               567116.00
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4149259.00        0.07818  (11032707)
       567136.00   4149279.00        0.07619  (11032707)               567136.00
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       567136.00   4149319.00        0.08110  (12082403)               567136.00
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4149379.00        0.08144  (13072702)
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 4149459.00        0.08558  (11112308)
       567136.00   4149479.00        0.08662  (13122222)                567136.00
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       567136.00   4149739.00        0.15255  (13011221)                567136.00
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       567136.00   4149779.00        0.17918  (12111507)                567136.00
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       567136.00   4149819.00        0.18089  (12122802)                567136.00
 4149839.00        0.18101  (11011920)
       567136.00   4149859.00        0.18108  (12093019)                567136.00
 4149879.00        0.17291  (12050306)
       567156.00   4149259.00        0.07981  (11032707)                567156.00
 4149279.00        0.07803  (12122904)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                  PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 4149319.00        0.08164  (12082403)
       567156.00   4149339.00        0.08159  (11123006)                567156.00
 4149359.00        0.08255  (13072702)
       567156.00   4149379.00        0.08367  (13072702)                567156.00
 4149399.00        0.08464  (13071906)
       567156.00   4149419.00        0.08627  (13071906)                567156.00
 4149439.00        0.08735  (11112308)
       567156.00   4149459.00        0.08792  (11112308)                567156.00
 4149479.00        0.08947  (13122222)
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       567156.00   4149699.00        0.14507  (10121007)               567156.00
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       567156.00   4149779.00        0.19766  (12111507)               567156.00
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       567156.00   4149819.00        0.19717  (11011920)               567156.00
4149839.00        0.19735  (12093019)
       567156.00   4149859.00        0.18720  (12050306)               567156.00
4149879.00        0.17151  (13022208)
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4149479.00        0.09229  (13122222)
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       567176.00   4149759.00        0.21329  (12111507)               567176.00
4149779.00        0.21634  (12031522)
       567176.00   4149799.00        0.21644  (11011920)               567176.00
4149819.00        0.21695  (12093019)
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       567196.00   4149879.00        0.16458  (11121108)                567216.00
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       567216.00   4149339.00        0.08842  (13072702)                567216.00
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       567216.00   4149379.00        0.09129  (13071906)                567216.00
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       567216.00   4149719.00        0.24105  (12111507)                567216.00
 4149739.00        0.26039  (12031522)
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 4149779.00        0.27151  (12093019)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:33:20

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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       567216.00   4149839.00        0.19795  (11121108)                567216.00
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       567216.00   4149879.00        0.15853  (12020106)                567236.00
 4149239.00        0.08501  (13031922)
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       567236.00   4149379.00        0.09509  (13071906)               567236.00
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4149779.00        0.27100  (11121108)
       567256.00   4149799.00        0.22680  (12102006)               567256.00
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       567256.00   4149839.00        0.17050  (12020106)               567256.00
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       567256.00   4149879.00        0.13381  (13032706)               567256.00
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       567276.00   4149339.00        0.09933  (13072702)               567276.00
4149359.00        0.10037  (13072702)
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4149759.00        0.30157  (11121108)
       567276.00   4149779.00        0.24480  (12020106)               567276.00
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4149839.00        0.15109  (13032706)
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 4149839.00        0.13333  (13050322)
       567296.00   4149859.00        0.11949  (13050604)                567296.00
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       567296.00   4149899.00        0.09924  (10120207)                567296.00
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 4149239.00        0.09707  (11032707)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:33:20

                                   PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                 A0000006    , A0000007    , A0000008    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 4149279.00        0.10062  (12082403)
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       567316.00   4149779.00        0.17081  (13050322)               567316.00
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       567316.00   4149819.00        0.13050  (13050604)               567316.00
4149839.00        0.11736  (13050604)
       567316.00   4149859.00        0.10635  (13050604)               567316.00
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       567336.00   4149259.00        0.10067  (11032707)               567336.00
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       567336.00   4149299.00        0.10681  (12082403)               567336.00
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       567336.00   4149779.00        0.14430  (13050322)               567336.00
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       567336.00   4149819.00        0.11467  (13050604)               567336.00
4149839.00        0.10425  (10120207)
       567336.00   4149859.00        0.09593  (13020623)               567336.00
4149879.00        0.08962  (11012907)
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4149239.00        0.10437  (11032707)
       567356.00   4149259.00        0.10421  (11032707)               567356.00
4149279.00        0.10902  (12082403)
       567356.00   4149299.00        0.11081  (11123006)               567356.00
4149659.00        0.49656  (12113020)
       567356.00   4149679.00        0.31524  (12020106)               567356.00
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:33:20

                                   PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                A0000006    , A0000007    , A0000008    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
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- - - - - - - - - - - - - - - - - - - - - - - - -
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View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:33:20

                                   PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                A0000006    , A0000007    , A0000008    ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                      ** CONC OF PM_2.5   IN MICROGRAMS/M**3
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
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567476.00	4149919.00	0.05222	(13033124)	567496.00	4149519.00	0.30957	(13042222)
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567496.00	4149579.00	0.15194	(11012907)	567496.00	4149599.00	0.13414	(11012907)
567496.00	4149619.00	0.12045	(11012907)	567496.00	4149639.00	0.10943	(11012907)
567496.00	4149659.00	0.10023	(11012907)	567496.00	4149679.00	0.09242	(11012907)
567496.00	4149699.00	0.08575	(11012907)	567496.00	4149719.00	0.07990	(11012907)
567496.00	4149739.00	0.07487	(11123123)	567496.00	4149759.00	0.07046	(11123123)
567496.00	4149779.00	0.06655	(11123123)	567496.00	4149799.00	0.06302	(11123123)
567496.00	4149819.00	0.06001	(13033124)	567496.00	4149839.00	0.05771	(13033124)
567496.00	4149859.00	0.05561	(13033124)	567496.00	4149879.00	0.05365	(13033124)
567496.00	4149899.00	0.05186	(13033124)	567516.00	4149499.00	0.28893	(13050322)
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567516.00	4149679.00	0.08330	(11123123)	567516.00	4149699.00	0.07769	(11123123)
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567516.00	4149759.00	0.06487	(13033124)	567516.00	4149779.00	0.06210	(13033124)
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 4149639.00        0.07817  (13033124)
       567556.00   4149659.00        0.07378  (13033124)               567556.00
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                  PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     A0000001    , A0000002
 , A0000003    , A0000004    , A0000005    ,
                A0000006    , A0000007    , A0000008    ,
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*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
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567556.00	4149779.00	0.05574	(13033124)	567556.00	4149799.00	0.05363	(13033124)
567556.00	4149819.00	0.05167	(13033124)	567556.00	4149839.00	0.04988	(13033124)
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567576.00	4149419.00	0.40845	(13063024)	567576.00	4149439.00	0.26720	(11112724)
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567576.00	4149539.00	0.10558	(11123123)	567576.00	4149559.00	0.09544	(11123123)
567576.00	4149579.00	0.08785	(13033124)	567576.00	4149599.00	0.08192	(13033124)
567576.00	4149619.00	0.07683	(13033124)	567576.00	4149639.00	0.07246	(13033124)
567576.00	4149659.00	0.06860	(13033124)	567576.00	4149679.00	0.06514	(13033124)
567576.00	4149699.00	0.06210	(13033124)	567576.00	4149719.00	0.05936	(13033124)
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567576.00	4149779.00	0.05249	(13033124)	567576.00	4149799.00	0.05059	(13033124)
567576.00	4149819.00	0.04882	(13033124)	567596.00	4149219.00	0.18127	(13031922)
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                  PAGE  34
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
```

INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567636.00	4149239.00	0.22219	(11032707)	567636.00	4149259.00	0.24836	(12082403)
567636.00	4149279.00	0.29047	(13072702)	567636.00	4149359.00	0.35575	(13063024)
567636.00	4149379.00	0.25067	(11112724)	567636.00	4149399.00	0.19018	(11112724)
567636.00	4149419.00	0.15791	(12013119)	567636.00	4149439.00	0.13629	(12013119)
567636.00	4149459.00	0.11739	(13091202)	567636.00	4149479.00	0.09955	(13091202)
567636.00	4149499.00	0.08880	(09011321)	567636.00	4149519.00	0.08161	(11113005)
567636.00	4149539.00	0.07607	(11113005)	567636.00	4149559.00	0.07041	(11113005)
567636.00	4149579.00	0.06609	(12103120)	567636.00	4149599.00	0.06276	(12103120)
567636.00	4149619.00	0.05979	(12103120)	567636.00	4149639.00	0.05712	(12103120)
567636.00	4149659.00	0.05470	(12103120)	567636.00	4149679.00	0.05251	(12103120)
567636.00	4149699.00	0.05053	(12103120)	567636.00	4149719.00	0.04871	(12103120)
567636.00	4149739.00	0.04702	(12103120)	567636.00	4149759.00	0.04549	(12103120)
567636.00	4149779.00	0.04404	(12103120)	567636.00	4149799.00	0.04270	(12103120)
567656.00	4149219.00	0.22862	(13031922)	567656.00	4149239.00	0.24593	(11032707)
567656.00	4149259.00	0.28811	(12042021)	567656.00	4149279.00	0.45367	(13113024)
567656.00	4149299.00	0.72984	(12053121)	567656.00	4149339.00	0.34195	(13063024)
567656.00	4149359.00	0.24486	(11112724)	567656.00	4149379.00	0.18905	(11112724)
567656.00	4149399.00	0.15582	(12013119)	567656.00	4149419.00	0.13562	(12013119)

```
       567656.00   4149439.00        0.11811  (12013119)                567656.00
 4149459.00        0.10211  (13091202)
       567656.00   4149479.00        0.08936  (11011218)                567656.00
 4149499.00        0.08111  (11113005)
       567656.00   4149519.00        0.07584  (11113005)                567656.00
 4149539.00        0.07097  (11113005)
       567656.00   4149559.00        0.06569  (11113005)                567656.00
 4149579.00        0.06198  (13081223)
       567656.00   4149599.00        0.05861  (12103120)                567656.00
 4149619.00        0.05604  (12103120)
       567656.00   4149639.00        0.05364  (12103120)                567656.00
 4149659.00        0.05152  (12103120)
       567656.00   4149679.00        0.04960  (12103120)                567656.00
 4149699.00        0.04785  (12103120)
       567656.00   4149719.00        0.04619  (12103120)                567656.00
 4149739.00        0.04465  (12103120)
       567656.00   4149759.00        0.04326  (12103120)                567656.00
 4149779.00        0.04195  (12103120)
       567676.00   4149219.00        0.25236  (13031922)                567676.00
 4149239.00        0.29477  (10071106)
       567676.00   4149259.00        0.45619  (13113024)                567676.00
 4149279.00        0.75312  (12053121)
       567676.00   4149299.00        0.60945  (12093019)                567676.00
 4149319.00        0.32996  (13063024)
       567676.00   4149339.00        0.23991  (11112724)                567676.00
 4149359.00        0.18762  (11112724)
       567676.00   4149379.00        0.15376  (12013119)                567676.00
 4149399.00        0.13456  (12013119)
       567676.00   4149419.00        0.11838  (12013119)                567676.00
 4149439.00        0.10373  (13091202)
       567676.00   4149459.00        0.08959  (11011218)                567676.00
 4149479.00        0.08155  (09011321)
       567676.00   4149499.00        0.07543  (11113005)                567676.00
 4149519.00        0.07097  (11113005)
       567676.00   4149539.00        0.06656  (11113005)                567676.00
 4149559.00        0.06201  (13081223)
       567676.00   4149579.00        0.05877  (13081223)                567676.00
 4149599.00        0.05508  (12103120)
       567676.00   4149619.00        0.05275  (12103120)                567676.00
 4149639.00        0.05067  (12103120)
       567676.00   4149659.00        0.04877  (12103120)                567676.00
 4149679.00        0.04705  (12103120)
       567676.00   4149699.00        0.04547  (13033124)                567676.00
 4149719.00        0.04402  (13033124)
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                PAGE  35
```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
567676.00	4149739.00	0.04266	(13033124)	567676.00	4149759.00	0.04141	(13033124)
567676.00	4149779.00	0.04022	(13033124)				

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 5 YEARS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

GROUP ID	NETWORK AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	0.08223 AT (567676.00, 4149299.00, 3.52, 3.52, 0.00)	DC	
	2ND HIGHEST VALUE IS	0.08091 AT (567676.00, 4149279.00, 3.50, 3.50, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.07934 AT (567656.00, 4149299.00, 3.64, 3.64, 0.00)	DC	

```
          4TH HIGHEST VALUE IS       0.06289 AT (  567576.00,  4149419.00,
4.01,     4.01,    0.00)  DC
          5TH HIGHEST VALUE IS       0.06017 AT (  567596.00,  4149399.00,
3.94,     3.94,    0.00)  DC
          6TH HIGHEST VALUE IS       0.05528 AT (  567636.00,  4149359.00,
3.73,     3.73,    0.00)  DC
          7TH HIGHEST VALUE IS       0.05406 AT (  567416.00,  4149599.00,
4.13,     4.13,    0.00)  DC
          8TH HIGHEST VALUE IS       0.05403 AT (  567396.00,  4149619.00,
4.14,     4.14,    0.00)  DC
          9TH HIGHEST VALUE IS       0.05354 AT (  567656.00,  4149339.00,
3.66,     3.66,    0.00)  DC
         10TH HIGHEST VALUE IS       0.05334 AT (  567436.00,  4149579.00,
4.09,     4.09,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD
View\1125Arguello_WaterLine\1125Arguello_WaterLine.i ***        11/21/22
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:33:20

                                   PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **

                                                      DATE
                                        NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.75312  ON 12053121: AT (  567676.00,
4149279.00,     3.50,     3.50,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   20266 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   7316 Calm Hours Identified

 A Total of   12950 Missing Hours Identified (29.52 Percent)

 CAUTION!: Number of Missing Hours Exceeds 10 Percent of Total!
            Data May Not Be Acceptable for Regulatory Applications.
            See Section 5.3.2 of "Meteorological Monitoring Guidance
            for Regulatory Modeling Applications" (EPA-454/R-99-005).

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
        48

    ****
    *** AERMOD Finishes Successfully ***
    ****

HRA Equations

A. Equation 5.4.1.1: $\text{Dose-air} = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$

1. Dose-air = Dose through inhalation (mg/kg/d)
2. C_{air} = Concentration in air ($\mu g/m^3$)
3. {BR/BW} = Daily Breathing rate normalized to body weight (L/kg body weight - day)
4. A = Inhalation absorption factor (unitless)
5. EF = Exposure frequency (unitless), days/365 days
6. 10^{-6} = Micrograms to milligrams conversion, liters to cubic meters conversion

a: Recommended default values for EQ 5.4.1.1:

1. {BR/BW} = Daily breathing rates by age groupings, see As supplemental information, the assessor may wish to evaluate the inhalation dose by using the mean point estimates in Table 5.6 to provide a range of breathing rates for cancer risk assessment to the risk manager.
2. Table (point estimates) and Table 5.7 (parametric model distributions for Tier III stochastic risk assessment). For Tier 1 residential estimates, use 95th percentile breathing rates in Table 5.6.
3. A = 1
4. EF = 0.96 (350 days/365 days in a year for a resident)

A. Equation 8.2.4 A: $\text{RISK}_{\text{inh-res}} = \text{DOSE}_{\text{air}} \times \text{CPF} \times \text{ASF} \times \text{ED/AT} \times \text{FAH}$

7. $\text{RISK}_{\text{inh-res}}$ = Residential inhalation cancer risk
8. DOSE_{air} = Daily inhalation dose (mg/kg-day)
9. CPF = Inhalation cancer potency factor (mg/kg-day^{-1})
10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

a: Recommended default values for EQ 8.2.4 A:

5. DOSE_{air} = Calculated for each age group from Eq. 5.4.1
6. CPF = Substance-specific (see Table 7.1)
7. ASF = See Section 8.2.1
8. ED = 0.25 years for 3rd trimester, 2 years for 0<2, 7 years for 2<9, 14 years for 2<16, 14 years for 16<30, 54 years for 16-70
9. AT = 70 years*
10. FAH = See Table 8.4

HRA Calculations

Construction Schedule

			Unmitigated Concentration			Mitigated Concentration		
Phase	**Years**	**Receptor**	**Building Construction Concentration**	**Water Line**	**Total**	**Building Construction Concentration**	**Water Line**	**Total**
Building Construction	0.25	Third Trimester	0.29021	-	0.29021	0.02923	-	0.02923
Building Construction	0.552739726	Infant	0.29021	-	0.29021	0.02923	-	0.02923
BC and Water Recycle Line	0.498630137	Infant	0.29021	0.05334	0.34355	0.02923	0.00976	0.03899
Building Construction	0.84109589	Infant	0.29021	-	0.29021	0.02923	-	0.02923
Total	2.142465753							

Note: Maximum receptor from building construction was used for the HRA as they would be exposed for a longer period of time than the water line construction. MEIR identified at (567436.00, 4149579.00)

Dose (Equation 5.4.1.1)

Phase	Exposure Age	Concentration (ug/m3)	Breathing Rate L/kg body weight-day)	Inhalation Absorption Factor	EF	Multiplier	DOSE (mg/kg/day)
Unmitigated							
Building Construction	3rd Trimester	0.29021	365	1	0.958904	0.000001	0.000101574
Building Construction	Infant	0.29021	1090	1	0.958904	0.000001	0.000303329
BC and Water Recycle Line	Infant	0.34355	1090	1	0.958904	0.000001	0.00035908
Building Construction	Infant	0.29021	1090	1	0.958904	0.000001	0.000303329
Mitigated							
Building Construction	3rd Trimester	0.02923	365	1	0.958904	0.000001	1.02305E-05
Building Construction	Infant	0.02923	1090	1	0.958904	0.000001	3.05514E-05
BC and Water Recycle Line	Infant	0.03899	1090	1	0.958904	0.000001	4.07526E-05
Building Construction	Infant	0.02923	1090	1	0.958904	0.000001	3.05514E-05

Cancer Risk (Equation 8.2.4A)

Phase	Exposure Age	DOSE (mg/kg/day)	CPF (mg/kg-day^-1)	FAH	ASF	Exposure Duration (years)/Averaging Time (years)	RISK	TOTAL RISK
Unmitigated								
Building Construction	3rd Trimester	0.000101574	1.1	0.85	10	0.003571429	3.39183E-06	8.37803E-05
Building Construction	Infant	0.000303329	1.1	0.85	10	0.007896282	2.23949E-05	
BC and Water Recycle Line	Infant	0.00035908	1.1	0.85	10	0.007123288	2.39157E-05	
Building Construction	Infant	0.000303329	1.1	0.85	10	0.012015656	3.40779E-05	
Mitigated								
Building Construction	3rd Trimester	1.02305E-05	1.1	0.85	10	0.003571429	3.41626E-07	8.74381E-06
Building Construction	Infant	3.05514E-05	1.1	0.85	10	0.007896282	2.25561E-06	
BC and Water Recycle Line	Infant	4.07526E-05	1.1	0.85	10	0.007123288	2.71423E-06	
Building Construction	Infant	3.05514E-05	1.1	0.85	10	0.012015656	3.43233E-06	

Appendix C
Cultural and Historic Resources Report and Supplemental Memorandum

A. HISTORIC RESOURCE EVALUATION

PAGE&TURNBULL

1111-1227 ARGUELLO STREET
HISTORIC RESOURCE EVALUATION

REDWOOD CITY, CALIFORNIA
[19391]

PREPARED FOR HINES
SUBMITTED TO CITY OF REDWOOD CITY

REVISED
November 4, 2021

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TABLE OF CONTENTS

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I. INTRODUCTION

This Historic Resource Evaluation (HRE) has been prepared at the request of Hines for six parcels in Redwood City's Centennial neighborhood: 1111 Arguello Street (APN 052-252-080), 1125 Arguello Street (APN 052-252-090), 1203 Arguello Street (APN 052-252-040), 1209 Arguello Street (APN 052-252-030), 1219 Arguello Street (APN 052-252-020,) and 1227 Arguello Street (APN 052-252-060) **(Figure 1)**. Four of the parcels are located within the locally listed Mezesville Historic District—three of which have buildings originally constructed as single-family residences and one of which is vacant. 1219 and 1227 Arguello Street are also individual local historic landmarks. Two large parcels at 1111 and 1125 Arguello Street have industrial and commercial uses and are located outside the Mezesville Historic District. Collectively, the six parcels are bounded by Whipple Avenue to the north, Arguello Street to the east, 1003 Arguello Street to the south, and the Caltrain tracks to the west.[1]

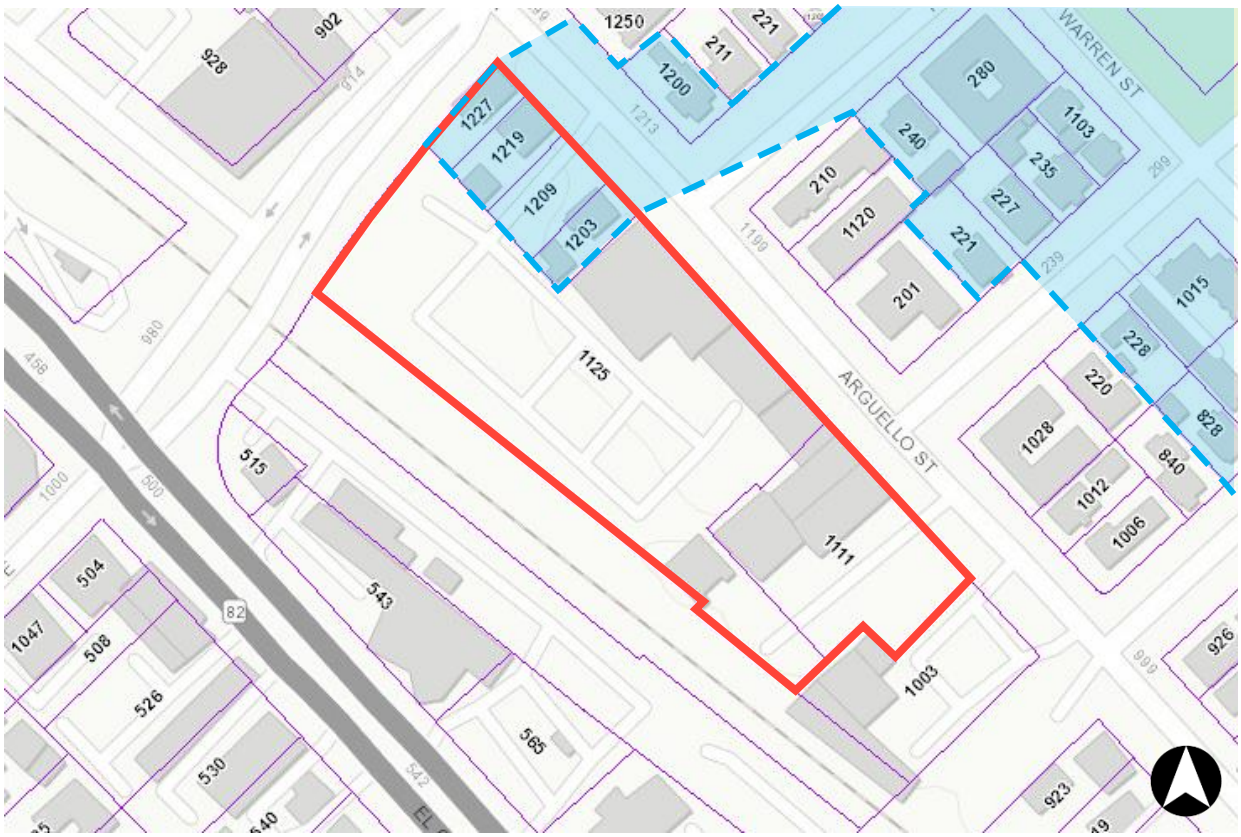


Figure 1. Subject properties at 1111-1227 Arguello Street are outlined in red. Mezesville Historic District is shaded in blue. Source: San Mateo County Property Maps Portal. Edited by Page & Turnbull.

[1] The properties are not oriented to true north; however, for the sake of clarity and consistency, northwest will be referred to as north, and so on.

Methodology

This report follows a standard outline for Historic Resource Evaluation (HRE) reports, and provides a summary of the current historic status, building descriptions, and historic context for the subject properties in Redwood City's Centennial neighborhood, including Mezesville. Page & Turnbull prepared this report using research collected at various local repositories, including the San Mateo County Assessor office, the City of Redwood City Community Development and Transportation Department, as well as various online sources including Ancestry.com, the California Digital Newspaper Collection, Newspapers.com, and Archive.org. Key primary sources consulted and cited in this report include Sanborn Fire Insurance Company maps, Redwood City building permit applications, city directories and census data, San Mateo County Office of the Assessor-Recorder records, historical photographs, historical newspapers, and historic periodicals including, Pacific Gas & Electric Company's *Pacific Service Magazine*. Page & Turnbull staff conducted site visits to 1111-1227 Arguello Street in December 2019 and February 2021. All photographs within this report were taken at those times, unless otherwise noted.

Summary of Findings

This HRE finds that none of the six properties contain historic resources that appear to be individually eligible for listing in the California Register of Historical Resources (California Register). Page & Turnbull has also found that 1203 Arguello Street is not individually eligible for listing as Redwood City Historic Landmark.

The properties at 1203, 1219, and 1227 Arguello Street do meet the definition of historical resources for the purposes of the California Environmental Quality Act (CEQA), as 1203 Arguello Street has been previously identified as a contributor to the Mezesville Historic District, and the properties at 1219 and 1227 Arguello Street have each previously been found to be contributors to the Mezesville Historic District and are designated as Redwood City Historic Landmarks by the City of Redwood City (City).

Table 1. Summary of Historic Resource Status Findings

Address (APN)	Use	Year Built	Individual Historic Status	Locally Listed Mezesville Historic District	Historic Resource for CEQA
1111 Arguello St. (052-252-080)	Commercial/ Industrial	1931; 1959; 1980	Not Eligible for California Register	Outside District Boundary, Non-contributor	No
1125 Arguello St. (052-252-090)	Commercial/ Industrial	1931; 1959	Not Eligible for California Register	Outside District Boundary, Non-contributor	No
1203 Arguello St. (052-252-040)	Residential	ca. 1921	Not Eligible for California Register or as Redwood City Historic Landmark	Contributor	Yes (as part of Mezesville HD)
1209 Arguello St. (052-252-030)	Undeveloped	ca. 1885, demolished 1979	Not Eligible for California Register	Non-Contributor	Yes (as part of Mezesville HD)
1219 Arguello St. (052-252-020)	Office (former residential)	1908	Listed Redwood City Historic Landmark	Contributor	Yes
1227 Arguello St. (052-252-060)	Office (former residential)	1890	Listed Redwood City Historic Landmark	Contributor	Yes

II. EXISTING HISTORIC STATUS

The following section examines the national, state, and local historic status currently assigned to 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street.

National Register of Historic Places

The National Register of Historic Places (National Register) is the nation's most comprehensive inventory of historic resources. The National Register is administered by the National Park Service and includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

Neither 1111, 1125, 1203, 1209, 1219, nor 1227 Arguello Street are listed in the National Register of Historic Places individually, or as a part of a historic district.

California Register of Historical Resources

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Resources can be listed in the California Register through a number of methods. State Historical Landmarks and National Register-listed properties are automatically listed in the California Register. Properties can also be nominated to the California Register by local governments, private organizations, or citizens. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places.

Neither 1111, 1125, 1203, 1209, 1219, nor 1227 Arguello Street are listed in the California Register of Historical Resources individually, or as a part of a historic district.

California Historical Resource Status Codes

Properties listed or under review by the State of California Office of Historic Preservation (OHP) are listed within the Built Environment Resource Directory (BERD) and are assigned a California Historical Resource Status Code (Status Code) of "1" to "7" to establish their historical significance in relation to the National Register of Historic Places (National Register) or California Register of Historical Resources (California Register).[2] Properties with a Status Code of "1" or "2" are either eligible for listing in the California Register or the National Register, or are already listed in one or both of the registers. Properties assigned Status Codes of "3" or "4" appear to be eligible for listing

[2] California State Office of Historic Preservation, Built Environment Resource Directory (BERD), San Mateo County, updated March 2020.

in either register, but normally require more research to support this rating. Properties assigned a Status Code of "5" have typically been determined to be locally significant or to have contextual importance. Properties with a Status Code of "6" are not eligible for listing in either register. Finally, a Status Code of "7" means that the resource has not been evaluated for the National Register or the California Register, or needs reevaluation. The most recent update to the Historic Property Data File for San Mateo County was in March 2020.

The properties have the following Status Codes in BERD:

- **1111 Arguello Street** – is not listed in BERD with a Status Code.
- **1125 Arguello Street** – is not listed in BERD with a Status Code.
- **1203 Arguello Street** – is not listed in BERD with a Status Code.
- **1209 Arguello Street** (Bement House) – listed in BERD with a Status Code of "3S" which means it was found to be an individual property that is eligible for the National Register of Historic Places. 1209 Arguello Street is currently a vacant parcel, as the residence assigned a 3S status was demolished in 1979.[3] Thus, it appears that BERD was not updated to reflect that change, and the property at 1209 Arguello Street no longer contains any historic resources.
- **1219 Arguello Street** – listed in BERD with a Status Code of "5S2," which means it is an "Individual property that is eligible for local listing or designation."
- **1927 Arguello Street** – is not listed in BERD with a Status Code.

The properties are also listed with Status Codes in "Appendix F: Redwood City Known Historic Resources" of the *A New General Plan for Redwood City: Draft Environmental Impact Report*, compiled by JRP Historical Consulting in 2008, as summarized in the following table.[4]

[3] Janet Reinka, "Historic RC House Will Topple Soon," *San Mateo Times*, 1979.
[4] JRP Historical Consulting, "Appendix F: Redwood City Known Historic Resources," in *A New General Plan for Redwood City: Draft Environmental Impact Report* (prepared for the City of Redwood City, May 2010), F-2, accessed online June 29, 2021, https://www.redwoodcity.org/home/showpublisheddocument/5063/635782719015270000.

Table 2. Excerpt from "Appendix F: Redwood City Known Historic Resources" in *A New General Plan for Redwood City: Draft Environmental Impact Report*

Address	Year Built	Eligibility Code[5]	Notes
1203 Arguello Street	ca. 1921	3D	Mezesville Historic District; City Council Resolution No. 14723 (7/24/2006)
1219 Arguello Street	1906	3D; 5S2; 6Z2 (1991-1995)	Mezesville Historic District; Edward and Harry Hanson Residence; City Council Resolution No. 14723 (7/24/2006)
1227 Arguello Street	1890	3D; 5S3 (1991)	Mezesville Historic District; Edward and Harry Hanson Residence; City Council Resolution No. 14723 (7/24/2006)

"Appendix F: Redwood City Known Historic Resources" provided the following definitions of the eligibility codes:

> 3D - Appears eligible for NR as a contributor to a NR eligible district through survey evaluation.
> 5S2 - Individual property that is eligible for local listing or designation.
> 5S3 - Appears to be individually eligible for local listing or designation through survey evaluation.[6]

Redwood City Historic Resources Inventory

The City maintains a list of individual historic landmarks, sites, and districts known as the Historic Resources Inventory. In 1991 to 1995, the City's Planning Division and Historic Resources Advisory Committee (HRAC) undertook a survey (Redwood City Survey) of potential historic resources to inform the Redwood City Historic Resource Inventory. Since the 1990s, the inventory has been continually updated as properties are added to or removed from the inventory.[7] Per the City's Historic Preservation Ordinance, a historic landmark is defined as "[A]ny improvement [building, structure, place, parking facility, fence, gate, wall, work of art or other object constituting a physical

[5] The Status Codes from the 1990s for 1219 and 1227 Arguello Street refer to Status Codes assigned on Department of Parks & Recreation (DPR) 523 survey forms prepared by the Redwood City Historic Resources Advisory Committee (included in the Appendix of this report). It should be noted that the Status Codes were revised, consolidated, and clarified in 2003 by the California Office of Historic Preservation. The Status Code "6Z2" is no longer used, but was previously defined as "Found ineligible for NR, no potential for NR, not eval for Local Listing."
[6] JRP Historical Consulting, "Appendix F: Redwood City Known Historic Resources," in *A New General Plan for Redwood City: Draft Environmental Impact Report* (prepared for the City of Redwood City, May 2010), F-14.
[7] City of Redwood City, with Hogle-Ireland, Inc., *City of Redwood City General Plan* (October 11, 2010, amended June 11, 2018), BE-208.

betterment of real property, or any part of such betterment] that has special historic, cultural, aesthetic or architectural character, interest or value as part of the development, heritage, or history of the City, the State, or the nation, and that has been designated pursuant to this Chapter [Redwood City Municipal Code, Chapter 40 – Historic Preservation]."[8]

1219 and 1227 Arguello Street were both recorded using California Department of Parks & Recreation (DPR) 523 survey forms in the 1990s, and are included in the **Appendix** of this memorandum for reference. 1219 and 1227 Arguello Street are each listed in the Redwood City Historic Resources Inventory as individual historic landmarks.[9] 1203 Arguello Street was not surveyed or recorded on a DPR 523 form during the 1990s survey.

1203, 1219, and 1227 Arguello Street are contributors to the locally listed Mezesville Historic District (adopted by the City Council on July 24, 2006 by Resolution No. 14723). 1209 Arguello Street, which is a vacant lot, is a non-contributor to the locally listed Mezesville Historic District.

1111 and 1125 Arguello Street are outside the Mezesville Historic District and are not listed in the Redwood City Historic Resources Inventory as individual historic landmarks or contributors to any historic district.

[8] Redwood City Municipal Code, Sec. 40.3. – Definitions.
[9] Circa: Historic Property Development, "Draft Report for the Proposed Mezesville Historic District, Redwood City, California," prepared for The City of Redwood City Planning Department and Historic Resources Advisory Committee (March 2, 2006), 7-8.

III. ARCHITECTURAL DESCRIPTIONS

The following section includes architectural descriptions of each of the six properties at 1111-1227 Arguello Street **(Figure 2)**. Each of the parcels at 1203, 1209, 1219, and 1227 Arguello Street are approximately rectangular and front Arguello Street, with 1227 Arguello Street at the southwest intersection with Whipple Avenue; these four parcels were historically developed as residential sites. 1125 Arguello Street is an approximately 2.44-acre, irregularly shaped parcel that fronts Arguello, and extends to Whipple Avenue behind 1203-1227 Arguello streets and along the adjacent Caltrain railroad tracks. The property at 1111 Arguello Street also has an approximately 0.6-acre irregularly shaped parcel that fronts Arguello Street and extends through the block to border the adjacent railroad tracks.

Figure 2. Aerial view of 1111-1227 Arguello Street, including six parcels, outlined in red. Approximate parcel boundaries are indicated with red dashed lines. Source: Google Maps. Edited by Page & Turnbull.

1227 Arguello Street

1227 Arguello Street is a one-story, Folk Victorian cottage that was built in 1890, and has since been converted to an office **(Figure 3)**. The building is located at the southwest corner of Whipple Avenue and Arguello Street. The approximately rectangular-plan, wood frame building is clad in tongue-and-groove wood siding and typical windows are one-over-one double-hung wood windows with ogee lugs. Scalloped wood shingles are located below the shallow eaves of the pyramidal hipped roof, which has a flat top. The roof is clad in asphalt shingles and features a hipped roof dormer at the center of the primary façade with a narrow, horizontal three-lite fixed wood window.

Figure 3. Primary (east) façade of 1227 Arguello Street.

A full-width front porch with a hipped roof is supported by chamfered wood posts. The porch, enclosed by a low wood-clad wall, is accessed via wood steps with open wood balustrades **(Figure 4)**. The primary entryway is centrally located and is a partially glazed wood panel door with multi-colored divided lites. A bank of two typical windows is located to the south (left) of the door, and one typical window is located to the north (right). A projecting corner bay window is located at the northeast corner of the building, and is capped with a gabled roof **(Figure 5)**. An eighteen-over-one double-hung wood window is located at the center of the corner bay window, and typical windows are located at either side. Applied wood ornaments—composed of an "X" with open circles in each quadrant—are located below the windows on the primary and side façades.

Figure 4. Steps to front entry porch.


Figure 5. Projecting northeast corner bay window.

The north façade has four typical windows: a central bank of two typical windows and one typical window at each end of the façade **(Figure 6)**. A projecting addition with a low-pitch shed roof is located at the north side of the rear façade **(Figure 7)**. The shed roof addition has a small hung window on the west-facing wall, and a typical window at the south facing wall. A secondary entrance at the addition, accessed via wood steps leading to a small patio covered by a shed roof, is located at the rear façade. A typical window is located on the rear (west) façade of the main building, facing the small patio. The south façade of the home has four typical windows in the same arrangement as the north façade. A driveway is located behind the residence and accesses a surface parking lot that is shared with the adjacent property at 1227 Arguello Street.


Figure 6. View of north façade.


Figure 7. Oblique view of rear (west) and south façades, looking northeast.

1219 Arguello Street

1219 Arguello Street is a one-story, vernacular cottage that was built in 1908, which faces east fronting Arguello Street and has since been converted to a commercial office use **(Figure 8)**. In terms of style, the building is representative of pyramidal folk houses built across the nation during the early twentieth century, as identified by historian Virginia Savage McAlester.[10] The rectangular-plan, wood frame building is clad in wood shingles and is capped by a pyramidal hipped roof with asphalt shingles. The overhanging eaves of the roof have wood board soffits and triple-brackets are located at the corners of the eaves. The building features one-over-one double-hung wood windows with ogee lugs, referred to hereafter as typical windows. The primary entrance is slightly recessed, and accessed via wood steps covered by a projecting gable roofed portico. A triangular vent is located within the gable of the entry portico and hipped elements are located at the gable returns. The primary (east) façade of the building is generally symmetrical except for the primary entrance door, which is set right (north) of center. To the left (south) of the partially glazed wood panel entrance door is a twelve-lite fixed wood window. Two typical windows flank each side of the entrance. The corners of the primary façade are chamfered, each containing a single typical window.

Figure 8. Primary (east) façade of 1219 Arguello Street.

[10] Virginia Savage McAlester, *A Field Guide to American Houses: The Definitive Guide to Identifying and Understanding America's Domestic Architecture*, (New York: Alfred A. Knopf, 2013), 146-147.

An exterior brick and rubble masonry chimney is located at the east end of the north façade, and extends through the eave of the roof **(Figure 9)**. One typical window is located to the east (left) of the chimney and two are located to the west (right). The rear (west) façade has a typical window at the north (left) end, below which is a small enclosed mechanical area with a shed roof **(Figure 10)**. A secondary entrance with a wood panel door is accessed via several wood steps and a small wood landing with a wood railing. A pair of two typical windows is located to the south (right) of the doorway, at approximately the center of the façade.

Figure 9. Oblique view of the primary (east) and north facades, looking southwest.

Figure 10. Oblique view of north and rear (west) façades, looking southeast.

The south façade of the building has two typical windows **(Figure 11)**. At the rear of the parcel is a detached garage **(Figure 12)**. The square-plan garage is clad in bevel wood siding with wood shingles under the eaves of a hipped roof. Two barn-style doors each with a diamond window, are located on the north façade. A driveway is located along the north side of the residence, and accesses a surface parking lot that is shared with the adjacent property at 1227 Arguello Street.

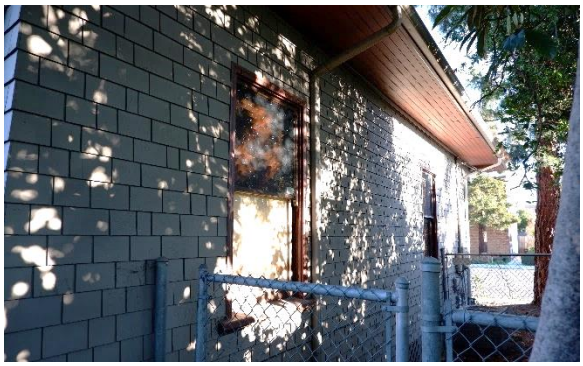


Figure 11. Partial view of the south façade, looking northeast.

Figure 12. Detached garage located at the southwest corner of the 1219 Arguello Street parcel, behind the residence.

1209 Arguello Street

The property at 1209 Arguello Street is occupied by an asphalt-paved surface parking lot and driveway, which provides access to the adjacent parcel at 1125 Arguello Street **(Figure 13)**. This site formerly contained a one-story residence known as the Bement House, which was demolished in 1979.

Figure 13. Surface parking lot and driveway at 1209 Arguello Street.

1203 Arguello Street

1203 Arguello Street is a one-story, Vernacular bungalow that was built in ca. 1921, which faces east fronting Arguello Street **(Figure 14)**.[11] The irregular-plan, wood frame residence is clad in stucco and capped with a cross-Jerkinhead roof. The roof is clad in asphalt shingles and has overhanging eaves. Most of the windows are six-over-one hung wood sash windows. A projecting bay at the primary façade, also capped by a jerkinhead roof, includes the wood panel primary entry door, which faces south and is accessed by several tile-clad steps with a low stuccoed wall. The entry door is non-original and has an arched four-lite wood transom. The projecting front bay has a large, wood sash picture window, which is curved at the top corners. The picture window has multiple fixed sashes and appears to have at least one casement sash, all with smaller divided-lites along the top. A fixed

[11] No original building permit is on file at the City of Redwood City. The 1921 year of construction is listed on the Appraisal Record for 1203 Arguello Street, on file at the San Mateo County Office of the Assessor-Recorder.

wood sash window with divided-lites at the top is located to the south (left) of the projecting front bay.

Figure 14. Primary (east) and south façade of 1203 Arguello Street.

The south façade of the house has two sets of paired six-over-one wood sash windows at either end of the façade and wood vent just below the eave of the jerkinhead side gable roof. At the rear (west) façade, a stucco-clad addition extends out from an original projecting bay with a jerkinhead roof **(Figure 15)**. A wood vent is located at the original portion of the house, above the low-pitch shed roof of the addition, and a small six-over-one wood sash window is located to the south (right) of the addition. The addition has a vinyl sash slider with simulated divided lites on the west-facing wall and a wood slab door on the south-facing wall, accessed by a set of wood steps with a small landing. A six-over-one wood sash window is located south (right) of the original jerkinhead projecting bay.

An exterior brick chimney is located at the north façade and extends through the eave of the roof **(Figure 16)**. A wood vent is located immediately below the jerkinhead roof eave. One six-over-one wood sash window is located east (left) of the chimney. Five windows are located west (right) of the chimney: a single six-over-one wood sash window, a pair of eight-over-one hung wood windows, and a pair of six-over-one wood sash windows. A chain-link fence encloses the front and north sides of the property.

Figure 15. Rear (west) and south facades, looking northeast.

Figure 16. North façade, looking south.

A concrete driveway south of the residence accesses a detached garage with an accessory dwelling unit (ADU) at the rear of the property. The rear ADU is a wood frame building with a cross-gable roof and wood lap siding. Paired side-hinge wood doors lead to the garage. The entrance has a wood panel door with stained glass. The doorway and a vinyl sash slider window are covered by a gabled portico with engaged wood columns. Vinyl-sash slider windows are also located on the secondary facades of the ADU.

Figure 17. Detached rear garage and ADU, looking west.

1125 Arguello Street

The property at 1125 Arguello Street includes three abutting industrial buildings: a 1931 garage, a 1931 office building, and a 1959 office building, all of which front Arguello Street and are built out to the east lot line **(Figure 18)**. An asphalt paved service yard extends the remainder of the 2.44-acre parcel, between the buildings residential fronting Arguello to Caltrain tracks, and contains several remnant concrete walls from former industrial uses **(Figure 19)**.

Figure 18. 1125 Arguello Street, looking southwest.

Figure 19. Rear service yar, looking north toward Whipple Avenue.

1931 Garage

The 1931 garage is a tall one-story hollow clay tile building set on a concrete foundation with a stucco-clad concrete base **(Figure 20)**. The building has irregular, rectilinear plan and is capped by a flat-on-hipped roof with rolled asphalt cladding. A simple brick cornice is somewhat obscured by ivy vines growing across the primary (east) façade. Typical windows at the 1931 garage are large industrial multi-lite steel sash windows **(Figure 21)**. The primary (east) façade features from south (left) to north (right): three evenly spaced typical windows; a rollup metal garage door with an inset pedestrian door and a concrete lintel; two typical windows; a rollup metal garage door with a concrete lintel; and a typical window. The north façade faces the driveway at 1203 Arguello Street and has no openings.

The rear (west) façade of the 1931 garage faces the service yard and is stepped, with the south (right) portion recessed **(Figure 22)**. The north (left) end of the rear façade has, from north (left) to south (right): a typical window, a metal rollup garage door, two typical windows, a metal rollup garage door, and a typical window. The recessed portion of the rear façade has a metal rollup garage door flanked by typical windows. The south façade has three typical windows at the recessed

west (left) portion, and one typical window at the east (right) portion. East of the window, the 1959 office building abuts the 1931 garage.

Figure 20. Primary (east) façade of the 1931 garage, looking west.

Figure 21. Typical windows at the 1931 garage, looking west.

Figure 22. Rear (west) and south facades of the 1931 garage, looking northeast.

1931 Office Building

The one-story, 1931 office building abuts the south side of the 1931 garage and fronts Arguello Street **(Figure 23)**. The hollow clay tile building has a rectangular plan and is set on a concrete foundation with a stucco-clad concrete base. The building is capped by a flat roof behind a parapet with a simple brick cornice. At the south (left) end of the primary (east) façade are three non-original openings with aluminum sash storefront windows. The center storefront window has a set of paired, fully glazed aluminum sash doors, and a non-original wall-mounted sign is located above **(Figure**

24). At the north (right) end of the primary façade are four original window openings with non-original aluminum sash windows **(Figure 25)**.

Figure 23. Primary (east) façade of the 1931 office building, looking west.

Figure 24. Doorway in the central storefront at 1931 office building, looking southwest.

Figure 25. Replacement aluminum sash windows in original openings, looking northwest.

The north façade abuts the adjacent 1931 garage, and the south façade abuts the adjacent 1951 office building addition. The rear (west) façade has a corrugated metal shed roof awning supported by metal pipe columns **(Figure 26)**. At the north (left) end of the rear façade is a window, hollow metal door, and two partially glazed doors with transoms. At the south (right) end of the rear façade are three non-original openings with aluminum sash storefront windows with inset, fully glazed doors **(Figure 27)**.

Figure 26. Rear (west) façade of the 1931 office building (left) and 1959 office building addition (right), looking east.

Figure 27. Rear façade of the 1931 office building, looking northeast.

1959 Office Building Addition

The 1959 office building addition abuts the south side of the 1931 office building and fronts Arguello Street. A partially enclosed loading dock at 1111 Arguello Street abuts the south side of the 1959 office building addition. The one-story, concrete masonry unit building has a rectangular plan and is set on a concrete foundation with a stucco-clad concrete base **(Figure 28)**. The building is capped by a flat roof with a parapet. The primary (east) façade has four eight-lite steel sash windows with projecting sills; one of the windows has metal vents in place of the top two lites. At the north (right) end of the primary façade is a recessed wood slab door accessed via a concrete step. The same corrugated metal awning at the rear façade of the 1931 office building extends along the rear (west) façade of the 1959 office building addition **(Figure 29)**. The rear façade has, from north (left) to south (right): a wood slab door, three eight-lite steel sash windows, a partially glazed wood door, and an eight-light steel sash window.

Figure 28. Primary (east) façade of the 1959 office building addition, looking northwest.

Figure 29. Rear (west) façade of the 1959 office building addition, looking northeast.

1111 Arguello Street

The property at 1111 Arguello Street includes three attached industrial buildings: a 1931 warehouse fronting Arguello Street, a 1959 loading dock attached to the south side of the warehouse, and a 1980 warehouse-office building at the center of the block and attached to the west side of the 1931 warehouse and loading dock **(Figure 30)**. The south portion of the parcel is occupied by an asphalt surface parking lot and loading area, enclosed by a chain-link fence.

Figure 30. 1111 Arguello Street, looking northwest.

1931 Warehouse

The 1931 warehouse is a rectangular, one-story hollow clay tile building set on a concrete foundation with a stucco-clad concrete base **(Figure 31)**. Four evenly spaced multi-lite steel sash windows are located along the east façade, and have projecting sills. The building capped by a flat-on-hipped rolled asphalt-clad roof. A simple clay tile cornice runs below a sloped terra cotta clay tile parapet.

The south side of the warehouse has two garage doors with metal rollup doors and one garage door with a top-hung metal barn door, which open onto the 1959 loading dock, described in greater detail in the following subsection. The west side of the building abuts the adjacent 1980 warehouse-office building. The north façade of the warehouse has a concrete loading dock that extends into the adjacent parcel at 1125 Arguello Street, and is covered by a corrugated metal shed roof supported by square metal posts. The east end of the loading dock is enclosed by a concrete masonry block wall with a metal slab door **(Figure 32)**. Two multi-lite steel sash windows are located on the north façade. Two garage doors have metal doors, and a former garage door opening has been infilled with concrete masonry units **(Figure 33 and Figure 34)**.

Figure 31. East façade of the 1931 warehouse at 1111 Arguello Street, looking west.

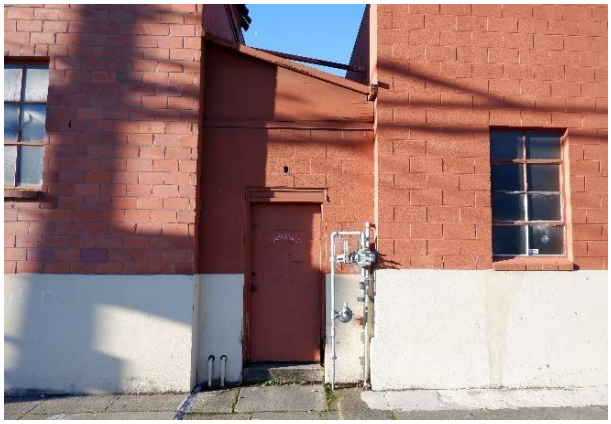


Figure 32. East wall partially enclosing the loading dock (center) on the north side of the 1931 warehouse (left).

Figure 33. Loading dock on the north side of the 1931 warehouse, extending into the 1125 Arguello Street parcel, looking southeast.

Figure 34. Section of loading dock between 1931 warehouse (right) and adjacent building at 1125 Arguello Street (left), looking east toward door opening onto Arguello Street.

1959 Loading Dock

The 1959 loading dock is a structure that is attached to the south side of the 1931 warehouse **(Figure 35)**. The loading dock has concrete masonry unit sidewalls, including at the east side along Arguello Street and the west side. The roof is a very low-pitched wood board shed roof with asphalt cladding, supported by a metal post and beam structure. The south side of the loading dock is generally open to the asphalt surface parking lot area. The wide concrete loading dock is accessed via two sets of wood steps. As previously noted, two garage doors with metal rollup doors and one garage door with a top-hung metal barn door open onto the loading dock from the adjacent 1931 warehouse. Another garage door with a metal rollup door opens onto the loading dock from the 1980 warehouse-office building **(Figure 36)**. Two non-original enclosed rooms are located at the

north end of the loading dock area, one of which is stucco-clad and extends to the end of the loading dock roof and has several vinyl windows **(Figure 37 and Figure 38)**.

Figure 35. 1959 loading dock, looking northeast.

Figure 36. Concrete loading dock with rollup doors from the adjacent 1980 warehouse-office building (left) and the 1931 warehouse (center and right).

Figure 37. Enclosed room addition at the north end of the loading dock structure, looking southeast.

Figure 38. Enclosed room addition at the north end of the loading dock structure, looking northeast.

1980 Warehouse-Office Building

The 1980 warehouse-office building is a two-story concrete masonry unit building with a rectangular footprint that extends along the south side of the 1931 warehouse and 1959 loading dock **(Figure 39)**. The building is capped with a flat roof that is enclosed by a wood screen. Three metal rollup garage doors are located at the ground floor; the smaller west (left) garage door is accessed via a concrete ramp, and the other two have concrete loading docks. An exterior concrete staircase with metal railings accesses the first and second story at the south façade. Aluminum sash windows are

located at the second story of the south and east facades. The west and north facades have no openings **(Figure 40)**.

Figure 39. South façade of the 1980 warehouse-office building, looking north.

Figure 40. North and west facades, looking southeast.

IV. HISTORIC CONTEXT

Redwood City History

The following context for prehistory in the region of Redwood City is provided in the "Draft EIR: Redwood City New General Plan":

> Prior to European explorers settling the plan area [Redwood City], the indigenous people known as the Ohlone [...], known throughout California as Coastaoans, or "coastal people", lived in the region for thousands of years. The Ohlone lived along the bay shores, foothills, and hills of the Peninsula, subsisting off of plentiful food resources, particularly those available from the bay. An estimated 7,000 indigenous people were living in this community when Spanish explorers first arrived in the last half of the 18th century. As a semi-nomadic people, their culture is evidenced by shell mounds left in areas of temporary occupancy. One such mound was located at Main Street near Woodside Road and another near the Union Cemetery. These two shell mounds have since been leveled and built upon.[12]

The following historic context for Redwood City is excerpted from the Redwood City General Plan:

> *Downtown*
> The earliest landowners and residents of Redwood City shipped timber and agricultural products from "El Embarcadero," near what is now the intersection of Broadway and Main Street in Downtown Redwood City. Commercial and residential buildings built in Redwood City during the 1850s and 1860s reflected popular Victorian Era design and construction. The oldest commercial building in Redwood City from this period is a general store built in 1859, at 726 Main Street. The John Offerman House, at 1018 Main Street, is another building that dates to the 1850s. This two-story wood frame Greek Revival residence was expanded in size in about 1889. The City itself was established as the seat of County Government in 1856 (12 years before its incorporation on March 27th 1868).
>
> This key role as the judicial and administrative center of San Mateo County is reflected in the fact that four generations of courthouses were constructed on the same site. Two courthouse annexes were added by the Works Progress Administration (WPA). By the 1870s and 1880s, Main Street and Broadway boasted several hotels, saloons, and

[12] Figure numbers from original report elided. See, Circlepoint, "Draft EIR: Redwood City New General Plan, Chapter 4.5 Cultural Resources" (May 2010) 4.5-1.

stables, as well as tin shops, butcher shops, barber shops, breweries, a flour mill, and a drug store. Some of the major businesses included the Grand Hotel, the Redwood City Hotel, the Eureka Brewery, the Frank and the Beeger tanneries, and the Redwood City Flour Mill.

By the end of World War II, the center for economic activity shifted from the historic Main Street and Broadway business center closer to new residential areas southwest of El Camino Real and along Woodside Road, as well as areas along U.S. 101. Development continued along this route as the highway was modernized into a freeway in the 1960s and El Camino Real redesignated as State Route 82 and as Woodside Road became State Route 84. [...]

Early Historic Neighborhoods

Residential neighborhoods formed around the city's historic core in the 1850s. Simon M. Mezes, legal agent responsible for clearing the title of the Arguello Family "Rancho de las Pulgas," platted "Mezesville" in 1854, and a portion of this area is now the Mezesville Historic District. Soon after Mezesville was surveyed, San Mateo County was created from a division of San Francisco County and Redwood City became the new county seat. The little town grew slowly in population and amenities, with commerce still centered near the wharf throughout the 1860s. Today, a portion of Mezesville is now a local historic district that is located within the Centennial Neighborhood. The district contains a mix of early 20th and mid-century homes that are one- or two-story, wood-frame buildings in a variety of architectural styles. [...]

Redwood City Industries

The earliest waterfront facilities at the "Embarcadero" consisted of a series of wood plank and pile wharves that were essential to Redwood City's economy, particularly for the local lumber and tanning industries. Among the largest were the Hanson-Ackerson Lumber Company (founded in the 1860s) and the S. H. Frank Tannery (founded in 1874). By the time the tannery opened, as many as 28 ships a day entered the Embarcadero to load products, many of which were sent to Bay Area markets.

Redwood City industries had long been located in the tideland areas flanking Redwood Creek, and this trend continued through the turn of the 20th century. Fishing and fish packing companies operated from Greco Island and Steinberger Slough by 1905 and were soon joined by several sea salt harvesting companies. Leslie Salt Company bought many of the smaller companies and eventually operated thousands of acres of salt ponds on the margins of the San Francisco Bay northeast of the city from 1907 to 1978.

The early tideland enterprises were followed in the 1910s by manufacturers of aniline dyes, magnesia (insulation), and cement from local oyster shells and aggregate products.

Redwood City's bayfront industries all required access to the wharves on the creek, and profited from the eventual construction in the 1930s of a deep water port farther from Downtown and closer to the Bay along Redwood Creek. Road and rail connections were extended farther east alongside the new deepwater channel to serve the port industries along Harbor Boulevard (now Seaport Blvd), including the salt company, a cement plant, and various fishing companies.

During the last half of the 20th century, Redwood City became one of several cities on the San Francisco Peninsula to develop a thriving technological sector. The Ampex Corporation opened its headquarters in Redwood City on Broadway in 1951, and became a leading innovator in tape recording equipment, including the first practical videotape recorder. Ampex became one of the 500 largest U.S. corporations within the decade and remained one of the largest employers in Redwood City through the 1980s.

Twentieth Century Residential Growth

Redwood City southwest of El Camino Real did not develop as a residential area before 1900 because it was held in large private estates, but eventually these large tracts were divided and sold. The first residential development southwest of El Camino Real began in earnest in the early 1900s and 1910s, spurred by 1) the 1906 earthquake, which displaced thousands of Bay Area residents, many of whom relocated to Redwood City and other cities on the Peninsula; and 2) the vacationers who built summer homes and cabins later converted to single-family dwellings.

By 1920, the city's 5,500 residents demanded construction of several new schools, including Lincoln, Washington, and John Gill. The City built Sequoia High School in 1923-1924, relocating it from the former Downtown building on Broadway to Brewster Avenue. The new campus is listed on the National Register of Historic Places and is a local historic landmark.

In the aftermath of the 1906 earthquake, the Bohemian Club of San Francisco re-subdivided land between Arlington and Edgewood roads known as Wellesley Park, or Edgewood Park. The subdivision featured curvilinear streets and a small circular park with animal statuary, and attracted scores of new residents who built homes in a variety

of architectural styles. Wellesley Park residents were mostly middle class, while the Emerald Hills subdivision farther southwest attracted wealthier buyers. Initial construction in Emerald Hills started out as summer homes built around Emerald Lake, but after World War II, residences were more commonly designed as year-round homes. Emerald Hills grew slowly until utility improvements of the 1980s enabled more lots to be developed. Other sections of the city southwest of El Camino Real that developed in the early 20th century included several working-class central subdivisions like the Oakwood neighborhood, which also included multiple architectural styles.

Mount Carmel, located northeast of Wellesley Park and Edgewood Park and southwest of El Camino Real, is largely a pre-World War II neighborhood (more than 40 percent of the housing stock was built before World War II) with distinctive architecture.

Redwood City remained a major employment center throughout the Great Depression and expanded at a rapid pace during and after World War II. The city's population of 12,500 at the beginning of the war grew to more than 46,000 by 1960. The city grew in concentric rings radiating from the Downtown, following the periods of significance. The City annexed adjacent areas until it shared boundaries with Menlo Park and Atherton to the southeast and San Carlos to the northwest. The City also expanded into previously unincorporated San Mateo County to the northwest and southwest of El Camino Real. Neighborhoods such as the Central Neighborhood area (west of El Camino Real and south of Jefferson) date to the pre-World War II growth of the city. The booming post-war era brought residential development that reached farther inland into the hillsides with residential tracts like Woodside Plaza and Farm Hill Neighborhoods.[13]

Mezesville District

The Mezesville district is a located within what is now known as the Centennial Neighborhood of the City. Mezesville was listed as a local register district in 2006; see section **VII. Summary of Local Historic Significance** for additional details. The *Draft Report for the Proposed Mezesville Historic District* describes the Mezesville district as follows:

> The Mezesville district name is taken from Simon Monserrat Mezes who received about 5,000 acres of land from the Arguello family for successfully negotiating and navigating the land patent process in the early 1850s. He was the first to subdivide the

[13] Redwood City General Plan, The Built Environment: Historic Resources, (Redwood City, CA), BE-196-BE204. Available online, https://www.redwoodcity.org/home/showpublisheddocument?id=5103.

previously Arguello-owned land, had surveys made and designed the map that determined the layout of today's Downtown streets. Mezes changed the name of the town from "The Red Woods" to "Mezesville" and advertised lots for sale for $75 each. The 1856 Town of Mezesville Map shows the dog-leg shaped plan which maximized the use of the Redwood Embarcadero Creek for industry, commerce and business at the south end of town. Residential "Villa Lots" marched north from the creek with the California public square as the pivot. There were twelve parcels to each lot of the thirty-nine from Fuller (then Seventh street) north to today's C Street (then Seventeenth Street). The second public square Park Square (Mezes Park) was located between B and C Streets, at Twelfth and Thirteenth Streets (Warren and Allerton at Standish and Howland Streets). Both public squares were the first in California to be donated for public use.[14]

Pacific Gas & Electric Company (PG&E)

Pacific Gas & Electric Company (PG&E) was established in 1905 with the merger of the San Francisco Gas and Electric Company, founded in 1852 by brothers Peter and James Donohue, and the California Gas and Electric Company, which originated as California Electric Light in 1877.[15] By 1905, both San Francisco Gas and Electric Company and California Gas and Electric Company had grown from their establishment by acquiring smaller utility companies. PG&E was founded in the year prior to the 1906 earthquake and fires that devastated San Francisco, and PG&E contributed significantly to the improvement of damaged infrastructure during the period of recovery and reconstruction that followed the disaster.[16] During the early to mid-twentieth century, PG&E focused primarily on the development of hydroelectric power in California, in addition to the massive steam turbine generating power plants PG&E built and maintained along San Francisco's Central Waterfront and elsewhere. The corporation acquired vast land holdings and built dams throughout the Sierra Nevada.[17]

Between the mid-1920s and mid-1940s, PG&Es service area more than doubled from 40,000 to nearly 90,000 square miles, comprising most of Central and Northern California, to serve a population of 4.75 million **(Figure 41)**. The 1920s were a period of expansion and consolidation in

[14] Circa: Historic Property Development, "Draft Report for the Proposed Mezesville Historic District, Redwood City, California," prepared for The City of Redwood City Planning Department and Historic Resources Advisory Committee (March 2, 2006), 6.
[15] Jim Doyle, "History/Utility Giant Grew from Gold Rush Roots/By 1930, PG&E Had Developed in a Monopoly," SFGate, online. February 1, 2012. https://www.sfgate.com/news/article/HISTORY-Utility-Giant-Grew-from-Gold-Rush-Roots-2934359.php.
[16] Doyle, ""History/Utility Giant Grew from Gold Rush Roots/By 1930, PG&E Had Developed in a Monopoly."
[17] "PG&E; History," *Los Angeles Times*, April 7, 2001. https://www.latimes.com/archives/la-xpm-2001-apr-07-mn-48189-story.html.

which the company acquired and absorbed the services of eight additional utility companies.[18] Another major development occurred in 1929 when natural gas was introduced to PG&E customers.[19] PG&E also began developing a natural gas service, piping the gas from oil fields in the San Joaquin Valley westward.[20] The company's downtown San Francisco headquarters were built between 1923 and 1925 and consolidated planning and senior executive relationships, while regions of the company were placed under division heads whose offices were in the field and could act with full authority in their regions. As described further below, these facilities were known as service groups and enabled service and maintenance to be carried out regionally.

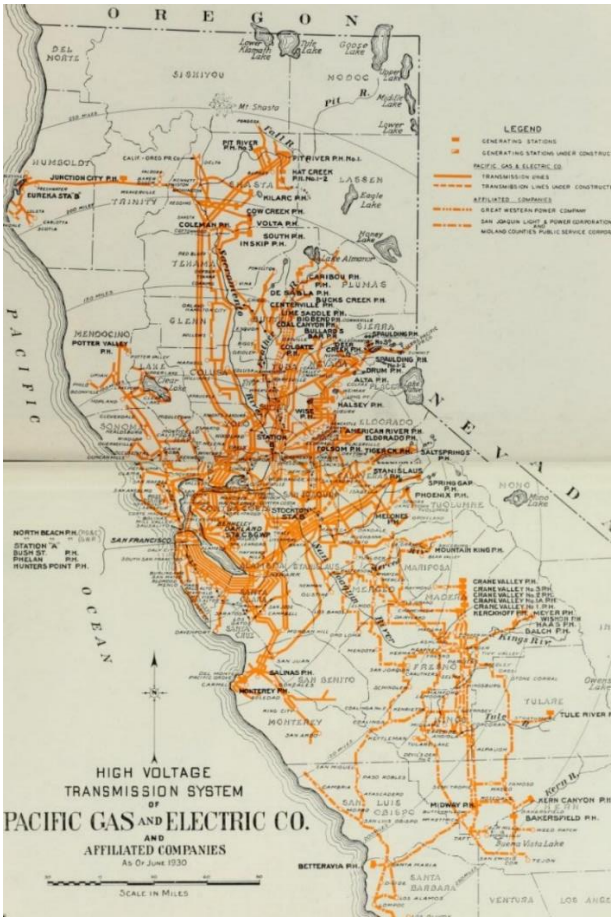


Figure 41. Map Illustrating PG&E's High Voltage Transmission System in Northern and Central California, 1930. Source: *Pacific Service Magazine*, July 1930, Volume 1.

[18] John Gordon Turnbull, National Register of Historic Places Registration Form: The PG&E General Office Building and Annex, San Francisco County, CA, prepared July 28, 1995. Entered in the National Register of Historic Places November 29, 1995.
[19] John Gordon Turnbull, National Register of Historic Places Registration Form: The PG&E General Office Building and Annex, San Francisco County, CA, prepared July 28, 1995. Entered in the National Register of Historic Places November 29, 1995.
[20] J.H. Gumz, "Natural Gas Becomes a Prominent Factor of Industrial Development," *Pacific Service Magazine*, Volume XVIII, No. 3, (January 1931), 77.

The 1930s brought economic recession during the Great Depression, and PG&E experienced a steep decline in sales during the years from 1931 to 1934. The company was, however, able to absorb power from federal hydroelectric projects at the Shasta Dam and Hoover Dam to bolster revenues. In the late 1930s, the company voluntarily lowered its rates in hopes of stimulating sales; however, it was not until the years of World War II that a significant uptick in service was achieved.[21]

In 1952, the company's centennial history described:

> What PG&E's contribution has meant to the economic progress of the territory it serves cannot be stated statistically. It is self-evident that only with the aid of a progressively improved and adequate service of electric power and gas could Northern California's economy have advanced as it has. Equally true is the corollary that as the territory grew and prospered, so did the utility system grow and prosper.
>
> The Company['s …] lines enter almost every home. It serves the business and industry and agriculture of an area in which 5,000,000 persons live. With total assets of approximately one and three-quarters billion dollars, the utility is owned by 188,463 stockholders. [… T]he Company's 17,000 employees […] are integral parts of the communities in which they serve.[22]

In 1995, PG&E's headquarters and its annex building at 245 Market Street, San Francisco was listed in the National Register of Historic Places. The property was determined to be significantly associated with patterns of commerce in California between 1923 and 1947, and to represent a significant and very fine example of a tall office building designed by the San Francisco architectural firm of Bakewell & Brown. The nomination noted that the period of significance, 1923 to 1947, ended in 1947 to capture the year the annex was constructed, and was roughly 50 years prior to the nomination of the property. PG&E still occupied the building and the company's significance as a utility also continued as of nomination in 1995. As of 2021, PG&E is in the process of relocating its corporate headquarters to Oakland.[23]

[21] John Gordon Turnbull, National Register of Historic Places Registration Form: The PG&E General Office Building and Annex, San Francisco County, CA, prepared July 28, 1995. Entered in the National Register of Historic Places November 29, 1995.
[22] Charles M. Coleman, *P.G.& E. of California*, (New York: McGraw-Hill, 1952), 339.
[23] J.D. Morris and Roland LI, "PG & E Will Relocated to Oakland After More Than 100 Years in San Francisco," *San Francisco Chronicle*, June 8, 2020.

PG&E SERVICE GROUP FACILITIES PROGRAM, 1924 - ca. 1933

Beginning in 1924, PG&E began a program of "service group" construction. Regarding the program, PG&E described in its publication, *Pacific Service Magazine*:

> Storage and distribution of materials and supplies, together with maintenance and repair of service equipment, constitute an activity which is vital to our company's efficient operation and to the continuance of a high standard of service to its customers.
>
> In order to provide adequate facilities for this purpose and to keep pace with the steady expansion of its gas and electric operations, a comprehensive program of service building construction was inaugurated by the company[.] The most important unit completed under this plan was the Central Warehouse group occupying an area[…]in the industrial district of Emeryville.
>
> As its name implies this is the headquarters warehousing group. It controls all of the materials and supplies for the Pacific Gas & Electric Company, performs all major repair work, and rehabilitates equipment returned from different points of the system when suitable for re-use or for sale.[24]

In 1931, the Redwood City Service Group was built at 1111-1125 Arguello Street and served the company's Redwood District service region. Construction was carried out by San Francisco-based contractor, Clinton-Stephenson Construction Company, with construction completed in August 1931. As originally constructed, the service group consisted of a garage and automobile repair shop, and office building, a warehouse, and a service yard to the rear of those buildings. Each of the buildings were built with a hollow clay tile block wall structure and concrete floors; the garage building was built with wood truss roof structure. The warehouse featured a concrete platform along its north side.[25]

[24] "Our Company Service Groups – Extensions of Recent Date," *Pacific Service Magazine*, Volume XVIII, No. 11, (1933), 342-344.
[25] "Building Section News," *Building and Engineering News,* Vol. 31, no. 2 (January 10, 1931), 9; "Building Section News," *Building and Engineering News*, Vol. 31, No. 5, (January 31, 1931), 11; "Building Section News," *Building and Engineering News,* Vol. 35, No. 27, (July 4, 1931), 30; and "Building Section News," *Building and Engineering News*, Vol. 35, No. 27, (August 15, 1931), 29.

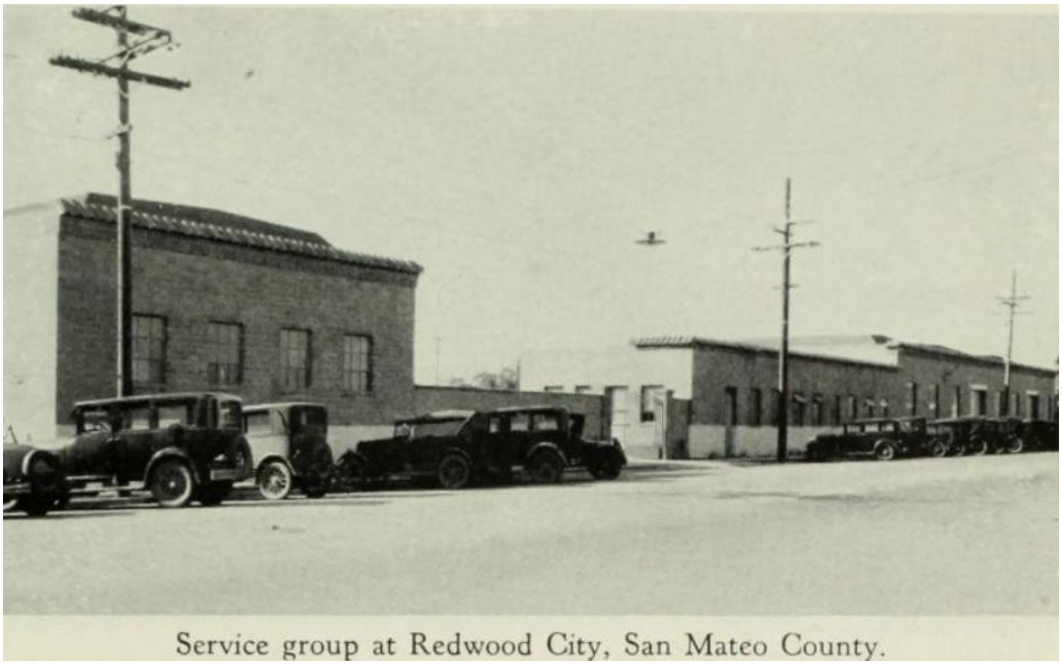


Figure 42. PG&E's Redwood City Service Group at 1111-1125 Arguello Street, ca. 1933.
Source: *Pacific Service Magazine* (1933).

As of 1933, the Emeryville Central Warehouse served a network of around 200 sub-warehouses throughout the company's 12-division, 89,000-square-mile territory, which served 1.25 million customers in 46 counties **(Figure 43)**.[26] The sub-warehouses within each service group controlled the storage and distribution of supplies and materials in their respective territories. As a part of this program, PG&E operated a fleet of 1300 motor trucks and 760 passenger cars, which were maintained and repaired in garages and repair buildings within the sub-warehouse facilities. As of 1933, PG&E completed service group units in 17 communities, including: San Rafael, Santa Rosa, Sacramento, Woodland, Chico, Placerville, Auburn, San Francisco, San Mateo, Redwood City (subject property), San Jose, Emeryville, Hayward, Concord, Stockton, and Oakdale **(Figure 44)**. To accommodate storage, maintenance, sales, and distribution, PG&E developed a set of guiding principles of "an ideal arrangement" for its sub-warehouse properties, which was described as follows:

> The typical arrangement for a completely integrated group of service facilities consists of a central yard for storage of poles, pipes and other heavy equipment that require no particular protection from weather, with buildings grouped around it. Typical buildings include a warehouse, handling the

[26] "Our Company Service Groups – Extensions of Recent Date," *Pacific Service Magazine*, Volume XVIII, No. 11, (1933), 342-344.

> smaller gas and electric supplies and equipment; shop facilities for the maintenance of electric transmission equipment, transformers and meters; a shop for the repair and adjustment of gas meters and regulators; a garage and automotive repair shop; and a distribution office which houses the personnel and records of the organization by which the group is administered.
>
> The service groups are generally situated on the outskirts of town where a typical industrial type of architecture is suitable. In these instances, a corrugated iron building has been adopted as standard, with a heavy interior timber frame and concrete foundations and floors. A ridged or hipped roof with ventilated monitors and industrial type, ventilated steel sash are typical features of the design. Where the group is situated in a more populous section of a city, the architecture is altered to harmonize with its surroundings, usually necessitating a more expensive brick or tile wall construction with cornice, base, and belt courses.[27]

The service group architectural type featuring a brick exterior was employed at PG&E's Redwood City service group and at its Hayward Service Group, which featured similar fenestration, bases, and cornice treatments. Of the 17 service groups, PG&E identified the Emeryville facility as of primary importance, with the San Francisco facility second most important, and facilities including the subject property in Redwood City of tertiary importance **(Figure 45 and Figure 46)**.[28]

Figure 43. PG&E's Emeryville Central Warehouse Facility. Source: Google Street View, 2020.

Figure 44. PG&E's San Mateo Service Group, with more industrial corrugated metal exterior, ca. 1933. Source: *Pacific Service Magazine* (1933).

[27] "Our Company Service Groups – Extensions of Recent Date," *Pacific Service Magazine,* Volume XVIII, No. 11, (1933), 342-344.
[28] Ibid., 342-344.

Figure 45. PG&E's San Francisco Service Group Facility, 1930. Source: *Pacific Service Magazine* (1930).

Figure 46. PG&E San Francisco (Mission) Service Group facility at 3235 18th Street.
Source: Google Street View, April 2019.

Overall, PG&E found the Redwood City, Hayward, San Mateo, Santa Rosa, Chico, and Concord facilities were judged to embody the characteristics of PG&E's ideal arrangement most completely **(Figure 47)**.[29] The former Redwood City Service Group property at 1111-1125 Arguello Street exhibits most of the characteristics prescribed for the "ideal arrangement" of a PG&E Service Group facility in a more populous area. The property features an open pole yard, warehouse building, garage, and automotive repair buildings, and is rendered with a brick exterior with concrete base, and modest architectural detail and ornamentation that was intended to harmonize with neighborhood character in the vicinity.

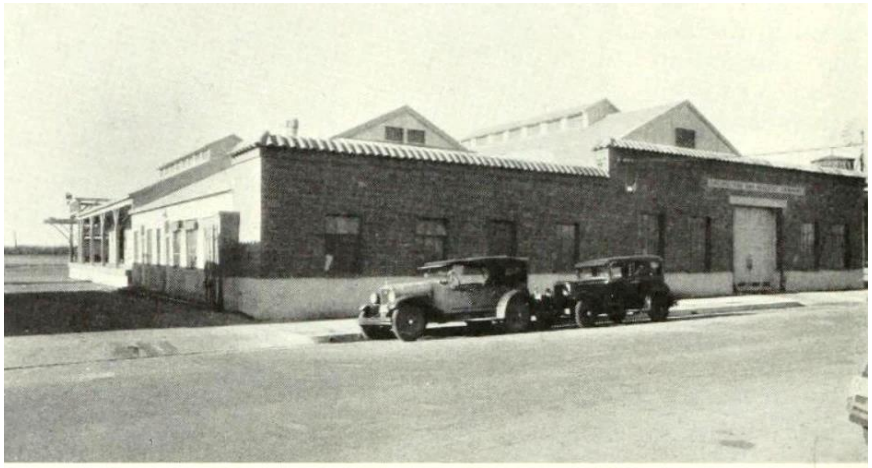


Figure 47. PG&E's Hayward Service Group, ca. 1933. Source: *Pacific Service Magazine* (1933).

[29] "Our Company Service Groups – Extensions of Recent Date," *Pacific Service Magazine,* Volume XVIII, No. 11, (1933), 342-344.

Vernacular Residential (Folk) Architecture

The residences at 1203 Arguello Street, 1219 Arguello Street, and 1227 Arguello Street embody varying characteristics of Vernacular residential architecture applied to a bungalow (1203 Arguello Street) and cottage typologies (1219 Arguello Street and 1227 Arguello Street), which were constructed in the Bay Area communities during the late nineteenth and early twentieth centuries. Typically, vernacular buildings are not designed by professional architects and are developed with forms that respond to the requirements of their use, rather than to express a particular style. As noted by historians Herbert Gottfried and Jan Jennings, "the final appearance and character of a building may be more easily influenced by the availability of local materials, than by current trend."[30] Additionally, Gottfried and Jennings argue, "the rules of composition and use of materials were open to interpretation by owner-builders, carpenters, and construction companies," and a balance of the influence of tradition, availability of materials, and preference for function informed the design of vernacular buildings of various typologies.[31] Thus, vernacular architecture is not easily defined by a particular appearance or material palette across broad periods of time. Rather, changes in availability of materials, building technology, and the need to adapt buildings to regional climates and cost constraints all inform the design of vernacular buildings. These changes are reflected in the contrasts presented between the cottages at 1219 and 1227 Arguello Street, both constructed by Edward M. Hanson in 1890 and 1908, respectively, and the bungalow at 1203 Arguello Street, built ca. 1921. The earlier cottages feature wood siding, shingles, and hip roofs, while the later bungalow features stucco siding, a jerkinhead roof, and generally less ornamentation, reflecting changes in vernacular construction between the late 1890s and late 1920s.

Historian Virginia Savage McAlester's *A Field Guide to American Houses* identifies several vernacular or folk housing typologies among other residential architectural styles and forms, including the Victorian Folk style and Pyramidal house typology, which reflect vernacular architectural design from the 1850s to the 1930s.[32] The house at 1219 Arguello Street is categorized as a pyramidal vernacular cottage, given its square plan, pyramidal hip roof, and Folk Victorian details such as wood shingles, siding, and chamfered front corners. 1219 Arguello Street features a transitional application of Classical and Victorian elements, and the house at 1227 Arguello Street is similarly categorized as a Folk Victorian style pyramidal type house. Additionally, both 1219 and 1227 Arguello Street were not designed or constructed by architects or individuals identified as master builders.

[30] Herbert Gottfried and Jan Jennings, *American Vernacular Buildings and* Interiors, *1870-1960*, (New York: W.W. Norton & Company, Inc., 2009), 11.
[31] Gottfried and Jennings, *American Vernacular Buildings and* Interiors, *1870-1960*, 10-11.
[32] Virginia Savage McAlester, *A Field Guide to American Houses* (New York: Alfred A. Knopf, 2013, second edition), 146.

The house at 1203 Arguello Street is a vernacular bungalow representative of the generally more modest bungalows built during the 1920s, during the waning of the popularity of Craftsman bungalows, which fell out of favor by the early 1930s.[33] Bungalows rendered in modest interpretations of the Craftsman style were often referred to as "California Bungalows," and provided hybridized examples of the influence of the Arts & Crafts and Prairie styles, which gained popularity during the first two decades of the twentieth century. [34] In some cases, the typology also took cues from Japanese architecture and Swiss chalets. The term bungalow, however, is derived from the Hindustani word, *bangla,* meaning low house for travelers with surrounding porches.[35]

Bungalows were built throughout the United States by builder-contractors between the 1890s and 1920s and were often constructed according to plans provided in plan books or mail order catalogs and monthly journals such as those published by Sears, Roebuck & Co., or Aladdin Homes.[36] The popularity of the Bungalow during the early 20th century was evident as it became the first type to be built in quantity by builder-contractors. The bungalow typology was typically rendered in wood-clad, shingle-clad, and stucco-clad variations (such as the subject building at 1203 Arguello Street) in the Bay Area. Beyond variations in cladding depending on the favored aesthetic of a builder-contractor or prospective owner, bungalows typically featured a front porch (sometimes with a stoop containing a staircase), tapered columns, many windows to provide abundant air circulation, gabled roof forms with wide, overhanging eaves, and exposed roof frame components including purlins, rafters, and beams. Gable vents were also common to the typology.

[33] McAlester, *A Field Guide to American Houses*, 568.
[34] McAlester, *A Field Guide to American Houses*, 578.
[35] Lester Walker, *American Homes: The Landmark Illustrated Encyclopedia of Domestic Architecture*, (New York: Black Dog & Levanthal Publishers, 1996), 186.
[36] Walker, *American Homes: The Landmark Illustrated Encyclopedia of Domestic Architecture*, 185. See also, Mike Jackson, "Assembly Required: A Brief History of 20th-Century Kit House Designs," *Architect*, online. Accessed October 24, 2018. https://www.architectmagazine.com/practice/assembly-required-a-brief-history-of-20th-century-kit-house-designs_o.

V. SITE HISTORY

Site Development

In 1890, owner Edward M. Hanson constructed the one-story residence addressed 1227 Arguello Street, at the southeast corner of Arguello Street and Whipple Avenue, which served as the primary residence for himself and his immediate family, and remained in Hanson family ownership through the 2016.[37] A topographic map published in 1897 illustrated neighborhood development to the west of Redwood City's core blocks, including a string of buildings along the northeast side of Arguello Street, and several residences along the southwest side of Arguello Street, with less dense development on that street face overall. The residence at 1227 Arguello Street and another residence to the southeast, 1209 Arguello Street, built in 1885, were among the buildings illustrated on the map. Otherwise, most of the land between Arguello Street and the railroad to the southwest appears to have been vacant **(Figure 48)**.

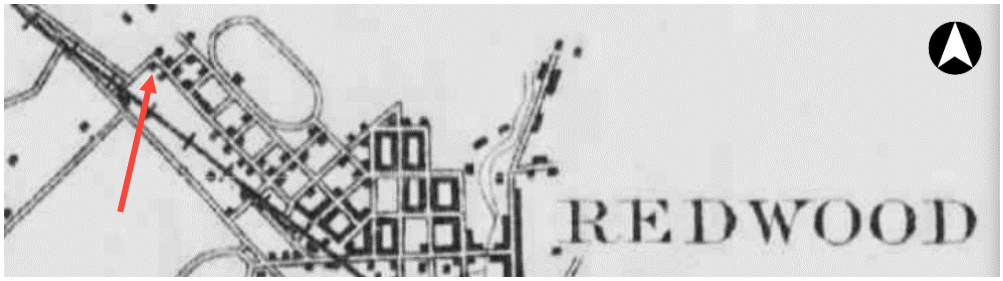


Figure 48. USGS map of the Palo Alto quadrangle, illustrating development in Redwood City, 1897. A red arrow points to the building at 1227 Arguello Street. Source: U.S. Topo Viewer, online. Edited by Page & Turnbull.

Historic photographs of the house at 1227 Arguello Street from 1890 and 1908 show that it originally featured a rectangular footprint, hip roof with a "widow's walk" at the peak, channeled wood siding along the first story, fishscale shingles beneath the eave line, and a front portico also decorated with wood shingles. Windows were single and paired one-over-one wood-sash with shingled awnings for shading. The house also had a brick chimney on the rear side of the roof, an iron fence with entrance gate aligned with the front entrance, and several low ground-covering plantings within the front and side yards. The residence did not originally feature the existing corner projecting bay that faces the intersection of Arguello Street and Whipple Avenue or the full-width front porch; these features were added at some point between 1890 and circa 1908, based on available historic photographs **(Figure 49 and Figure 50)**.[38]

[37] Year of original construction is provided in Redwood City Historic Resources Inventory Survey Form, Edward M. Hanson House (1227 Arguello Street). Form prepared in 1995 for the Redwood City Survey by Charles Jany of the Historic Resources Advisory Committee. This year of original construction was also confirmed by former property owner Robert Hanson, via email.

[38] Date of construction provided by former owner Robert Hanson, grandson of Edward M. Hanson, via email.

Figure 49. 1227 Arguello Street, 1890. Source: Courtesy of Bob Hanson, former owner.

Figure 50. 1227 Arguello Street, circa 1908. The windmill partially visible at left was located behind the neighboring residence at 1219 Arguello Street. Source: Courtesy of Bob Hanson, former owner.

In 1908, Edward M. Hanson and his son, Harry M. Hanson, built the neighboring one-story residence at 1219 Arguello Street.[39] This residence was also owned by Edward M. Hanson between 1908 and ca. 1920, during which time it was rented out to several tenants, including Edwards' son Harry, according to census data. By 1940, ownership passed to Harry M. Hanson, and later, to other Hanson family descendants, who owned the property into the until 2016. This residence originally featured a nearly square plan, a hipped roof, front entrance porch with a gabled portico with a split pediment, and chamfered front corner bays. Windows were also arranged as single and paired one-over-one sash. The exterior was covered with wood shingles and a chimney was located on the west side of the building. Plantings were present in the front yard, and very low fencing enclosed the front property line and land between 1219 and 1227 Arguello Street was used for gardening by the Hanson family into the 1940s **(Figure 50 and Figure 51)**.[40] At 1219 Arguello Street, the property contained two, one-story, wood-frame ancillary buildings, one of which appears to have been topped with a windmill structure based on historic photographs. Both of these structures were no longer extant by 1986, when a new garage-storage building was built at the rear of the site and a driveway accessing the garage was built behind 1219 and 1227 Arguello Street. According to former owner Robert Hanson, the new garage built in 1986 was subsequently relocated to its current position on the site.

[39] Date of construction provided by former owner Robert Hanson, grandson of Edward M. Hanson, via email.
[40] Shared via email by Robert Hanson.

Figure 51. 1219 Arguello Street, ca. 1908. Note windmill visible behind the residence.
Source: Courtesy of Bob Hanson, former owner.

A photograph from ca. 1906 shows a small portion of the neighboring residence that once stood at 1209 Arguello Street **(Figure 51)**. 1209 Arguello Street was addressed 1003 Arguello Street on the 1910 Census and was rented by husband and wife, Thomas and Clemma Efferly. By 1920, Clemma Efferly's sister, Emma Bement, occupied the house with Clemma, and the residence later became known as the Bement House. The Bement House was demolished in 1979 to accommodate a driveway that accesses the property at 1111-1125 Arguello Street.[41]

The earliest available aerial photograph of the subject properties was taken in 1930 shows the string of residences addressed 1203, 1209, 1219, and 1227 (east to west) along the south side of Arguello Street, with the remainder of the block face remaining vacant **(Figure 52).** By 1930, each of the four neighboring residential properties included a main residence and one or two detached ancillary buildings at the rear of the lot. Review of aerial photographs from 1930, 1941, the 1950 Sanborn map, and available building permit records (referenced in the construction chronology section of this report) indicates that an automobile garage and a wood-frame barn, stood at the rear property line of 1227 Arguello Street by 1930. Available building permit records and correspondence for 1227 Arguello Street indicate that the garage and barn were dilapidated as of 1956 and demolished in approximately the same year per the recommendation of the City's building inspection staff.
At 1203 Arguello Street, a one-story bungalow with a detached auto garage stood at the site by 1930; the year of construction is listed as 1921 in the San Mateo County Assessor appraisal record. Archival research did not find documentation confirming a design professional associated with the property, beyond original owner-occupant, Laurie Duncan, a carpenter-contractor, who served as

[41] Janet Reinka, "Historic RC House Will Topple Soon," *San Mateo Times*, 1979.

Redwood City Building Inspector between 1939 and 1954. It is plausible that Duncan built his own residence and the garage at the property, yet an absence of documentation does not provide confirmation. The existing garage at 1203 Arguello Street appears to have been built ca. 1921-1930; the garage has since been converted to an ADU at an unknown date and appears to have a non-original gable extension over the occupant entry door.

A 1930 aerial photograph shows a line or fence to the east of the residences that formed a perimeter around a larger rectangular parcel, and piles of materials placed further south, closer to the nearby railroad line. It is unknown if these material piles were staged for railroad pick-up or if they related to the soon to-be-built PG&E property at 1111-1125 Arguello Street.

Figure 52. Aerial view of the subject properties along Arguello Street, 1930. Source: UC Santa Barbara Frame Finder, Fairchild Aerial Surveys, Flight C-1025, Frame D-8. Edited by Page & Turnbull.

In 1931, land to the immediate south and southwest of the four residences at 1203, 1209, 1219, and 1227 Arguello Street was developed by PG&E as the location of the company's Redwood City Service Group, addressed 1111-1125 Arguello Street. Plans for the property included a warehouse, garage, service department, and offices. On April 3, 1931, PG&E, with contractor Clinton-Stephenson & Co. filed a permit application to permit construction of the group of one-story "tile and stucco service group buildings," which were completed in August. The building permit notice published in *Building and Engineering News* did not name an architect.[42]

[42] See, "Building Contracts – San Mateo County," *Building and Engineering News*, April 11, 1931, 30; "Building Section News," Building and Engineering News 31, no. 2 (January 10, 1931), 9; "Building Section News," *Building and Engineering News* 31, no. 5

Figure 53. From left to right, 1229, 1219, 1209, and 1203 Arguello Street and the PG&E Redwood City Service Group at 1111-1125 Arguello Street, 1941. Source: Flight C-6660, Frame 311, Fairchild Aerial Surveys, UC Santa Barbara FrameFinder.

As indicated on the 1950 Sanborn Fire Insurance Map, the residence at 1227 Arguello Street had been converted to an office use between 1940 and 1950, and the other subject properties retained their original uses **(Figure 54)**. In the mid-1980s, the square garage originally located at the northwest corner of the property at 1219 Arguello Street was moved to the southwest corner of the property and refurbished to mimic the architectural design features of the residence at 1227 Arguello Street.[43]

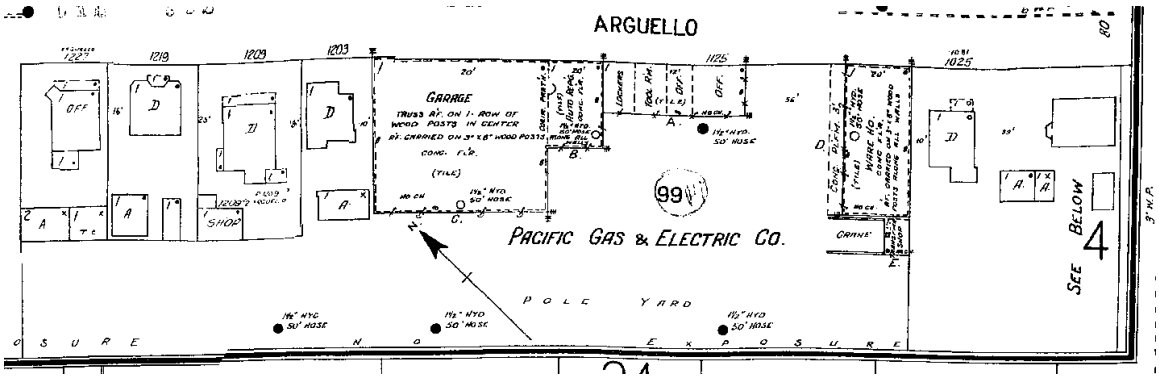


Figure 54. 1950 Sanborn Map Co. fire insurance survey map, sheet 4. Source: San Francisco Public Library, Proquest Digital Sanborn Maps. Edited by Page & Turnbull.

(January 31, 1931): 11; "Building Section News," *Building and Engineering News* 35 no. 27 (July 4, 1931); and "Building Section News," *Building and Engineering* News 35, no. 33 (August 15, 1931): 29.

[43] Email correspondence from previous owner Robert "Bob" Hanson on March 13, 2016 to Russ Castle; provided to Page & Turnbull by Hines.

In 1959, a one-story concrete block office building was constructed between the existing PG&E superintendent's office building and the warehouse. By 1965, a single-family dwelling at 1025 Arguello Street, located to the south of the PG&E property, was demolished in order to accommodate the expansion of the PG&E facility southward. As the PG&E facility expanded, a loading dock was constructed along the south façade of the warehouse building in the place of the demolished single-family residence, and a large concrete pad and ramp was built along the west façade of the warehouse **(Figure 55)**. In 1979, PG&E applied for a permit to build a two-story office and storage building addition to its facility. The two-story concrete block building was constructed in 1980 along the west façade of the warehouse building. The new building consisted of a ground floor warehouse with office space above. In 1980, new storefronts were installed at the east and west façades of the original warehouse building.

Figure 55. Aerial photograph of subject properties, May 11, 1965. Cartwright Aerial Surveys, Flight CAS-65-130, Frame 2-79. UC Santa Barbara Special Collections.

Since PG&E's use of the property at 1111-1125 Arguello Street ended in 1974, the property has occupied by a variety of commercial businesses. The residence at 1203 Arguello Street continued to be occupied as such. The properties at 1219 and 1227 Arguello Street remained under Hanson family ownership until 2016. 1227 Arguello Street continued to be used as an office from the 1950s onward. Circa 1980s or later, 1219 Arguello Street was converted to an office use.

CONSTRUCTION CHRONOLOGY

The following construction chronology is compiled from building permit records on file with the City.[44] Available records were reviewed and compared to available historic photographs, maps, and additional primary sources. A permit table for 1209 Arguello Street is not provided as that residence is no longer extant.

1227 Arguello Street

Date Filed	Permit App. #	Owner	Contractor	Work
1890	N/A – date of construction provided by Robert Hanson via email.	Edward M. Hanson	Edward M. Hanson	Original construction.
5/17/1956	18007	Harry M. Hanson	Harry M. Hanson	Demolish barn and utility buildings.
2/28/1984	Not provided	Rose Hanson	Vern Taylor General Contracting	Install new foundation 12 inches below grade.
7/20/1984	Not provided	Mr. Hanson	A.R. Termite	Termite damage repair.
7/3/1985	Not provided	Edward Hanson	Not listed	Roof repair.
11/15/1985	85-0157	Rose C Hanson of Menlo Park	Owner	Bring electrical, plumbing, mechanical systems up to code, includes remove old plaster.
7/12/1988	881678	E. Hanson	A&P Electric	Install 1.5 horse power motor for air condition.
1/31/1997	97-0233	Edward H. and FJ Hanson Trustees	John F. Dahl Plumbing	Replace 70,000 BTU gas furnace.
6/8/2016	SW16-0028	Not listed	JP Paving & Grading	Driveway repair 60 s/w 7 c/g 7.

[44] Permit records were obtained through a public records request in March 2021. In person research of physical and digitized records was not able to be undertaken due to health and safety protocols in place during the COVID-19 Pandemic.

1219 Arguello Street

Date Filed	Permit App. #	Owner	Contractor	Work
1908	N/A – date of construction provided by Robert Hanson via email.	Edward and Harry Hanson	Edward and Harry Hanson	Original construction of house.
5/23/1956	Letter to owner H.M. Hanson from City regarding code deficiencies	Harry M. Hanson	N/A	Electrical systems in garage and utility buildings non-confirming with Redwood City code
8/4/1986	86-1995	Rose C Hanson of Menlo Park	Unknown	Reroofing permit.
9/10/1986	86-2246	Rose C Hanson of Menlo Park	Unknown	New storage area at rear of lot and new storage building.
12/1/1986	86-2698	Rose C Hanson of Menlo Park	Owner	Close in porch and new drywall in house.
12/1986	86-2700	Rose C Hanson of Menlo Park	Owner	Re-plumb house.
12/1/1986	86-2702	Rose C Hanson of Menlo Park	Owner	Re-wire house.
12/19/1986	86-2935	Rose C Hanson of Menlo Park	A&H Heating	New furnace and ducts.
12/19/1986	86-2936	Rose C Hanson of Menlo Park	A&H Heating	New furnace and gas line.
7/12/1988	88-1678	Rose C Hanson of Menlo Park	A&P Electric Inc	Install 1.5 horsepower motor for air conditioning.
4/24/1995	95-0762 and 95-0763	Rose C Hanson of Menlo Park	Barry's Co.	Air condition alteration.
6/16/2003	B03-1207	Rose C Hanson and Edward H Hanson of Chico	Dean Designs Co.	Chimney retrofit and upgrade.
8/14/2007	B07-1474	Robert K. Hanson TR, Hanson Bar of Chico	Kahl Construction Co.	Repairs to front porch, decking, column, roof.

Date Filed	Permit App. #	Owner	Contractor	Work
2/5/2008	B08-0157	Robert K. Hanson TR, Hanson Bar of Chico	Redwood Plumbing Co. Inc.	Replace furnace.

1203 Arguello Street

Date Filed	Permit App. #	Owner	Contractor	Work
1921	N/A (Appraisal Record)	-	-	Original construction of house.
1927	N/A (City Directory)	L.M. Duncan	N/A	First year the property was listed in a Redwood City Directory.
12/1985	Illegible	Peter Barusko	Jerry Heath	Electrical service upgrade
7/30/1998	98-1989	Pedro and Sofia Barusko of South San Francisco	Unknown.	Repair, no description.
3/29/1999	99-0715	Not provided	Not provided.	Repair “see description”
5/16/2000	200-1306	Sonia Sester of San Carlos	Not provided.	Repair, no description.
9/12/2000	200-2639	Sonia Sester of San Carlos	Sonia Sester	Repair “see description
9/18/2000	200-2690	Sonia Sester of San Carlos	Eagle Refrigeration and Heat	New central forced furnace with new duct work
1/16/2014	Tree13-0186	Not provided.	Not provided.	Removal of oak tree because it is close to the house

1111 Arguello Street

Date Filed	Permit App. #	Owner	Contractor	Work
12/26/1991	91-2643	TBT Investments	Unknown	Temporary electrical service pole
12/14/1993	93-3161	TBT Investments	Unknown	Tear off and new tar and gravel 4-ply roof
12/4/1996	96-3286	TBT Investments	Unknown	Tear off existing tongue and groove wood deck and replaced in kind.
11/21/2002	B02-1067	TBT Investments	Unknown	Gas pressure test/repair
6/17/2003	B03-0588	TBT Investments	Unknown	Wireless unmanned telecommunication.
9/10/2010	B10-1433	TBT Investments	Unknown	Installation of fiberoptic box
4/27/2012	CP12-0050	TBT Investments	Unknown	CableCom. Repair damaged anchor for pole.

Date Filed	Permit App. #	Owner	Contractor	Work
10/21/2015	B15-2536	TBT Investments	Unknown	Addition of two T-Mobile antennae. Finaled 7/28/2016.

1125 Arguello Street

Date Filed	Permit App. #	Owner	Contractor	Work
12/28/1962	23720	PG&E	Heart Construction Co. and Biber Electric Co.	Heater and electrical work.
10/7/1966	26782	PG&E	W.E. Byrd, builder and Gillard Electric	Remodel "dry rooms" to provide facilities for Gas Dispatch.
11/17/1969	662	PG&E	Les Kelley, Inc.	[illegible] improvements=service center
9/2/1971	4729	PG&E	Les Kelley	Install new toilet, wash basin, lights, door, partition, ventilation for women's toilet.
4/17/1978	1262	Camino Camper Center	Same	Roof, mechanical, inspection-related.
11/20/1979		TBT Investments	Dale [Illegible], Architect	Construct steel-frame office and warehouse building.
8/7/1980	3075	TBT Investments (A-1 Rental, applicant)	Associated Roofing	Re-roofing permit.
10/13/1980	9734	TBT Investments	Sinclair Construction	Front and rear sidewall modifications.
10/27/1980	Letter to Sinclair Construction from Senior Building Inspector	TBT Investments	Sinclair Construction	Notes two-story office and warehouse building under construction.
1986	86-1199	TBT Investments	Unknown	Water service-related.
2/20/1987	[illegible]	TBT Investments	Viking Spray Booth	Install spraying booth.
10/30/2008	S08-0045	TBT Investments (A-1 Rental Applicant)	A-1 Rental	New monument Sign (Whipple) Replace existing sign on Arguello.
10/30/2008	B08-1749	TBT Investments (A-1 Rental Applicant)	A-1 Rental	Construct fence and add landscape sprinklers

Ownership and Occupant History

The following tables provide a summary of the ownership history of each of the subject properties, beginning with the year of construction, compiled from previous historic resource inventory survey forms, U.S. Census, City Directory, and voter registration data, and available ownership information listed on building permit applications and plans from the City of Redwood City. Ownership and Occupancy tables are not provided for 1209 Arguello Street as the residence that stood at the property is non-extant.

1227 Arguello Street

Year	Occupants (Owners in bold)	Occupation (if listed)
1890	**Edward M. Hanson** (head) Mary E. Hanson (wife) Harry M. Hanson (son) Frank Hanson (son)	Edward, machinist at cod fishery on Greco Island - - -
1900 Census (no street address listed)	**Edward M. Hanson** (head) Lizzie (Mary E.) Hanson (wife) Harry M. Hanson (son) Nils Clausen (boarder) Peter Hanson (father of Edward)	Day laborer - School student Day laborer Teamster
1909 City Directory	**Edward M. Hanson** Frank Hanson Harry M. Hanson	Engineer Engineer, Frank's Tannery Mail Carrier
1910 Census (addressed 1009 Arguello Street)	**Edward M. Hanson** (head) Mary E. Hanson (wife) Frank E. Hanson (son) Harry Hanson (son)	Engineer - Steamboat Engineer Mail Carrier, Post Office and Trains
1920 Census	**Edward M. Hanson** (head) Mary E. Hanson (wife) Frank E. Hanson (son) Harriet R. Beals (mother-in-law)	Engineer, Cod Fishery - Engineer, Asbestos works -
1930 Census	**Edward M. Hanson** (head) Mary E. Hanson (wife) Frank E. Hanson (son)	Engineer, fisheries - Engineer, Cement Plant
1940 Census	Frank E. Hanson	Laborer at service stand
1946 City Directory	**Frank E. Hanson**	Laborer
Residence converted to office use circa 1940s		
1955 City Directory	**Frank E. Hanson** Office tenant - Peninsula Auto Driving School	Driving school
1965 City Directory	No directory listing	N/A

Year	Occupants (Owners in bold)	Occupation (if listed)
1976 City Directory	Vacant	N/A
1995 Survey Form	**Edward H. and F. Hanson** *Office tenants*	
4/7/2006	**Frances J. Hanson** *Office tenants*	Unknown
5/15/2006-2016	**Robert K. Hanson** *Office tenants*	Unknown
2016-2020	**Russ Castle** *Office tenant – Insurance by Castle*	Insurance

1219 Arguello Street

Year	Occupants (Owners in bold)	Occupation (if listed)
1910 Census (addressed 1007 Arguello)	**Edward M. Hanson** (not an occupant) Duncan McLachlan (head) Cornelia McLachlan (wife) Donell F. McLachlan (son) Eliza Buckhont (mother-in-law)	Engineer Mechanic/Engineer, automobiles Carpenter - -
1920 Census	**Edward M. Hanson** (not an occupant) Harry M. Hanson (head) Rose C. Hanson (wife) Edward H. Hanson (son)	Engineer Clerk, Post Office - -
1930 Census	**Edward M. Hanson** (not an occupant) Harry M. Hanson (head) Rose C. Hanson (wife) Edward H. Hanson (son)	Engineer Clerk, Post Office - -
1940 Census	**Harry M. Hanson (head)** Rose C. Hanson (wife) Edward H. Hanson (son)	Clerk, Post Office - -
1946-1965	**Harry M. Hanson**	Clerk, Post Office
1976	**Rose C. Hanson**	-
Residence converted to office use circa 1980s		
1976-2006	**Rose C. Hanson** *Office tenants*	-
4/7/2006	**Frances J. Hanson (owner only)** *Office tenants*	-
5/16/2006-2016	**Robert K. Hanson (owner only)** *Office tenants*	-

1203 Arguello Street

Year	Occupants (Owners in bold)	Occupation (if listed)
1927	**Laurie M. Duncan (head)** **Mamie M. Duncan (wife)**	Building Contractor -
1930 Census	**Laurie M. Duncan (head)** **Mamie M. Duncan (wife)** Jean R. Duncan	Building Contractor - -
1940 Census	**Laurie M. Duncan (head)** **Mamie M. Duncan (wife)** Jean R. Duncan	Carpenter, Construction - Secretary, McKinley School
1942-1976	**Mrs. Marie M. Ferguson** (widow of W.E. Ferguson)	Dental Nurse
ca. 1985-1998	**Peter/Pedro and Sofia Borusko**	-
2000-2020	**Sonia Sester and Rolf Sester** **(Rolf & Sonia Sester Trust)**	- -
2020-present	**HMB Redwood City LLC**	-

1111-1125 Arguello Street

Year	Occupants (Owners in Bold)
1931-1975	**PG&E**
1975-1979	**Camino Camper Center**
1979-2018	**TBT Investments** (occupied by mulitiple commercial tenants including A-1 Rentals (ca. 1980s-2018)
2018-2021	**Warmington Land Associates II LP**

SELECT OWNER AND OCCUPANT BIOGRAPHIES

Select biographies have been provided for the earliest and longest-term owners and occupants of the residential properties at 1227, 1219, and 1203 Arguello Street. Owner and occupant biographies are not provided for 1209 Arguello Street, as the residence has been demolished. Historic context for Pacific Gas & Electric, original owner and occupant of the industrial buildings at 1111 and 1125 Arguello Street, is provided in section IV. Historic Context of this report.

Hanson Family, Owner-Occupants of 1219 and 1227 Arguello Street 1890-2016

Edward M. Hanson (1855-1933), original owner and builder of the houses at 1219 and 1227 Arguello Street, was an operating machinist employed at the cod fishery on Greco Island in Redwood City. Edward's father, Peter M. Hanson (1826-1908), was a Danish boat captain who emigrated to the United States, arriving in Redwood City via Boston, Massachusetts in 1873, with his wife and sons. By

1880, Captain Hanson owned a fleet of schooners, a wharf, warehouse, and ran a freight and storage business for grain, hay, and straw.[45]

According to previous survey documentation, in 1890, Edward M. Hanson built the residence at 1227 Arguello Street. Edward resided at 1227 Arguello Street with his wife Mary E. (1854-1936) and sons, Frank E. Hanson (1877-1953) and Harry M. Hanson (1889-1975); the 1900 Census also listed Peter M. Hanson as an occupant of the 1227 Arguello Street.[46] Edward M. Hanson's occupation transitioned from a general laborer to an engineer at the Greco Island cod fishery between the early 1900s and 1920.[47] Edward is also identified as a co-builder of the residence at 1219 Arguello Street, constructed in 1908, along with his son Harry M. Hanson.[48] Frank E. Hanson worked at a local tannery and as an engineer at an asbestos-cement plant according to census and city directory data. In 1910, the residence at 1219 Arguello Street was rented out to Duncan and Cornelia McLachlan, yet by 1920 and into the 1930s, the property was rented to Harry M. Hanson, who occupied the house with his wife Rose C. Hanson (née Debernedetti) (1892-1987) and sons Frank H. (1917-2005) and Edward H. Hanson (1917-2005).[49] By 1940 (likely, around 1936 when Edward M. Hanson died), Harry M. Hanson and Rose C. Hanson became owners of 1219 Arguello Street. Of note, Rose C. Hanson was the sister of Mamie Duncan, owner-occupant of 1203 Arguello Street according to census data. Thus, the location of the Debernedetti and Hanson family residences in the vicinity likely influenced the Duncan's decision to locate their residence at 1203 Arguello Street. Frank E. Hanson continued to reside at 1227 Arguello Street with his parents, and after their deaths, into the 1940s.

By the early 1970s Edward H. Hanson and Rose C. Hanson relocated from 1219 Arguello Street to Menlo Park. City directories and building permit records indicate Rose C. Hanson was the owner of 1219 Arguello Street between the mid-1970s and 2006. Between 2006 and 2016, 1219 and 1227 Arguello Street continued to be owned by members of the Hanson family, however, these properties were occupied by commercial tenants. In the case of 1227 Arguello Street, commercial use began in the 1950s, while an exact date for when that commercial occupancy began at 1219 Arguello Street appears to be ca. 1980s or later.

Laurie M. & Mamie Duncan (nee Debernedetti), Owner-Occupants of 1203 Arguello Street, ca.1927-1940
Laurie Mervyn Duncan (1888-1954) was born in Hollister, California in 1888 and resided in Lost Hills, Kern County California with his wife Mamie Duncan (nee Debernedetti) (1890-1987) and young

[45] Redwood City Historic Resources Inventory form for the 1227 Arguello Street: Edward M. Hanson House.
[46] U.S. Federal Census data for 1900, 1910, 1920. Accessed at Ancestry.com.
[47] Occupations listed in U.S. census and available Redwood City directories.
[48] See, Redwood City Historic Resource Inventory Survey Form.
[49] U.S. Federal Census data for 1910, 1920, 1930.

daughter Jean (1912-1997) by 1917.[50] Mamie Duncan was born in 1890 and grew up in Redwood City, in a house addressed 221 Standish Street, roughly opposite Arguello Street from the site that became 1203 Arguello Street. City directory research indicates Laurie Duncan had previously resided in Redwood City by 1909, and worked as a carpenter; however, the circumstances relating to Duncan's move from Hollister to Redwood City and then to Kern County are unknown. By 1919, Duncan and his family returned to Redwood City, where they resided with Mamie's parents and siblings, according to the 1920 census. In Redwood City, Duncan entered the construction trade as a carpenter and builder, which he continued to pursue into the 1930s, having shifted from his work as a rancher in Kern County. In 1927, the Duncans were listed as occupants of 1203 Arguello Street in the Redwood City Directory.[51] It is possible that Duncan, a home builder at the time, constructed the subject building and its detached garage, however, documentation confirming the residences date of construction and associated professionals was not found in available sources.

Between 1940 and his death in 1954 at age 65, Laurie Duncan served as Redwood City's Building Inspector. Of note, Duncan's obituary credits his as the builder of Redwood City's first apartment building, but does not provide a date of construction.[52] During his years as a Redwood City resident, Duncan belonged to the local organizations including the Masonic Lodge, the Kiwanis Club, the Redwood City Employees' Association and served as president of the Eagles' lodge.[53] Redwood City's Laurie Duncan Greenway is named after Duncan, however, research did not find additional information explaining the specific reason for the park's naming in honor Duncan, such as if Duncan donated land for the park, funded the park, or if the park was dedicated to honor Duncan's service to the City

Marie M. Ferguson, Owner-Occupant of 1203 Arguello Street, 1942-1976
Archival research of census and city directory data and historic newspapers found very limited information relating to the life of Marie M. Ferguson, who owned and resided at 1203 Arguello Street between at least 1942 and 1976.

[50] Registration Card No. 1656 for Laurie Mervyn Duncan, World War I Draft Registration Cards, 1917-1918. Accessed at Ancestry.com.
[51] The next earliest available city directory before 1927 is from 1911.
[52] "L.M. Duncan Dies at 65," *San Francisco Examiner*, June 19, 1954.
[53] "L.M. Duncan Dies at 65," *San Francisco Examiner*, June 19, 1954.

VI. EVALUATION FOR CALIFORNIA REGISTER

California Register of Historical Resources

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Resources can be listed in the California Register through a number of methods. State Historical Landmarks and National Register-listed properties are automatically listed in the California Register. Properties can also be nominated to the California Register by local governments, private organizations, or citizens. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places.
In order for a property to be eligible for listing in the California Register, it must be found significant under one or more of the following criteria.

- Criterion 1 (Events): Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

- Criterion 2 (Persons): Resources that are associated with the lives of persons important to local, California, or national history.

- Criterion 3 (Architecture): Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.

- Criterion 4 (Information Potential): Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

Integrity

In order to qualify for listing in any local, state, or national historic register, a property or landscape must possess significance under at least one evaluative criterion, as described above, and retain integrity. Integrity is defined by the OHP as “the authenticity of an historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of

significance," or more simply defined by the National Park Service as "the ability of a property to convey its significance."[54]

In order to evaluate whether the subject property retains sufficient integrity to convey its historic significance, Page & Turnbull used established integrity standards outlined by the *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. Seven variables, or aspects, that define integrity are used to evaluate a resource's integrity—location, setting, design, materials, workmanship, feeling, and association. A property must possess most, or all, of these aspects in order to retain overall integrity. If a property does not retain integrity, it can no longer convey its significance and, therefore, is not eligible for listing in local, state, or national registers.

The seven aspects that define integrity are defined as follows:

> Location is the place where the historic property was constructed or the place where the historic event occurred;
>
> Setting addresses the physical environment of the historic property inclusive of the landscape and spatial relationships of the building(s);
>
> Design is the combination of elements that create the form, plan, space, structure, and style of the property;
>
> Materials refer to the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form the historic property;
>
> Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
>
> Feeling is the property's expression of the aesthetic or historic sense of a particular period of time; and
>
> Association is the direct link between an important historic event or person and the historic property.

[54] California Office of Historic Preservation, *Technical Assistance Series No. 7: How to Nominate a Resource to the California Register of Historical Resources* (Sacramento: California Office of State Publishing, 4 September 2001) 11; U.S. Department of the Interior, National Park Service, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington, D.C.: National Park Service, 1995) 44.

The following section examines the eligibility of each subject property for individual listing in the California Register; except for 1209 Arguello Street, as no built resources are present. The adjacent and historically related properties at 1111-1125 Arguello Street are evaluated as a single entity, as historically the properties comprised the PG&E Redwood City Service Group. Analysis of integrity, as applicable, is provided following the evaluation section for each property.

1227 ARGUELLO STREET

Criterion 1 (Events)

The property at 1227 Arguello Street does not appear to be individually eligible for the California Register under Criterion 1. The subject building at 1227 Arguello Street was constructed in 1890 by original owner-occupant Edward M. Hanson and is the earliest extant residence along its block, and exists among the earliest residences built within the Mezesville Historic District. However, construction dates in the district range from 1867 to 1946, spanning approximately 80 years across 51 contributing properties. Research found that the subject property is one of four residences within the district built during the earliest construction period, which spanned 1867 to 1906. Although 1227 Arguello Street was built relatively early during the development of the Centennial neighborhood, research did not find that the property's role in the development of the district was of individual significance. The property was not the first to be developed in the neighborhood and is one of several that represent the broader pattern of neighborhood development over the course of eight decades. Research did not identify any singular events of historic importance that occurred at 1227 Arguello Street.

Criterion 2 (Persons)

1227 Arguello Street does not appear to be individually eligible under Criterion 2. 1227 Arguello Street was built by Edward M. Hanson and was occupied by Hanson and his family through the 1940s. In the 1950s, the property was converted to an office use. Edward M. Hanson was an employee of a local cod fishery and was responsible for constructing 1227 Arguello Street in 1890, and for building 1219 Arguello Street in 1908 with his son, Harry. Research did not find evidence that Hanson's contributions to history as a cod fishery employee or house builder with two known projects were significant to history such that the property would rise to a level of individual significance under Criterion 2. Several members of the Hanson family occupied the property, and several descendants of Edward M. Hanson owned the property after his death in 1936. Although the Hanson family were directly associated with the property throughout most of its history, research did not find that the property is representative of significant contributions to history by other members of the Hanson family.

Criterion 3 (Architecture)

1227 Arguello Street does not appear to be individually eligible under Criterion 3. The subject property was originally constructed in 1890 as a vernacular Folk Victorian cottage, constructed by Edward M. Hanson. By 1908, Hanson or another unidentified builder added the canted bay window that faces the intersection of Whipple Avenue and Arguello Street. The residence's combination of channeled wood siding, shingles, paired wood-sash double hung windows, and hipped roof form are common features of cottage residences built throughout the Bay Area around the turn of the twentieth century. Although the residence's historic features have been preserved in large part, its design was not associated with a master design professional and does not appear to have been a highly influential or particularly distinct example of its period, type, or style given the wide spread nature of building of similar type and style in Redwood City and the Bay Area. Therefore, the property does not appear to be eligible under Criterion 3.

Criterion 4 (Information Potential)

The "potential to yield information important to the prehistory or history of California" typically relates to archeological resources, rather than built resources. When California Register Criterion 4 (Information Potential) does relate to built resources, it is relevant for cases when the building itself is the principal source of important construction-related information. The analysis of the property at 1227 Arguello Street for eligibility under Criterion 4 is beyond the scope of this report.

Integrity Discussion

As the subject building does not appear to be individually significant under any of the above listed criteria, an analysis of the property's historic integrity as it would pertain to California Register eligibility is not necessary and therefore is not included in this report.

1219 ARGUELLO STREET

Criterion 1 (Events)

The property at 1219 Arguello Street does not appear to be individually eligible for the California Register under Criterion 1. 1219 Arguello street was constructed in 1908, after the earliest residential development along Arguello Street occurred in the Centennial neighborhood (within which the Mezesville Historic District is located) during the late nineteenth century. Thus, the subject property is not the earliest or among the very earliest extant residences in its neighborhood and does not individually represent the broader pattern of residential development that spanned many properties over several decades. Research did not identify any significant events that occurred at the subject property.

Criterion 2 (Persons)

1219 Arguello Street does not appear to be individually eligible under Criterion 2. The subject building was originally occupied by tenants who rented the house from owner Edward M. Hanson, who resided at 1227 Arguello Street. By 1920, Hanson's son, Harry B. Hanson, and his immediate family rented the house, until Harry B. Hanson inherited ownership ca. 1936-1940. Research found that Edward M. Hanson and Harry Hanson were associated through ownership and occupancy first with 1227 Arguello Street, the Hanson family's original Arguello Street residence, and as builders of 1219 Arguello Street. Although the Hansons' long-tenured ownership of the property and periods of extended occupancy are notable, research did not find that the historic occupants of the property made significant contributions to local, State, or national history in their respective professions such that the residence would rise to the level of individual significance under Criterion 2. Additional research of the other known occupants and owners of 1219 Arguello Street did not find evidence that any of those individuals have made significant contributions to history.

Criterion 3 (Architecture)

1219 Arguello Street does not appear to be individually eligible under Criterion 3 as a resource that embodies the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values. 1219 Arguello Street was built in 1908 by father and son Edward M. and Harry B. Hanson. 1219 Arguello Street is a one-story, pyramidal Folk Victorian style house with a transitional application of Classical and Victorian elements. The building's one-story, square plan, pyramidal hipped roof, fenestration, and distinct pedimented entry porch are representative of small cottages built across the nation during the late nineteenth and early twentieth centuries, with a variety of differing window, porch, and exterior material configurations that varied between regions and by often by builder. The subject residence provides a good local example of residential building trends regionally ca. 1908, but does not individually stand out for being a particularly early example or a rare example of its type or style. The residence is not the work of a master design professional that would enable it to qualify for the California Register.

Criterion 4 (Information Potential)

The "potential to yield information important to the prehistory or history of California" typically relates to archeological resources, rather than built resources. When California Register Criterion 4 (Information Potential) does relate to built resources, it is relevant for cases when the building itself is the principal source of important construction-related information. The analysis of the property at 1219 Arguello Street for eligibility under Criterion 4 is beyond the scope of this report.

Integrity Discussion

As the subject building does not appear to be individually significant under any of the above listed criteria, an analysis of the property's historic integrity as it would pertain to California Register eligibility is not necessary and therefore is not included in this report.

1203 ARGUELLO STREET

Criterion 1 (Events)

The property at 1203 Arguello Street does not appear to be individually eligible for the California Register under Criterion 1. 1203 Arguello street was constructed circa 1921. The property's construction occurred after earlier residential development along Arguello Street during the late nineteenth century. Thus, the subject property is not among the earliest extant residences in its neighborhood, and does not individually contribute to any broad patterns of history. Research did not identify any significant events that occurred at the subject property.

Criterion 2 (Persons)

1203 Arguello Street does not appear to be individually eligible under Criterion 2. 1203 Arguello Street was occupied by the earliest known occupants, Laurie and Mamie Duncan, and their daughter Rose, by 1927 through at least 1940. Laurie Duncan was a carpenter, house builder, and served as Redwood City's Building Inspector between 1939 and his death in 1954. Duncan is also identified as the builder of the first apartment building in Redwood City, according to his obituary. Research of historic newspapers and architectural journals did not identify other buildings constructed by Duncan, and beyond his obituary, very limited information was found relating to Duncan's life and career. Although Duncan was the City's Building Inspector for 15 years, and apparently built the first apartment building in the community, his professional work is generally not directly associated with the subject property such that it would rise to the level of individual significance under Criterion 2. Research did not find that subsequent owners and occupants made significant contributions to history.

Criterion 3 (Architecture)

1203 Arguello Street does not appear to be individually eligible under Criterion 3 as a resource that embodies the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values. Based upon known occupancy of the house carpenter and builder Laurie Duncan from at least 1927 to 1940, it is possible but unconfirmed that Duncan was the builder-designer of the house circa 1921 and related detached garage; however, sources confirming such were not found. The house is a one-story, wood-frame Vernacular California Bungalow with a stucco exterior and jerkinhead side-gable roof. The house has

the typical features of modest Vernacular residences built in the San Francisco Bay Area primarily between World War I and the Great Depression, from roughly 1918 to 1930. Although the residence's type is discernible, it does not have features that make it an excellent or distinguished example of a particular style. The residence's modest scale and restrained ornamentation are common to more economically constructed bungalows of the 1920s, but do not reflect high artistic values. As a builder has not been definitively identified, it cannot be said to be the work of a master.

Criterion 4 (Information Potential)

The "potential to yield information important to the prehistory or history of California" typically relates to archeological resources, rather than built resources. When California Register Criterion 4 (Information Potential) does relate to built resources, it is relevant for cases when the building itself is the principal source of important construction-related information. The analysis of the property at 1203 Arguello Street for eligibility under Criterion 4 is beyond the scope of this report.

Integrity Discussion

As the subject building does not appear to be individually significant under any of the above listed criteria, an analysis of the property's historic integrity as it would pertain to California Register eligibility is not necessary and, therefore, is not included in this report.

Eligibility for Redwood City Historic Landmark Status

1203 Arguello Street is not currently listed as an individual Redwood City Historic Landmark, and does not appear to be individually eligible. Refer to **Appendix C – 2021 DPR Form for 1203 Arguello Street** for a full evaluation based on Redwood City Historic Landmark criteria.

1111-1125 ARGUELLO STREET

Criterion 1 (Events)

The related properties at 1111-1125 Arguello Street do not appear to be eligible under Criterion 1 as an individual resource for having an association with historic patterns of events, singular historic events, or the cultural heritage of California. In 1931, PG&E developed the properties currently addressed 1111-1125 Arguello Street as the location of its Redwood City Service Group facility. The development of the Redwood City Service Group occurred roughly seven years after PG&E began its program of service group construction, which included development of a primary warehouse and maintenance plant in Emeryville, a major vehicle department and maintenance facility in San Francisco's Mission District, and a tertiary grouping of 15 other service group facilities in communities in Northern California, among them the Redwood City Service Group. Although the early twentieth century marked a period of expansion for PG&E, the subject properties' role within

the broader development of utilities and commerce does not appear to have been individually significant.

PG&E identified its Emeryville and San Francisco groups as holding higher importance within their service program, and the company's major projects that brought service to millions of customers and saw the company expand my large margins during the 1920s are more strongly represented by the dams and power generators, as well as the headquarters locations the company held, including the former PG&E headquarters in San Francisco, which is listed on the National Register.

Research did not find evidence that singular events of historic significance, such as technological innovations or labor protests, occurred at the subject properties. Similarly, the subject properties at 1111-1125 Arguello Street do not appear to have played a significant role in the cultural heritage of California.

Criterion 2 (Persons)

The related properties at 1111-1125 Arguello Street do not appear to be individually eligible under Criterion 2 for having an association with persons who have made significant contributions to local, State, or national history. Research of PG&E publications, city directories, and historic newspapers indicates that the Redwood City Service Group was a place of employment for hundreds of PG&E employees during the course of its history, yet no evidence was found that any particular employees made significant contributions to history, or that the facility represents the work of a specific individual employee more so than the labor contribution of many.

Criterion 3 (Architecture)

The related properties at 1111-1125 Arguello Street do not appear to be individually eligible under Criterion 3 as a resource that embodies the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values. Research of PG&E publications, architectural journals, and permit records found that 1111-1125 Arguello Street was developed in 1931 as a service group facility for PG&E and was constructed by contractor Clinton-Stephenson & Co. according to PG&E's "ideal plan" for service group facilities. Accordingly, PG&E argued that the ideal service facility layout for a service group facility in a populous area (rather than in a largely industrial area on the outskirts of a community) required: a central yard for storage of poles, pipes and other heavy equipment that require no particular protection from weather, with buildings grouped around it. Buildings included a warehouse; shop facilities for equipment maintenance; a shop for the repair and adjustment of gas meters and regulators; a garage and automotive repair shop; and a distribution office, which houses the personnel and

records of the organization. Facilities in a populous area were specified by PG&E to feature a brick or tile wall construction with cornice, base, and belt courses that would enable the industrial buildings to harmonize more effectively with residential surroundings. Although 1111-1125 Arguello Street's buildings do appear to embody PG&E's ideal plan for a service group, research did not find that the building types that comprise the service group, or the PG&E service group facility as a whole is considered to be a significant building typology based upon its architectural style or influence on industrial design. The buildings are modest with very limited decorative features, and have been added to and altered substantially over the decades. Research did not find that the contractor responsible for original construction of the facility would be considered a master. Construction methods employed are common to the period 1931, yet are not distinguished in their own right. The facility also does not appear to possess high artistic values.

Criterion 4 (Information Potential)

The "potential to yield information important to the prehistory or history of California" typically relates to archeological resources, rather than built resources. When California Register Criterion 4 (Information Potential) does relate to built resources, it is relevant for cases when the building itself is the principal source of important construction-related information. The analysis of the properties at 1111-1125 Arguello Street for eligibility under Criterion 4 is beyond the scope of this report.

Integrity Discussion

As the subject building does not appear to be individually significant under any of the above listed criteria, an analysis of the property's historic integrity as it would pertain to California Register eligibility is not necessary and therefore is not included in this report.

VII. SUMMARY OF LOCAL HISTORIC SIGNIFICANCE

Mezesville Historic District

The Mezesville Historic District is a locally designated historic district, adopted by the Redwood City Council in 2006 under City Council Resolution No. 14723 **(Figure 56)**.[55] The district includes 77 parcels, including 52 contributing properties constructed between ca. 1867 and ca. 1946.[56] The district is significant as the "first, and intact residential workingman's neighborhood in Redwood City" and for its variety of nineteenth- and early twentieth-century architectural styles, including Eastlake, Queen Anne, Craftsman, Mission Revival, Spanish Revival, postwar simplified Revival, and California Ranch styles.[57] Twenty-five non-contributing properties are located within the irregular boundary of the historic district. The subject properties at 1203, 1219, and 1227 Arguello Street are all contributing buildings located within the boundaries of the historic district. The property at 1209 Arguello Street is a non-contributing property within the boundaries of the historic district. The properties at 1111 and 1125 Arguello Street are outside the boundaries of the historic district.

The Mezesville Historic District is listed in the Redwood City Historic Resources Inventory as a local historic district under designation criterion A, B, and C, as established by the Redwood City Historic Preservation Ordinance.[58] In 2006, Circa: Historic Property Development prepared a "Draft Report for the Proposed Mezesville Historic District, Redwood City, California" for the City's Planning Department and Historic Resources Advisory Committee, which provides the following summary of significance for the district:

> A. It exemplifies or reflects special elements of the City's cultural, aesthetic or architectural history:
>
> The Mezesville district retains much of the characteristics of a late nineteenth century-early twentieth century residential neighborhood, contained within the original 1856 plan for Mezesville. **It was the first, and is now the last vestige of a residential workingman's neighborhood in Redwood City.** [Bolded font is original] The modest residences, original Park Square (Mezes Park), and over-all environment are very much the same as it was before World War II.

[55] Redwood City, City Council Resolution No. 14723 (July 24, 2006).
[56] When originally listed, the district included 52 contributing properties, but 1016 Warren Street was removed from the list of contributors to the Mezesville Historic District by City Council Resolution No. 15-15, adopted on August 4, 2015.
[57] Circa: Historic Property Development, "Draft Report for the Proposed Mezesville Historic District, Redwood City, California," prepared for The City of Redwood City Planning Department and Historic Resources Advisory Committee (March 2, 2006), 6.
[58] Redwood City, City Council Resolution No. 14723 (July 24, 2006); and Redwood City Municipal Code, Chapter 40, Historic Preservation.

B. It is identified with persons or events significant in local, State or national history: The district is not identified with one singular person of significance; however, it is the first workingman's residential neighborhood. The district represents the people who built and worked for the industries, provided services to the community, and built and maintained the government buildings and civic facilities.

C. It embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship:

The following building typology can be found throughout the district:

- Pre1906: Eastlake and Queen Anne style cottages with wood siding, bay windows, front porches and exterior wood detailing such as brackets, scroll-work, milled trim work
- Post earthquake to depression (1906-1929): Craftsman Style with low roof lines, knee brackets, open eaves and rafter tails, enclosed porch rails; modest cottages, and revival styles such as Mission and Spanish revivals with stucco siding, shaped parapets, tile roof
- Depression to prior to WWII (1929-1941): simplified Revival styles continued; early California Ranch style
- Post war (post-1945): California Ranch style continued; auto courts.[59]

[59] Circa: Historic Property Development, “Draft Report for the Proposed Mezesville Historic District,” 11-12.

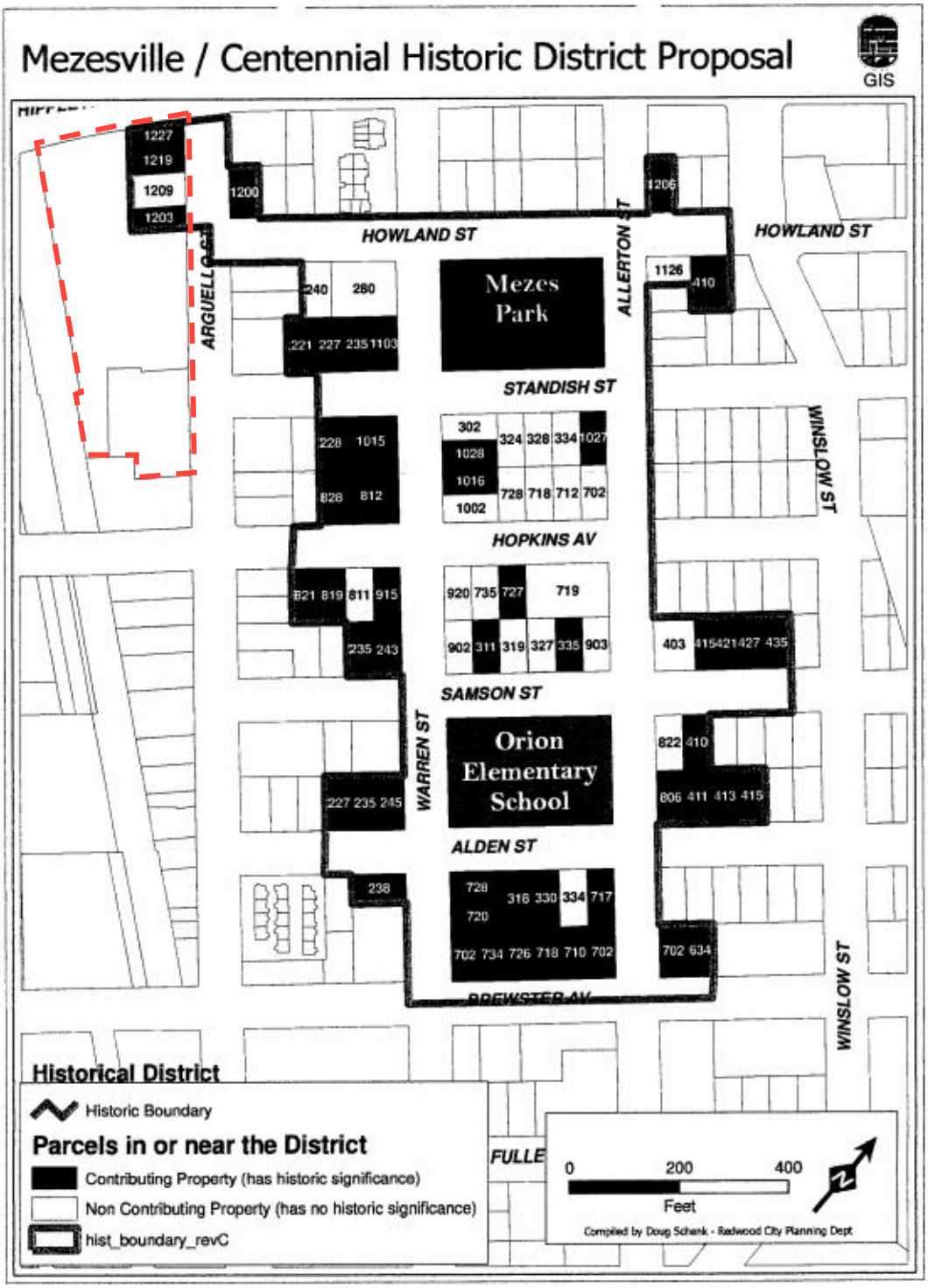


Figure 56. Map of the Mezesville Historic District. The subject properties at 1203, 1219, and 1227 Arguello Street are outlined in orange. Note that Orion Elementary School and 1016 Warren Street are not currently contributors to the district. Source: City of Redwood City. Edited by Page & Turnbull.

INTEGRITY OF DISTRICT CONTRIBUTORS

The properties at 1203, 1219, and 1227 Arguello Street were determined to be eligible as contributing properties to the Mezesville Historic District in 2006. Since district listing, the conditions at the properties have remained consistent and no alterations that would potentially diminish the properties' integrity have been found through research for this evaluation. Therefore, the existing state of integrity supports their continued contribution to the Mezesville Historic District.

CHARACTER-DEFINING FEATURES

For a property to be eligible for national, state, or local designation under criteria related to type, period, or method of construction, the essential physical features (or character-defining features) that enable the property to convey its historic identity must be evident. These distinctive character-defining features are the physical traits that commonly recur in property types and/or architectural styles. Characteristics can be expressed in terms such as form, proportion, structure, plan, style, or materials.

Page & Turnbull has provided a discussion of district-level character-defining features for the Mezesville Historic District.

Mezesville Historic District Character-Defining Features

Due to the Mezesville Historic District's approximately 80-year period of significance and the various architectural styles expressed by its contributing properties, it does not have a strictly unified historic character. Rather, the "Draft Report for the Proposed Mezesville Historic District, Redwood City, California" states that:

> Mezesville district retains its character defining features such as modest single-story residences with stoops or open entry porches on small lots with deep front yard setbacks, shallow backyards, and wide planting strips with a canopy of street trees. The streets and blocks are generally as they were when Mezes platted them in 1854, including the Mezes Park. Although land assembly starting in the 1950s has led to the intrusion of inappropriately over-scaled buildings, these are primarily at the margins of the original district. The overall urban "grid" of 50 ' X 100 ' lots with one and two-story houses, many retaining their porches and other simple, yet well-scaled character defining features.[60]

In broad terms, the district's historic character can be summarized by the following:

[60] Circa: Historic Property Development, "Draft Report for the Proposed Mezesville Historic District," 6.

- Predominantly residential use
- Primarily single-family homes
- One- to two-story building scale
- Grid of 50- by 100-foot lots
- Streetscape composed of deep front yard setbacks and wide planting strips with street trees
- Gabled or hipped roofs, or flat roofs with parapets
- Horizontal wood, wood shingle, or stucco siding
- Original decorative treatments appropriate to the properties' respective dates of construction and architectural styles
- Mezes Park.

The above character-defining features are present at contributing properties within the district. Of the subject properties, 1203 Arguello Street is a district contributor, but is not an individual Redwood City Historic Landmark. As such, the character-defining features of the district in terms of use, house type, scale, roof form, massing, and materials are generally present at 1203 Arguello Street.

Individual Redwood City Historic Landmarks

The properties at 1219 and 1227 Arguello Street are listed as individual Redwood City historic landmarks in 1995. The following character-defining features of each property enable them to rise to a level of local significance.

INTEGRITY OF INDIVIDUAL REDWOOD CITY HISTORIC LANDMARKS

Since individual listing as Redwood City Historic Landmarks in 1995, the conditions at 1219 and 1227 Arguello Street have remained consistent and no alterations that would potentially diminish the property's integrity have been found through research for this evaluation. Therefore, the existing state of integrity of each property supports their continued designation as Redwood City historic landmarks.

1219 ARGUELLO STREET CHARACTER-DEFINING FEATURES

Page & Turnbull has identified the following character-defining features of 1219 Arguello Street:

- One-story, rectangular-plan residential style building
- Pyramid hipped roof with overhanging eaves
- Projecting gable-roofed entry portico
- Fenestration pattern, including original one-over-one, double-hung wood windows with ogee lugs, twelve-lite fix window, and partially glazed wood panel entry door
- Chamfered corners at primary façade
- Exterior brick and rubble stone chimney

1227 ARGUELLO STREET CHARACTER-DEFINING FEATURES

Page & Turnbull has identified the following character-defining features of 1227 Arguello Street:

- One-story, rectangular plan residential style building
- Hipped roof with flat top and hipped roof dormer
- Full-width front entry porch
- Fenestration pattern, including original one-over-one, double-hung wood windows with ogee lugs and partially glazed wood panel entry door with multi-colored divided lites
- Projecting corner bay with gabled roof, including twelve-over-one, double-hung wood window with ogee lugs
- Tongue-and-groove wood siding
- Scalloped wood shingles below roof eaves
- Applied decorative wood ornamentation.

VIII. CONCLUSION

The properties at 1111, 1125, 1203, 1209, 1219, and 1227 Arguello Street consist of two industrial properties developed from 1931 to 1980, and four properties that were originally developed for residential use between 1890 and circa 1921. Research of each property relied on previous documentation and additional archival research to understand each property's site development history, construction chronology, and history of ownership and occupancy. Each property's development was studied in context with the historic development of Redwood City, and in particular the Centennial neighborhood and Mezesville Historic District, within which 1203, 1209, 1219, and 1227 Arguello Street are located. Research did not find that any of the subject properties appear to be individually eligible for listing in the California Register of Historical Resources under any criteria.

1219 and 1227 Arguello Street are each designated local Redwood City Historic Landmarks and, therefore, are each individual historical resources for the purposes of the California Environmental Quality Act (CEQA).

1209 Arguello Street is a vacant lot with surface parking and is a non-contributor within the Mezesville Historic District. 1203 Arguello Street is not currently listed as an individual Redwood City Historic Landmark, and does not appear to be individually eligible. Refer to **Appendix C – 2021 DPR Form for 1203 Arguello Street** for a full evaluation based on Redwood City Historic Landmark criteria.

The properties at 1203, 1219, and 1227 Arguello Street continue to have sufficient historic integrity as contributors to the Mezesville Historic District. The Mezesville Historic District is a historical resource for the purposes of CEQA.

1111 and 1125 Arguello Street are not historical resources for the purposes of CEQA.

IX. REFERENCES

Published Works & Reports

California Office of Historic Preservation. *Technical Assistance Bulletin No. 7: How to Nominate a Resource to the California Register of Historical Resources*. Sacramento: California Office of State Publishing, September 4, 2001.

California Office of Historic Preservation. *Technical Assistance Bulletin No. 8: User's Guide to the California Historical Resource Status Codes & Historic Resources Inventory Directory.* Sacramento: California Office of State Publishing. November 2004. Accessed October 22, 2018, http://ohp.parks.ca.gov/pages/1069/files/tab8.pdf.

CEQA Guidelines. Accessed May 10, 2018. http://resources.ca.gov/ceqa/guidelines/.

Circlepoint. *Draft EIR: Redwood City New General Plan, Chapter 4.5 Cultural Resources*. Submitted to the City of Redwood City, May 2010.

Circa: Historic Property Development. *Draft Report for the Proposed Mezesville Historic District, Redwood City, California*. Prepared for The City of Redwood City Planning Department and Historic Resources Advisory Committee. March 2, 2006.

City of Redwood City, with Hogle-Ireland, Inc. *City of Redwood City General Plan*. October 11, 2010. Amended June 11, 2018.

Coleman, Charles M. *P.G.& E. of California*. New York: McGraw-Hill, 1952.

Gottfried, Herbert and Jan Jennings. *American Vernacular Buildings and* Interiors, *1870-1960*. New York: W.W. Norton & Company, Inc., 2009.

Gumz, J.H. "Natural Gas Becomes a Prominent Factor of Industrial Development." *Pacific Service Magazine*, Volume XVIII, No. 3, (January 1931).

JRP Historical Consulting. "Appendix F: Redwood City Known Historic Resources." in *A New General Plan for Redwood City: Draft Environmental Impact Report* (prepared for the City of Redwood City. May 2010.

McAlester, Virginia Savage. *A Field Guide to American Houses: The Definitive Guide to Identifying and Understanding America's Domestic Architecture*. New York: Alfred A. Knopf, 2013.

Redwood City Municipal Code, Chapter 40, Historic Preservation.

Turnbull, John Gordon. National Register of Historic Places Registration Form: The PG&E General Office Building and Annex, San Francisco County, CA, prepared July 28, 1995. Entered in the National Register of Historic Places November 29, 1995.

Walker, Lester. *American Homes: The Landmark Illustrated Encyclopedia of Domestic Architecture*. New York: Black Dog & Levanthal Publishers, 1996.

Newspapers & Periodicals

Doyle, Jim. "History/Utility Giant Grew from Gold Rush Roots/By 1930, PG&E Had Developed in a Monopoly." SFGate, online. February 1, 2012. https://www.sfgate.com/news/article/HISTORY-Utility-Giant-Grew-from-Gold-Rush-Roots-2934359.php.

Morris, J.D. and Roland Li. "PG & E Will Relocated to Oakland After More Than 100 Years in San Francisco." *San Francisco Chronicle*, June 8, 2020.

"Reinka, Janet. "Historic RC House Will Topple Soon." *San Mateo Times*, 1979.

"Building Contracts – San Mateo County." *Building and Engineering News*, April 11, 1931, 30.

"Building Section News." *Building and Engineering News,* Vol. 31, no. 2 (January 10, 1931), 9.

"Building Section News." *Building and Engineering News*, Vol. 31, No. 5, (January 31, 1931), 11.

"Building Section News." *Building and Engineering News,* Vol. 35, No. 27, (July 4, 1931), 30.

"Building Section News." *Building and Engineering News*, Vol. 35, No. 27, (August 15, 1931), 29.

"L.M. Duncan Dies at 65." *San Francisco Examiner*, June 19, 1954.

"Our Company Service Groups – Extensions of Recent Date." *Pacific Service Magazine*, Volume XVIII, No. 11, (1933), 342-344.

"PG&E; History." *Los Angeles Times*, April 7, 2001. https://www.latimes.com/archives/la-xpm-2001-apr-07-mn-48189-story.html.

Public Records

Redwood City, City Council Resolution No. 14723 (July 24, 2006).

Ancestry.com. U.S. Federal Census data for 1910, 1920, 1930, 1940 and Redwood City Directories.

Archival Records

California State Office of Historic Preservation, Built Environment Resource Directory (BERD), San Mateo County, updated March 2020.

Redwood City Historic Resources Inventory form for the 1219 Arguello Street: Edward M. Hanson House.

Redwood City Historic Resources Inventory form for the 1227 Arguello Street: Edward M. Hanson House.

Registration Card No. 1656 for Laurie Mervyn Duncan, World War I Draft Registration Cards, 1917-1918. Accessed at Ancestry.com.

Internet Sources

Jackson, Mike. "Assembly Required: A Brief History of 20th-Century Kit House Designs." *Architect*. Accessed online, October 26, 2020. https://www.architectmagazine.com/practice/assembly-required-a-brief-history-of-20th-century-kit-house-designs_o.

X. APPENDICES

Appendix A – Preparer Qualifications

This Historic Resource Evaluation was prepared by Page & Turnbull of San Francisco, California. Page & Turnbull staff responsible for this report include Ruth Todd, FAIA, Principal-in-charge; Hannah Simonson, Cultural Resources Planner and project manager; and Josh Bevan, Cultural Resources Planner, primary author, all of whom meet or exceed the Secretary of the Interior's Professional Qualification Standards for Historic Architecture, Architectural History, or History.

Appendix B – 1995 DPR Forms for 1218 and 1227 Arguello Street

The following appendix includes Department of Parks & Recreation (DPR) 523 survey forms originally prepared in the 1990s for 1219 and 1227 Arguello Street by the Redwood City Historic Resources Advisory Committee. The DPR forms were excerpted from the "Draft Report for the Proposed Mezesville Historic District, Redwood City, California," prepared by Circa: Historic Property Development for The City of Redwood City Planning Department and Historic Resources Advisory Committee (March 2, 2006).

Note that the DPR forms use old status codes, prior to the California Office of Historic Preservation update to the Status Codes in 2003. For more information on California Historical Resource Status Codes see the previous section "Existing Historic Status" of this memorandum.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION

REDWOOD CITY HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

1. Historic Name: Edward and Harry Hanson Residence
2. Common or current name: Same
3. Number & street: 1219 Arguello Street
   Cross-Corridor:
   City: Redwood City Vicintity Only: ZIP: 94063 County: San Mateo
4. UTM Zone: 10 A: 567440/4149460 B: C: D:
5. Quad map no.: NW/4 Palo Alto 15' Parcel No.: 052-252-020 Other:

Ser. No.:
National Register Status: 6Z2
Local Designation:

DESCRIPTION

6. Property category: Building If district, number of documented resources: not applicable
7. Briefly desribe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate), architectural style.

The builder of 1219 Arguello Street planned a cubic single-story dwelling with a projecting front-facing gable porch over the main entrance. Shingles clad the house, and are painted brown. The living areas of the house are elevated about two feet off the ground. The house is largely symmetrical, except for the front door which is placed to the right of center. A twelve-light window with fixed sash lies to the right of the door. Shingled spur walls support the gabled roof of the entry porch. Triangular saddles under the porch's eaves frame the front door. On either side of the front porch are two pairs of double hung windows. Windows with double hung sash are located on each of the canted corners of the front facade. A hood exists above both of these windows. A pyramidal hipped roof covers the structure. It projects considerably, and is supported by groups of three brackets, which appear purely ornamental. Asphalt shingles cover the roof. A thin brick chimney exists on the residence's northeast side.

SEE CONTINUATION SHEET

Site Photo

8. Planning Agency: Planning Division
9. Owner & Address:

Rose C. Hanson
Edward H. & F. Hanson
765 Stanford Avenue
Menlo Park, CA 94025

10. Type of Ownership: Private
11. Present Use: Commercial
12. Zoning: I-R
13. Threats: Redevelopment

HISTORICAL INFORMATION

14. Construction date(s) 1906 A Original location Same Date moved _____

15. Alterations & date _____

16. Architect Unknown Builder Unknown

17. Historic attributes (with number from list) 02 -- Single family property

SIGNIFICANCE AND EVALUATION

18. Context for evaluation: Theme Residential architecture Area Redwood City, CA
Period 1906 Property Type Single-family residence Context formally developed? Yes

19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

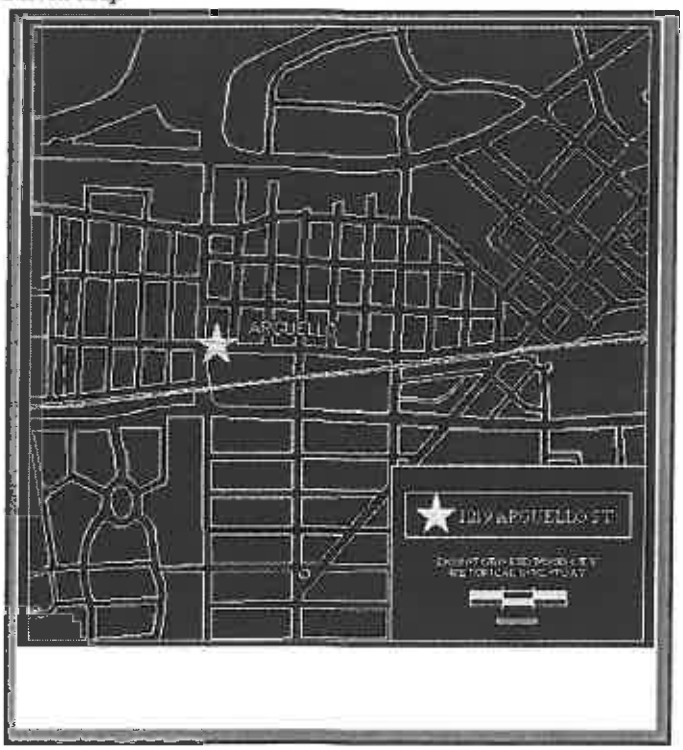
Located in a mixed area of businesses, single family houses, and apartments, 1219 Arguello Street, though in good repair currently, may have been altered over the years. A certain amount of renovation was necessary as a small business now occupies the dwelling. The triple eaves brackets appear to have been added. It is unclear whether the house was shingled originally, nor is it clear whether any original ornamentation was stripped away. The hood over the canted corner walls, for example often featured decorative brackets and a hanging pendant. (See the hoods over canted corners at 530 Warren Street). If in original condition the house, with its plain appearance and hipped roof, is a reasonable example of a pyramidal folk house described by Virginia and Lee McAlester in their book, A Field Guide To American Houses, (New York: 1984), on pages 100-101. The house's style appears transitional in nature. Its onated corners with hoods reflect Queen Anne prototypes; at the same time, its simple massing, overhanging eaves, and low, horizontal lines are shared with bungalows built c. 1905-1910.

20. Sources

Historic Landmarks Element of the Redwood City General Plan. Interview with Jim De Bendetti and Emma McCrea August 5, 1976.

SEE CONTINUATION SHEET

Sketch Map



21. Applicable National Register Criteria NA

22. Other Recognition _____
State Landmark No. (if applicable) _____

23. Evaluator Katherine Solomson
Date of Evaluation 12/5/1991

24. Survey type Comprehensive

25. Survey Name Redwood City Survey

26. Year form prepared 1995
By Charles Jany
Organization Historic Resources Advisory Committee
Address 1017 Middlefield Rd
City & Zip Redwood City, CA 94063
Phone (415) 780-7234

REDWOOD CITY HISTORIC RESOURCES INVENTORY

Continuation of "Description" and "Significance" Categories

7. DESCRIPTION: (continued)

19. SIGNIFICANCE AND EVALUATION: (continued)

This residence was built by Harry and Edward Hanson around 1906 following by about 16 years the construction of their other house on the southwest corner of Arguello and Whipple. Ed Hanson was an operating machinest at the cod-fishery which stood on Greco Island.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION

REDWOOD CITY HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

1. Historic Name: Edward M. Hanson House
2. Common or current name: Same
3. Number & street: 1227 Arguello Street
   Cross-Corridor:
   City: Redwood City Vicintity Only: ZIP: 94063 County: San Mateo
4. UTM Zone: 10 A: 567420/4149460 B: C: D:
5. Quad map no.: NW/4 Palo Alto 15' Parcel No.: 052-252-060 Other:

Ser. No.:
National Register Status: 5S3
Local Designation:

DESCRIPTION

6. Property category: Building If district, number of documented resources: not applicable
7. Briefly desribe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate), architectural style.

This is a single story hipped cottage with a canted, gabled bay. A hipped dormer is centered over a full length covered veranda (which abuts the canted corner bay at an oblique angle) and picks up the line of the chamfered veranda posts flanking the stoop and entry. The veranda itself consists of closed rails while the stoop has open handrails and newel posts. The main elevation is essentially symmetrical, though single and paired sash windows are set on either side of the central glazed single panel door. The canted bay is glazed on three sides with a large multipaned upper sash window on the front. Cladding is tongue and groove, though an imbricated shingle pattern adorns the center gable and frieze area below the eaves of the roof.

SEE CONTINUATION SHEET

Site Photo

8. Planning Agency
   Planning Division
9. Owner & Address
   Edward H & F. Hanson
   765 Stanford Ave.
   Menlo Park, CA 94025

10. Type of Ownership: Private
11. Present Use: Commercial
12. Zoning: I-R
13. Threats: Redevelopment/Zoning

HISTORICAL INFORMATION

14. Construction date(s) 1890F Original location Same Date moved

15. Alterations & date

16. Architect Unknown Builder Unknown

17. Histroric attributes (with number from list) 02-Single Family Property

SIGNIFICANCE AND EVALUATION

18. Context for evaluation: Theme Residential architecture Area Redwood City, CA
Period 1890 Property Type Single-family residence Context formally developed? Yes

19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

The canted bay and decorative details, including the odd mixture of scroll brackets exclusively in the rear of the house, the Queen Anne shingle pattern, and decorated panels, suggests a builder's 'touch' in the building's hybrid borrowings. Moreover, the full length veranda with its own roof was characteristic of a variation of the "bungalow" type (reinforced by the long, low shed roof dormer symmetrically placed over the entry below) for warmer climates. Possibly the builder felt a need for a more substantial architectural expression on this busy corner location. The building, therefore, is a significant representation of local ingenuity in the handling of a more difficult site. The house is well maintained as a business and recently painted in greys, browns, and white.

20. Sources

See continuation sheet.

Sketch Map

SEE CONTINUATION SHEET

21. Applicable National Register Criteria N/A

22. Other Recognition

State Landmark No. (if applicable)

23. Evaluator Katherine Solomonson

Date of Evaluation 12/5/1991

24. Survey type Comprehensive

25. Survey Name Redwood City Survey

26. Year form prepared 1991

By Charles Jany

Organization Historic Resources Advisory Committee

Address 1017 Middlefield Rd

City & Zip Redwood City, CA 94063

Phone (415) 780-7234

REDWOOD CITY HISTORIC RESOURCES INVENTORY

Continuation of "Description" and "Significance" Categories

7. DESCRIPTION: (continued)

Decorated panels (those along the sides continuing the lines of the windows' casings below a string course), composed of a rotated cross with a central knob and encircling rings, appear below the window sills. Trim and corner boards outline the main form of the building, with the exception of the canted bay where an upper trim board simply wraps around the inset corners created by the flanking window surrounds. In the rear is a shed roof covered stoop and corner scroll brackets below the soffit. The house is well maintained in this busy commercial-residential area.

19. SIGNIFICANCE AND EVALUATION: (continued)

In February-March 1890, Edward M. Hanson built a six-room cottage on his 50x100 foot lot at the corner of Arguello and 14th Street. (14th Street is now Whipple Avenue). The cost of the cottage was estimated as $1,500.

That same year (1890) Crystal Springs Dam was being completed. For the times, this was a remarkable feat of long-range planning and an engineering triumph. Billed as 'the world's largest cement dam', engineers came from all over the world to study it.

According to Harry Hanson, Ed Hanson's son, Gray Bros. Artificial Stone Paving Co., G. F. Gray, President, 316 Montgomery, S.F. (1890 Polk's S.F. City Directory) of San Francisco put in 100 ft. of cement sidewalk on Whipple and 100 ft. on Arguello. The cement used on the job was cement left over from the Crystal Springs Lake dam site. This sidewalk was the first cement sidewalk in Redwood City, put in at a time (1890) when the rest of the town had nothing but wooden sidewalks to show. Ed Hanson got the sand and gravel together and the Gray Bros. did the job. According to Mrs. Harry Hanson, children used to come across town to skate on this sidewalk.

Edward Marcus Hanson was an operating machinist employed at the cod fishery located on Greco Island. His father was Capt. Peter Marcus Hanson, born in Denmark, who first settled in Boston and then came to Redwood City in about 1873 with his wife and three sons. He was a skipper of one of the boats owned by Charles Hanson (Hanson-Ackerson Lumber Company). If there was a relationship between the two Hanson men, both from Denmark, it is unknown. They were involved in the same businesses and both purchased property near each other on Arguello Street, so it is likely that they were related. By 1880 Capt. Peter Hanson had his own fleet of schooners, a new storehouse and warehouse next to his wharf, and was in the freighting, transportation, and storage business for grain, hay, and straw. His business was on A Street and his home on the corner of Arguello and 11th Street. Charles Hanson, the lumber tycoon, had his mansion built on Arguello, also.

20. Continued

Richard Schellens Collection (families, shipping business, real estate)
South from San Francisco, by Frank M. Stanger (1963).
Interviews with Harry and Rose (DeBernedetti) Hanson by R. Schellens.
Times-Gazette, newspaper, February 15, 1890.
1890 Great Register

Appendix C – 2021 DPR Form for 1203 Arguello Street

The following appendix includes Department of Parks & Recreation (DPR) 523 survey forms prepared by Page & Turnbull in October 2021, at the request of the City of Redwood City to evaluate 1203 Arguello Street for eligibility for individual listing as a local Redwood City Historic Landmark.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #_____
HRI #_____
Trinomial_____
NRHP Status Code 5D1
Other Listings_____
Review Code_____ Reviewer_____ Date_____

 Resource name(s) or number (assigned by recorder) 1203 Arguello Street

P1. Other Identifier: _____
***P2. Location:** ☐Not for Publication ☒Unrestricted ***a. County** San Mateo
***b. USGS 7.5' Quad** San Mateo, Calif. **Date** 2018
***c. Address** 1203 Arguello Street **City** Redwood City **Zip** 94063
***e. Other Locational Data:** Assessor's Parcel Number 052-252-040

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

1203 Arguello Street (APN 052-252-040) has a one-story, vernacular bungalow that was built circa 1921, which faces east fronting Arguello Street, and a rear detached garage-turned-accessory dwelling unit (ADU). The property is located on the west side of Arguello Street, between Whipple and Brewster avenues, in the Centennial neighborhood of Redwood City. The buildings sit on a rectangular parcel that is 40 feet wide and 100 feet deep. The irregular-plan, wood frame residence is clad in stucco and capped with a cross-Jerkinhead roof. The roof is clad in asphalt shingles and has overhanging eaves. Most of the windows are six-over-one hung wood sash windows. A projecting bay at the primary façade, also capped by a jerkinhead roof, includes the wood panel primary entry door, which faces south and is accessed by several tile-clad steps with a low stuccoed wall. The entry door is non-original and has an arched four-lite wood transom. The projecting front bay has a large, wood sash picture window, which is curved at the top corners. The picture window has multiple fixed sashes and appears to have at least one casement sash, all with smaller divided lites along the top. A fixed wood sash window with divided lites at the top is located to the south (left) of the projecting front bay.

The south façade of the house has two sets of paired six-over-one wood sash windows at either end of the façade and a wood vent just below the eave of the jerkinhead side gable roof. At the rear (west) façade, a stucco-clad addition extends out from an original projecting bay with a jerkinhead roof. A wood vent is located at the original portion of the house, above the low-pitched shed roof of the addition, and a small six-over-one wood sash window is located to the south (right) of the addition. The addition has a vinyl sash slider with simulated divided lites on the west-facing wall and a wood slab door on the south-facing wall, accessed by a set of wood steps with a small landing. A six-over-one wood sash window is located south (right) of the original jerkinhead projecting bay.
(See Continuation Sheet, page 2)

***P3b. Resource Attributes:** (list attributes and codes) HP2: Single-Family Residence
***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5a. Photo

P5b. Photo: (view and date)
View of the primary (east) façade, February 4, 2021

***P6. Date Constructed/Age and Sources:**
☒historic ☐prehistoric ☐both
ca. 1921 (San Mateo County Assessor appraisal record)

***P7. Owner and Address:**
HMB Redwood City LLC
1203 Arguello Street
Burlingame, CA 94010

***P8. Recorded by:**
Page & Turnbull, Inc.
170 Maiden Lane, 5th Fl
San Francisco, CA 94010

***P9. Date Recorded:**
November 4, 2021

***P10. Survey Type:** Intensive

***P11. Report Citation:** Page & Turnbull, "1111-1227 Arguello Street: Historic Resource Evaluation," submitted to City of Redwood City, November 4, 2021 (revised).

***Attachments:** ☐None ☐Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (list)

***P3a. Description: (continued)**

Figure 1. Primary (east) and south facades, looking northwest.

Figure 2. Rear (west) and south facades, looking northeast.

An exterior brick chimney is located at the north façade and extends through the eave of the roof. A wood vent is located immediately below the jerkinhead roof eave. One six-over-one wood sash window is located east (left) of the chimney. Five windows are located west (right) of the chimney: a hung six-over-one wood sash window, a pair of eight-over-one hung wood windows, and a pair of hung six-over-one wood sash windows. A chain-link fence encloses the front and north sides of the property.

A concrete driveway south of the residence accesses a detached garage with an accessory dwelling unit (ADU) at the rear of the property. The rear ADU is a wood frame building with a cross-gable roof and wood lap siding. Paired side-hinge wood doors lead to the garage. The entrance has a wood panel door with stained glass. The doorway and a vinyl sash slider window are covered by a gabled portico with engaged wood columns. Vinyl-sash slider windows are also located on the secondary facades of the ADU.

Figure 3. Primary (east) façade of the detached rear garage and ADU, looking west.

Figure 4. North façade of the detached rear garage and ADU, looking southwest.

BUILDING, STRUCTURE, AND OBJECT RECORD

B1. Historic name: 1203 Arguello Street
B2. Common name: 1203 Arguello Street
B3. Original Use: Single-Family Residence
B4. Present use: Single-Family Residence
***B5. Architectural Style**: Vernacular Bungalow
***B6. Construction History:** (Construction date, alterations, and date of alterations)

The San Mateo County Assessor appraisal record for 1203 Arguello Street indicates that the main residence was constructed in 1921. Archival research did not confirm the identity of the builder of the property. The earliest known owner-occupant, Laurie Duncan, was a carpenter-contractor who served as Redwood City Building Inspector between 1939 and 1954, and is first listed at 1203 Arguello Street in the 1927 city directory.[1] It is plausible that Duncan built his own residence and the garage at the property, yet an absence of documentation does not provide confirmation. The earliest available aerial photograph was taken in 1930 and shows the string of residences along the south side of Arguello Street, including the subject property at 1203 Arguello Street, with the remainder of the block face remaining vacant **(Figure 5)**. At 1203 Arguello Street, a one-story bungalow with a detached auto garage stood at the site by 1930. (See Continuation Sheet, page 4)

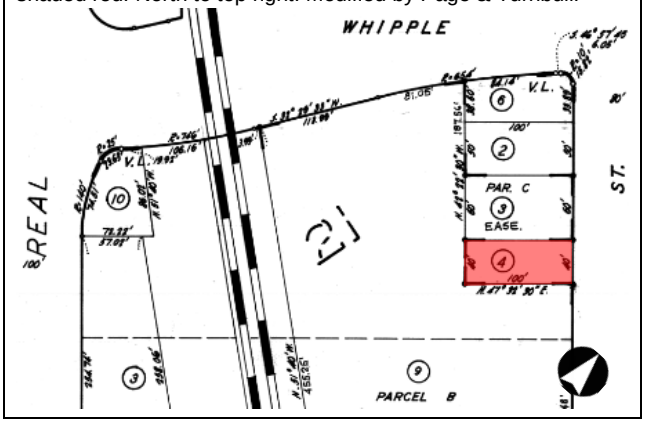
***B7. Moved?** ☒**No** ☐**Yes** ☐**Unknown** **Date:** _____ **Original Location:**_____
***B8. Related Features:** N/A
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** Residential Development **Area** Mezesville Historic District
Period of Significance N/A **Property Type** Single-Family Residential **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity)

Mezesville Historic District
The locally listed Mezesville Historic District is a located within what is now known as the Centennial neighborhood of Redwood City. The subject property is a contributor to the Mezesville Historic District. The *Draft Report for the Proposed Mezesville Historic District* describes the Mezesville district as follows:

> The Mezesville district name is taken from Simon Monserrat Mezes who received about 5,000 acres of land from the Arguello family for successfully negotiating and navigating the land patent process in the early 1850s. He was the first to subdivide the previously Arguello-owned land, had surveys made and designed the map that determined the layout of today's Downtown streets. Mezes changed the name of the town from "The Red Woods" to "Mezesville" and advertised lots for sale for $75 each. The 1856 Town of Mezesville Map shows the dog-leg shaped plan which maximized the use of the Redwood Embarcadero Creek for industry, commerce and business at the south end of town. Residential "Villa Lots" marched north from the creek with the California public square as the pivot. There were twelve parcels to each lot of the thirty-nine from Fuller (then Seventh street) north to today's C Street (then Seventeenth Street). The second public square Park Square (Mezes Park) was located between B and C Streets, at Twelfth and Thirteenth Streets (Warren and Allerton at Standish and Howland Streets). Both public squares were the first in California to be donated for public use.[2]

(See Continuation Sheet, page 5)

Source: San Mateo County Assessor's Office, 2021. Property shaded red. North to top right. Modified by Page & Turnbull.



B11. Additional Resource Attributes: N/A
***B12. References:** See Continuation Sheet, page 9
B13. Remarks: None
***B14. Evaluator:** Hannah Simonson, Page & Turnbull, Inc.
***Date of Evaluation:** November 4, 2021

(This space reserved for official comments.)

[1] The next earliest available city directory before 1927 is from 1911.
[2] Circa: Historic Property Development, *Draft Report for the Proposed Mezesville Historic District, Redwood City, California*, prepared for The City of Redwood City Planning Department and Historic Resources Advisory Committee (March 2, 2006), 6.

***B6. Construction History (continued):**

The existing garage at 1203 Arguello Street appears to have been built between circa 1921 and 1930; the garage has since been converted to an ADU (by 1956, when a "rear" unit was listed in the city directory) and appears to have a non-original gable extension over the occupant entry door. In 1931, land to the immediate south and southwest of the subject property began to be developed by PG&E as the location of the company's Redwood City Service Group, addressed 1111-1125 Arguello Street **(Figure 6)**. The earliest available Sanborn Map Company fire insurance map to show the subject block dates to 1950, and shows what appears to be the original footprint of the main residence and detached rear garage, which were unaltered in the subsequent 1962 Sanborn map **(Figure 7 and Figure 8)**. Building permits on file at the City of Redwood City indicate several repairs between 1989 and 2000, the scope of which is not detailed, and interior remodeling in 2000 as well as some electrical service work in 1985 and a new central forced furnace in 2000. An oak tree was removed in 2014. Known alterations that are not reflected in the available permit records include a projecting rear addition with a shed roof built sometime after 1962, and the conversion of the garage to an ADU and the replacement of the front door of the main residence at unknown dates.

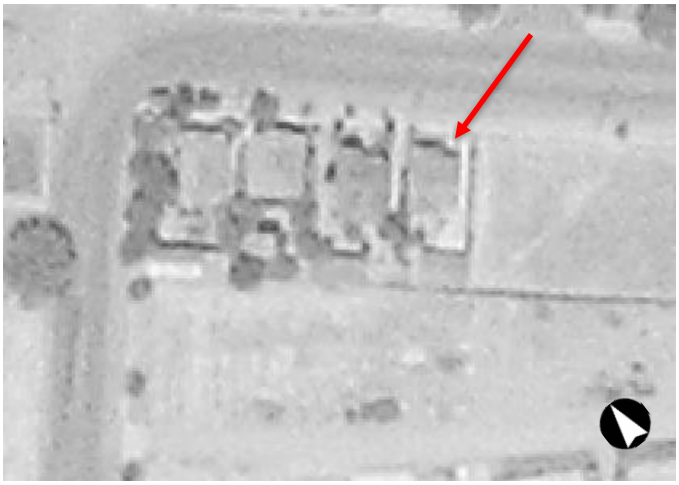


Figure 5. Aerial view of the subject property (indicated by red arrow), 1930. Source: Fairchild Aerial Surveys, Flight C-1025, Frame D-8, UC Santa Barbara Library FrameFinder. Edited by Page & Turnbull.

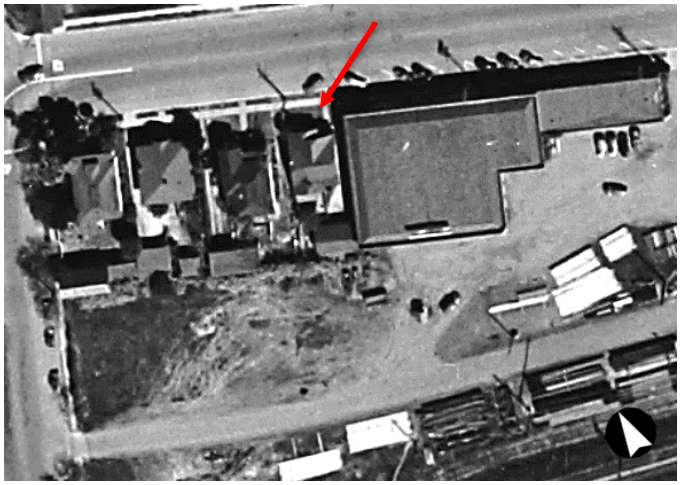


Figure 6. Aerial view of the subject property (indicated by red arrow), 1941. Source: Flight C-6660, Frame 311, Fairchild Aerial Surveys, UC Santa Barbara Library FrameFinder. Edited by Page & Turnbull.

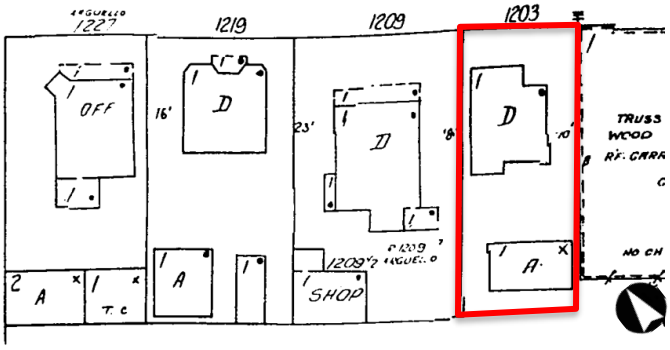


Figure 7. 1950 Sanborn Map Co. fire insurance survey map, sheet 4. Source: San Francisco Public Library, ProQuest Digital Sanborn Maps. Edited by Page & Turnbull.

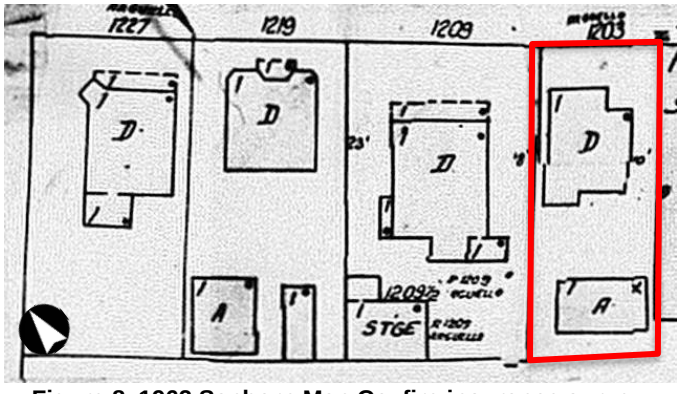


Figure 8. 1962 Sanborn Map Co. fire insurance survey map, sheet 4. Source: San Francisco Public Library, ProQuest Digital Sanborn Maps. Edited by Page & Turnbull.

***B10. Significance (continued):**

A full description of the history, significance, and character-defining features of the Mezesville Historic District is provided in the *Draft Report for the Proposed Mezesville Historic District, Redwood City, California* (2006) prepared by Circa: Historic Property Development for The City of Redwood City Planning Department and Historic Resources Advisory Committee, and is summarized in "1111-1227 Arguello Street: Historic Resource Evaluation," prepared by Page & Turnbull (revised, November 4, 2021).

Vernacular Bungalows

The house at 1203 Arguello Street is a vernacular bungalow representative of the generally more modest bungalows built during the 1920s when the popularity of bungalows was beginning to wane.[3] Bungalows rendered in modest interpretations of the Craftsman style were often referred to as "California Bungalows," and provided hybridized examples of the influence of the Arts & Crafts and Prairie styles, which gained popularity during the first two decades of the twentieth century.[4] Unlike high-style, architect-designed residences, vernacular bungalows were typically constructed by local builders and craftspeople, or, occasionally, by the property owner. Many were constructed according to plans provided in plan books or mail order catalogs and monthly journals such as those published by Sears, Roebuck & Co., or Aladdin Homes.[5] They were built using inexpensive materials and exhibited little concern for architectural fashions or trends. The popularity of the Bungalow during the early 20th century was evident as it became the first type to be built in quantity by builder-contractors. The bungalow typology was typically rendered in wood-clad, shingle-clad, and stucco-clad variations (such as the subject building at 1203 Arguello Street) in the Bay Area. Beyond variations in cladding depending on the favored aesthetic of a builder-contractor or prospective owner, vernacular bungalows typically featured a front porch (sometimes with a stoop containing a staircase), tapered columns, many windows to provide abundant air circulation, gabled roof forms with wide, overhanging eaves, and exposed roof frame components including purlins, rafters, and beams. Gable vents were also common to the typology.

1203 Arguello Street – Ownership & Occupancy History

The earliest known occupants of 1203 Arguello Street were Laurie and Mamie Duncan, who were listed in the 1927 city directory.[6] Laurie Mervyn Duncan (1888-1954) was born in Hollister, California in 1888 and resided in Lost Hills, Kern County California with his wife Mamie Duncan (nee Debernedetti) (1890-1987) and young daughter Jean (1912-1997) by 1917.[7] Mamie Duncan grew up in Redwood City, in a house addressed 221 Standish Street, roughly opposite Arguello Street from the site that became 1203 Arguello Street. City directory research indicates that Laurie Duncan had previously resided in Redwood City by 1909 and worked as a carpenter; however, the circumstances relating to Duncan's move from Hollister to Redwood City and then to Kern County are unknown. By 1919, Duncan and his family returned to Redwood City, where they resided with Mamie's parents and siblings, according to the 1920 census. In Redwood City, Duncan entered the construction trade as a carpenter and builder, which he continued to pursue into the 1930s, having shifted from his work as a rancher in Kern County. It is possible that Duncan, a home builder at the time, constructed the subject building and its detached garage. However, documentation confirming the residence's date of construction and associated professionals was not found in available sources. Between 1940 and his death in 1954 at age 65, Laurie Duncan served as Redwood City's Building Inspector. Of note, Duncan's obituary credits him as the builder of Redwood City's first apartment building, but the article does not provide a street address or date of construction.[8] During his years as a Redwood City resident, Duncan belonged to the local organizations including the Masonic Lodge, the Kiwanis Club, and the Redwood City Employees' Association, and he served as president of the Eagles' lodge.[9] Redwood City's Laurie Duncan Greenway is named after Duncan, though research did not find additional information explaining the specific reason that the park was named in honor of Duncan, such as whether Duncan donated land for the park, funded the park, or if the park was dedicated to honor Duncan's service to the City.

Archival research of census and city directory data and historic newspapers found very limited information relating to the life of Marie M. Ferguson, a widowed dental nurse, who owned and resided at 1203 Arguello Street from at least 1940 to 1976. During the late 1950s, a Phillip McManus, who's profession was not listed in city directories, resided in the rear ADU. By 1985, the property was owned and occupied by Peter (or Pedro) and Sofia Borusko, who owned the property until 1998. In 2000, the property was purchased by Sonia and Rolf Sester, and it remained in the ownership of the family's trust until 2020.

[3] Virginia Savage McAlester, *A Field Guide to American Houses*, 568.
[4] Virginia Savage McAlester, *A Field Guide to American Houses*, 578.
[5] Walker, Lester. *American Homes: The Landmark Illustrated Encyclopedia of Domestic Architecture*. New York: Black Dog & Levanthal Publishers, 1996), 185; and Mike Jackson, "Assembly Required: A Brief History of 20th-Century Kit House Designs," *Architect*, accessed online, October 26, 2021, https://www.architectmagazine.com/practice/assembly-required-a-brief-history-of-20th-century-kit-house-designs_o.
[6] No original building permit is on file at the City of Redwood City. The next earliest available city directory prior to 1927 is from 1911.
[7] Registration Card No. 1656 for Laurie Mervyn Duncan, World War I Draft Registration Cards, 1917-1918. Accessed at Ancestry.com.
[8] "L.M. Duncan Dies at 65," *San Francisco Examiner*, June 19, 1954.
[9] "L.M. Duncan Dies at 65," *San Francisco Examiner*, June 19, 1954.

***B10. Significance (continued):**

Current Historic Resource Status

The property at 1203 Arguello Street is not currently listed in the National Register of Historic Places (National Register) or the California Register of Historical Resources (California Register). The property is not listed in the California Historical Resources Information System (CHRIS) as of 2020, indicating that no record of a previous survey or evaluation affiliated with the State of California Office of Historic Preservation (OHP) is on file. Redwood City maintains a list of individual historic landmarks, sites, and districts known as the Historic Resources Inventory (HRI). In 1991 to 1995, the City's Planning Division and Historic Resources Advisory Committee (HRAC) undertook a survey (Redwood City Survey) of potential historic resources to inform the Redwood City Historic Resource Inventory. Since the 1990s, the inventory has been continually updated as properties are added to or removed from the inventory.[10] The property at 1203 Arguello Street is not listed in the Redwood City Historic Resources Inventory as an individual historic landmark, but it is a contributor to the locally listed Mezesville Historic District (adopted by the City Council on July 24, 2006 by Resolution No. 14723).[11]

Evaluation for the California Register of Historical Resources

California Register Criterion 1 (Events)

The property at 1203 Arguello Street does not appear to be individually eligible for the California Register under Criterion 1. 1203 Arguello street was constructed circa 1921. The property's construction occurred after earlier residential development along Arguello Street during the late nineteenth century. Thus, the subject property is not among the earliest extant residences in its neighborhood, and does not individually contribute to any broad patterns of history. Research did not identify any significant events that occurred at the subject property.

California Register Criterion 2 (Persons)

1203 Arguello Street does not appear to be individually eligible under Criterion 2. 1203 Arguello Street was occupied by the earliest known occupants, Laurie and Mamie Duncan, and their daughter Rose, by 1927 through at least 1940. Laurie Duncan was a carpenter, house builder, and served as Redwood City's Building Inspector between 1939 and his death in 1954. Duncan is also identified as the builder of the first apartment building in Redwood City, according to his obituary. Research of historic newspapers and architectural journals did not identify other buildings constructed by Duncan, and beyond his obituary, very limited information was found relating to Duncan's life and career. Although Duncan was the City's Building Inspector for 15 years, and apparently built the first apartment building in the community, his professional work is generally not directly associated with the subject property such that it would rise to the level of individual significance under Criterion 2. Research did not find that subsequent owners and occupants made significant contributions to history.

California Register Criterion 3 (Architecture)

1203 Arguello Street does not appear to be individually eligible under Criterion 3 as a resource that embodies the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values. Based upon known occupancy of the house carpenter and builder Laurie Duncan from at least 1927 to 1940, it is possible, but unconfirmed, that Duncan was the builder-designer of the house and related detached garage circa 1921. The house is a one-story, wood-frame vernacular California bungalow with a stucco exterior and jerkinhead side-gable roof. The house has the typical features of modest vernacular residences built in the San Francisco Bay Area primarily between World War I and the Great Depression, from roughly 1918 to 1930. Although the residence's type is discernible, it does not have features that make it an excellent or distinguished example of a particular style. The residence's modest scale and restrained ornamentation are common to more economically constructed bungalows of the 1920s, but do not reflect high artistic values. As a builder has not been definitively identified, it cannot be said to be the work of a master.

California Register Criterion 4 (Information Potential)

The "potential to yield information important to the prehistory or history of California" typically relates to archeological resources, rather than built resources. When California Register Criterion 4 (Information Potential) does relate to built resources, it is relevant for cases when the building itself is the principal source of important construction-related information. The analysis of the property at 1203 Arguello Street for eligibility under Criterion 4 is beyond the scope of this report.

[10] City of Redwood City, with Hogle-Ireland, Inc., *City of Redwood City General Plan* (October 11, 2010, amended June 11, 2018), BE-208.
[11] Circa: Historic Property Development, *Draft Report for the Proposed Mezesville Historic District, Redwood City, California*, 7-8.

***B10. Significance (continued):**

Evaluation for the Local Redwood City Historic Landmark Status

Redwood City municipal code Chapter 40 Historic Preservation, subsection 40.6 Historic Designation Criteria provides the following eligibility criteria for designation as a historic landmark or historic district in Redwood City:

> A. It exemplifies or reflects special elements of the City's cultural, aesthetic or architectural history; or
>
> B. It is identified with persons or events significant in local, State or national history; or
>
> C. It embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or
>
> D. It is representative of the notable work of a builder, designer or architect.[12]

Redwood City Historic Landmark Criterion A

The property at 1203 Arguello Street does not appear to be individually eligible for listing as a Redwood City Historic Landmark under Criterion A. The residence was built in the 1920s, during a period of growth in Redwood City, but after earlier residential development along Arguello Street during the late nineteenth century. The property does not reflect any special elements of the City's cultural, aesthetic, or architectural history as an individual property. The residence reflects a very common building typology and architectural style, and the garage sustained alterations to convert it into an ADU.

Redwood City Historic Landmark Criterion B

The property at 1203 Arguello Street does not appear to be individually eligible for listing as a Redwood City Historic Landmark under Criterion B. The earliest known occupants, Laurie and Mamie Duncan, are not known to have been significant to local, state, or national history. Duncan was a building contractor who served as a Redwood City building inspector between 1939 and his death in 1954. Duncan's tenure as a building inspector did not have a significant impact on the development of Redwood City, and his professional career is not directly associated with the subject property. Research did not find that subsequent owners and occupants made significant contributions to history. No significant events are known to have occurred at 1203 Arguello Street.

Redwood City Historic Landmark Criterion C

The property at 1203 Arguello Street does not appear to be individually eligible for listing as a Redwood City Historic Landmark under Criterion C as a resource that embodies the distinctive characteristics of a type, period, region, or method of construction, or as a valuable example of the use of indigenous materials or craftsmanship. The residence is a one-story, wood-frame vernacular California bungalow with a stucco exterior and jerkinhead side-gable roof. The building represents a common construction type and style, of which there are many examples throughout Redwood City, and the San Francisco Peninsula and California more broadly. Although the residence's type is discernible, it does not have features that make it an excellent or distinguished example of a particular style. Vernacular bungalows rarely rise to the level of individual significance for listing in a historic register for their architectural style alone, unlike the earlier vernacular folk cottages on the adjacent properties at 1219 and 1227 Arguello Street, which are more rare examples due to their earlier construction dates and more articulated architectural detailing. The rear garage ADU does not have a discernable architectural style and has been altered, so does not have architectural significance. Therefore, the property is not eligible for listing as a local landmark under Criterion C.

Redwood City Historic Landmark Criterion D

The property at 1203 Arguello Street does not appear to be individually eligible for listing as a Redwood City Historic Landmark under Criterion D. As contractor Laurie Duncan is the earliest known owner and occupant of the building (confirmed as residing at the property by 1927), it is possible through unconfirmed that Duncan was the builder of the residence. Very little information was uncovered during the course of research about Duncan's body of work, beyond his position as a building inspector, and it cannot be said that he was a master builder.

[12] Redwood City Municipal Code § 40.6 Historic Designation Criteria (Ord. No. 1815, § 1, 3-10-1980).

***B10. Significance (continued):**

Conclusion

The residence at 1203 Arguello Street was constructed in the 1920s during a primary period of development in Redwood City, but it is not individually representative of this residential growth and is not representative of the earliest development in the neighborhood. No significant events have been identified that are associated with the property. The various owners and occupants of the building do not appear to have made significant contributions to history in association with the property. The building does not embody the work of a master or possess high artistic style, and it is an undistinguished example of a Vernacular bungalow. Thus, the property is not individually eligible for listing in the California Register or as a local Redwood City Historic Landmark under any criteria.

1203 Arguello Street is a contributor to the locally designated Mezesville Historic District. As such, the California Historical Resource Status Code (CHRSC) of "5D1" has been assigned to the building, meaning that it is a "[c]ontributor to a district that is listed or designated locally."[13]

[13] California State Office of Historic Preservation Department of Parks and Recreation, *Technical Assistance Bulletin No. 8: User's Guide to the California Historical Resource Status Codes & Historical Resource Inventory Directory,* Sacramento, November 2004.

***B12. References:**

Ancestry.com. U.S. Federal Census data for 1910, 1920, 1930, 1940; Redwood City Directories; and World War I Draft Registration Cards.

California Office of Historic Preservation. *Technical Assistance Bulletin No. 7: How to Nominate a Resource to the California Register of Historical Resources*. Sacramento: California Office of State Publishing, September 4, 2001.

California Office of Historic Preservation. *Technical Assistance Bulletin No. 8: User's Guide to the California Historical Resource Status Codes & Historic Resources Inventory Directory.* Sacramento: California Office of State Publishing. November 2004.

California State Office of Historic Preservation, Built Environment Resource Directory (BERD), San Mateo County, updated March 2020.

Circlepoint. *Draft EIR: Redwood City New General Plan*, Chapter 4.5 Cultural Resources. (May 2010).

Circa: Historic Property Development. *Draft Report for the Proposed Mezesville Historic District, Redwood City, California.* Prepared for The City of Redwood City Planning Department and Historic Resources Advisory Committee. March 2, 2006.

City of Redwood City, with Hogle-Ireland, Inc. *City of Redwood City General Plan*. October 11, 2010. Amended June 11, 2018.

City of Redwood City, Building Permit Records, 1203 Arguello Street, Redwood City, CA.

Google Maps, 2021.

Gottfried, Herbert and Jan Jennings. *American Vernacular Buildings and* Interiors, *1870-1960*. New York: W.W. Norton & Company, Inc., 2009.

Jackson, Mike. "Assembly Required: A Brief History of 20th-Century Kit House Designs." *Architect*. Accessed online, October 26, 2021. https://www.architectmagazine.com/practice/assembly-required-a-brief-history-of-20th-century-kit-house-designs_o.

JRP Historical Consulting. "Appendix F: Redwood City Known Historic Resources." in *A New General Plan for Redwood City: Draft Environmental Impact Report* (prepared for the City of Redwood City. May 2010.

"L.M. Duncan Dies at 65," *San Francisco Examiner*, June 19, 1954.

McAlester, Virginia Savage. *A Field Guide to American Houses*. Second Edition. New York: Alfred A. Knopf, 2013.

Page & Turnbull. "1111-1227 Arguello Street: Historic Resource Evaluation." Submitted to City of Redwood City, November 4, 2021 (revised).

Redwood City, City Council Resolution No. 14723 (July 24, 2006).

Redwood City Municipal Code, Chapter 40, Historic Preservation.

San Mateo County Office of the Assessor-Recorder, Appraisal Record, 1203 Arguello Street.

San Mateo County Office of the Assessor-Recorder, Deed Records via ParcelQuestLite.com.

Sanborn Map Company fire insurance maps. Redwood City. 1950, 1962. Accessed via San Francisco Public Library.

University of California, Santa Barbara Library. Aerial Photograph FrameFinder.

Walker, Lester. *American Homes: The Landmark Illustrated Encyclopedia of Domestic Architecture*. New York: Black Dog & Levanthal Publishers, 1996.

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B. PROPOSED PROJECT IMPACT ANALYSIS

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1111-1227 ARGUELLO STREET
PROPOSED PROJECT IMPACT ANALYSIS

REDWOOD CITY, CALIFORNIA
[19391]

PREPARED FOR HINES
SUBMITTED TO CITY OF REDWOOD CITY

REVISED
November 4, 2021

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TABLE OF CONTENTS

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I. INTRODUCTION

This Proposed Project Impact Analysis has been prepared at the request of Hines for the proposed project at 1111-1227 Arguello Street in Redwood City **(Figure 1 and Figure 2)**. The 3.5-acre proposed project site includes six legal parcels: 1111 Arguello Street (052-252-080), 1125 Arguello Street (052-252-090), 1203 Arguello Street (APN 052-252-040), 1209 Arguello Street (APN 052-252-030), 1219 Arguello Street (APN 052-252-020,) and 1227 Arguello Street (APN 052-252-060). 1203, 1209, 1219, and 1227 Arguello Street are located within the locally listed Mezesville Historic District. 1218 and 1227 Arguello Street are also individual local historic landmarks. 1203 Arguello Street is not currently listed as a local historic landmark, and has been found ineligible for individual listing.

Hines, the project sponsor, has proposed to construct a new office building and new multi-family residential building. The project will also include the rehabilitation and adaptive reuse of 1219 and 1227 Arguello Street as a childcare center, and the construction of a new childcare center building on the currently vacant site of 1209 Arguello Street, which will abut the building at 1219 Arguello Street. The project will also include the demolition of the residential building at 1203 Arguello Street and demolition of all industrial buildings at 1111 and 1125 Arguello Street.

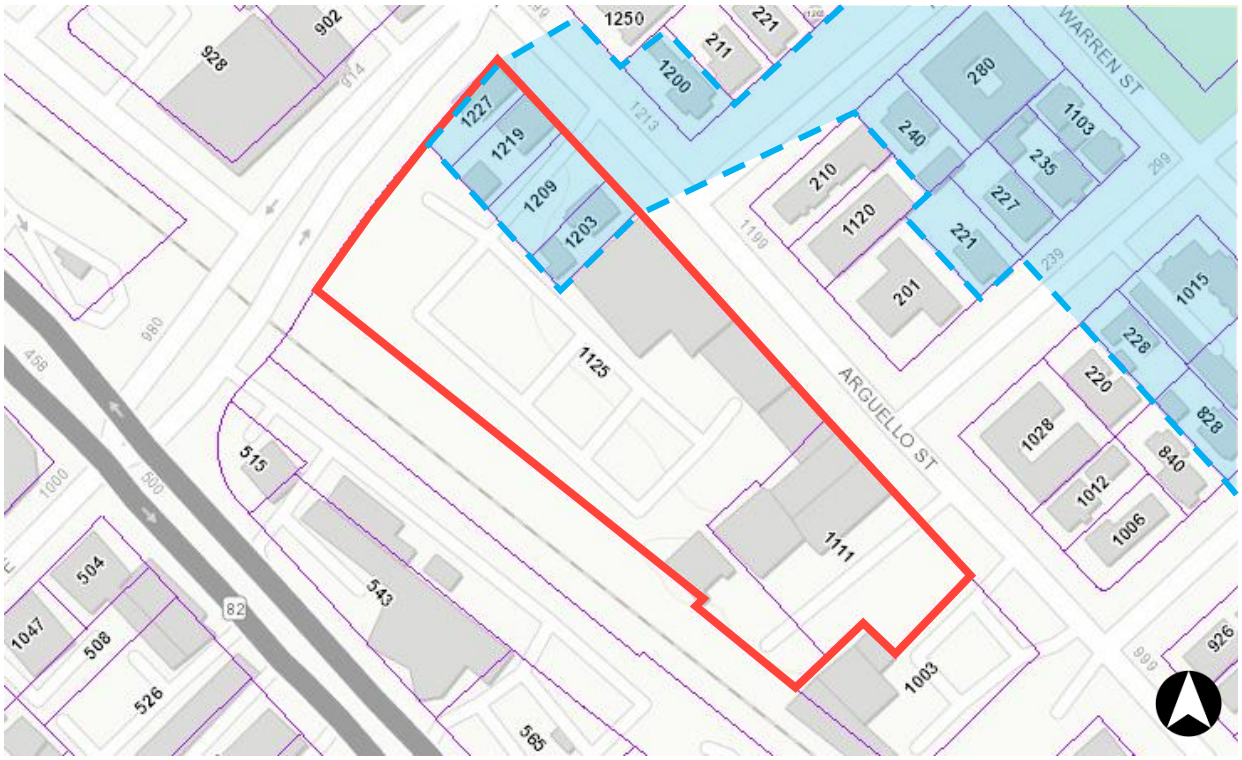

Figure 1. Proposed project site at 1111-1227 Arguello Street, including six parcels, outlined in red. Mezesville Historic District is shaded in blue. Source: San Mateo County Property Maps Portal. Edited by Page & Turnbull.

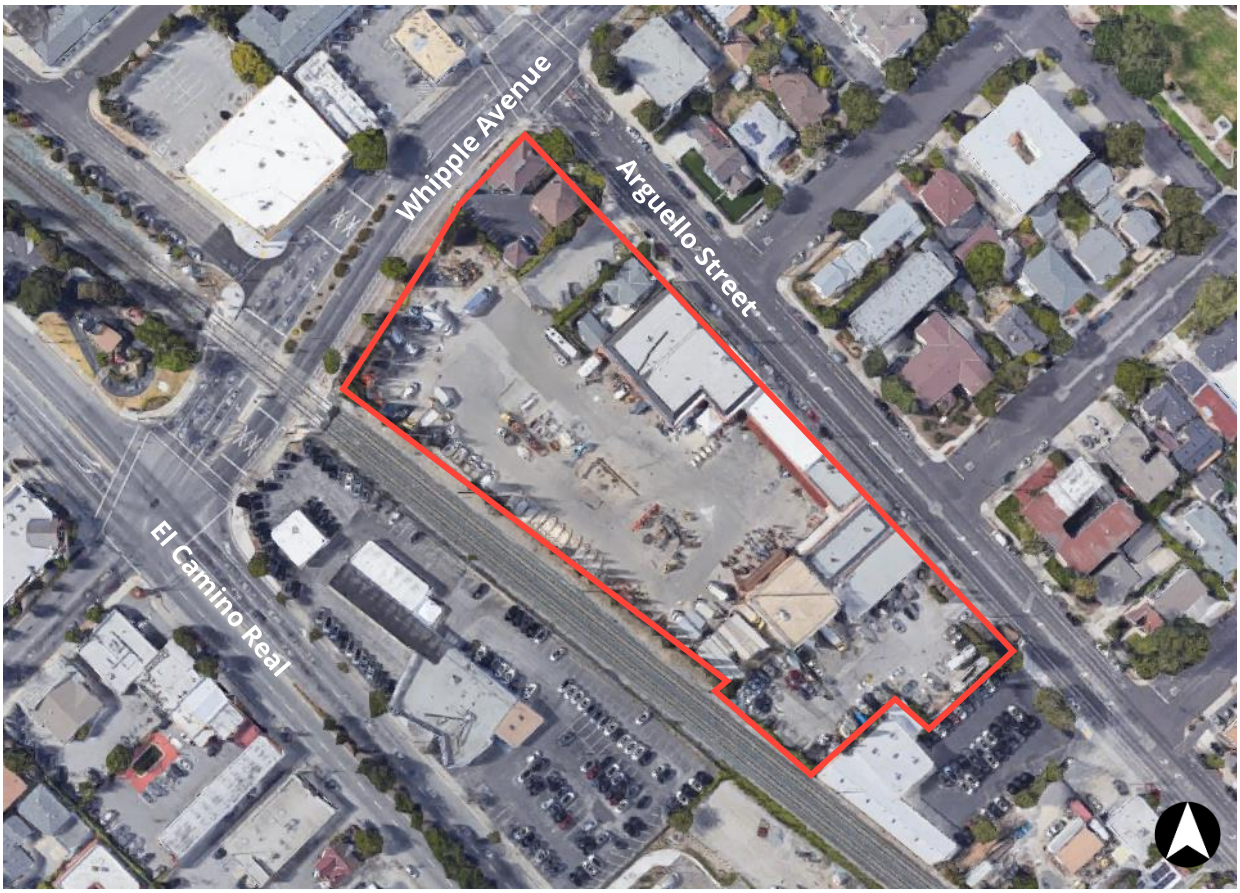

Figure 2. Aerial view of proposed project site at 1111-1227 Arguello Street, including six parcels, outlined in red. Source: Google Maps. Edited by Page & Turnbull.

Methodology

This report provides a summary of the historic status of the subject properties and a summary of the Mezesville Historic District, including the historic significance and character-defining features. Based on the findings of historic significance, the proposed project is evaluated using the *Secretary of the Interior's Standards for Rehabilitation* (the Standards). The report provides an analysis of potential project-specific and cumulative impacts to individual historic resources and to the Mezesville Historic District pursuant to CEQA. To prepare this report, Page & Turnbull consulted the "Draft Report for the Proposed Mezesville Historic District, Redwood City, California" (2006) prepared by Circa: Historic Property Development; the "1111-1227 Arguello Street: Historic Resource Evaluation" prepared by Page & Turnbull (revised November 4, 2021); and the "1111-1227 Arguello Street Planning Application" drawing set by DLR Group (dated May 7, 2021). Photographs in this report were taken by Page & Turnbull during site visits in December 2019 and February 2021, unless otherwise noted.

II. SIGNIFICANCE & CHARACTER-DEFINING FEATURES

Summary of Historic Significance Determinations

None of the six parcels are currently listed in the National Register of Historic Places (National Register) or California Register of Historical Resources (California Register), either as individual resources or as part of a historic district. The Mezesville Historic District is a historic resource for the purposes of the California Environmental Quality Act (CEQA); three of the properties—1203, 1219, and 1227 Arguello Street—are contributors to the locally listed Mezesville Historic District **(Figure 3 - Figure 6)**. 1219 and 1227 Arguello Street are also each locally listed as individual Redwood City landmarks. 1203 Arguello Street is not eligible for individual listing as a Redwood City landmark, but is a contributor to the Mezesville Historic District. 1209 Arguello Street is within the Mezesville Historic District, but is a paved driveway with parking and is a non-contributor to the district. 1111 and 1125 Arguello Street are outside the boundary of the Mezesville Historic District, and have been determined not to be eligible historic resources by Page & Turnbull in a Historic Resource Evaluation (revised November 4, 2021) **(Figure 7 and Figure 8)**.

Table 1. Summary of Historic Significance Determinations

Address (APN)	Use	Year Built	Individual Historic Status	Locally Listed Mezesville Historic District	Historic Resource for CEQA
1111 Arguello St. (052-252-080)	Commercial/ Industrial	1931; 1959; 1980	Not Eligible for California Register	Outside District Boundary, Non-contributor	No
1125 Arguello St. (052-252-090)	Commercial/ Industrial	1931; 1959	Not Eligible for California Register	Outside District Boundary, Non-contributor	No
1203 Arguello St. (052-252-040)	Residential	ca. 1921	Not Eligible for California Register or as Redwood City Historic Landmark	Contributor	Yes (as part of Mezesville HD)
1209 Arguello St. (052-252-030)	Undeveloped	ca. 1885, demolished 1979	Not Eligible for California Register	Non-Contributor	Yes (as part of Mezesville HD)
1219 Arguello St. (052-252-020)	Office (former residential)	1908	Listed Redwood City Historic Landmark	Contributor	Yes
1227 Arguello St. (052-252-060)	Office (former residential)	1890	Listed Redwood City Historic Landmark	Contributor	Yes

Figure 3. Primary (east) façade of 1227 Arguello Street.

Figure 4. Primary (east) façade of 1219 Arguello Street.

Figure 5. Vacant lot at 1209 Arguello Street.

Figure 6. Primary (east) and south façade of 1203 Arguello Street.

Figure 7. Partial view of 1125 Arguello Street, which is part of the project site, but outside of the Mezesville Historic District boundary.

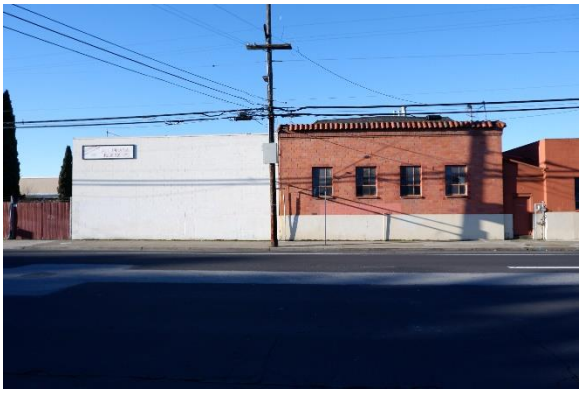

Figure 8. 1111 Arguello Street, which is part of the project site, but outside of the Mezesville Historic District boundary.

Summary of Historic Significance

MEZESVILLE HISTORIC DISTRICT

The Mezesville Historic District is a locally designated historic district that was listed in 2006 **(Figure 10)**. The district includes 77 parcels, including 52 contributing properties constructed between ca. 1867 and ca. 1946. The district is significant as the "first, and intact residential workingman's neighborhood in Redwood City" and for its variety of nineteenth- and early twentieth-century architectural styles, including Eastlake, Queen Anne, Craftsman, Mission Revival, Spanish Revival, postwar simplified Revival, and California Ranch styles. Twenty-five non-contributing properties are located within the irregular boundary of the historic district.

The Mezesville Historic District is listed in the Redwood City Historic Resources Inventory as a local historic district under designation criterion A, B, and C, as established by the Redwood City Historic Preservation Ordinance. In 2006, Circa: Historic Property Development prepared a "Draft Report for the Proposed Mezesville Historic District, Redwood City, California" for the City of Redwood City Planning Department and Historic Resources Advisory Committee which provides the following summary of significance for the district:

> A. It exemplifies or reflects special elements of the City's cultural, aesthetic or architectural history:
>
> The Mezesville district retains much of the characteristics of a late nineteenth century-early twentieth century residential neighborhood, contained within the original 1856 plan for Mezesville. **It was the first, and is now the last vestige of a residential workingman's neighborhood in Redwood City.** [Bold in original] The modest residences, original Park Square (Mezes Park), and over-all environment are very much the same as it was before World War II.
>
> B. It is identified with persons or events significant in local, State or national history:
>
> The district is not identified with one singular person of significance; however, it is the first workingman's residential neighborhood. The district represents the people who built and worked for the industries, provided services to the community, and built and maintained the government buildings and civic facilities.
>
> C. It embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship:
>
> The following building typology can be found throughout the district

- Pre1906: Eastlake and Queen Anne style cottages with wood siding, bay windows, front porches and exterior wood detailing such as brackets, scroll-work, milled trim work
- Post earthquake to depression (1906-1929): Craftsman Style with low roof lines, knee brackets, open eaves and rafter tails, enclosed porch rails; modest cottages, and revival styles such as Mission and Spanish revivals with stucco siding, shaped parapets, tile roof
- Depression to prior to WWII (1929-1941): simplified Revival styles continued; early California Ranch style
- Post war (post-1945): California Ranch style continued; auto courts.[1]

Three of the properties in the proposed project area—1203, 1219, and 1227 Arguello Street—are contributing properties located within the boundaries of the Mezesville Historic District. One of the properties, 1209 Arguello Street, is a non-contributor to the Mezesville Historic District. The two properties at 1111 and 1125 Arguello Street are outside the boundary of the Mezesville Historic District **(Figure 9)**.

The "historical resource" for the purposes of CEQA review is the entirety of Mezesville Historic District, of which 1203, 1219, and 1227 Arguello Street are three of 52 contributing properties.

[1] Circa: Historic Property Development, "Draft Report for the Proposed Mezesville Historic District, Redwood City, California," prepared for The City of Redwood City Planning Department and Historic Resources Advisory Committee (March 2, 2006), 11-12.

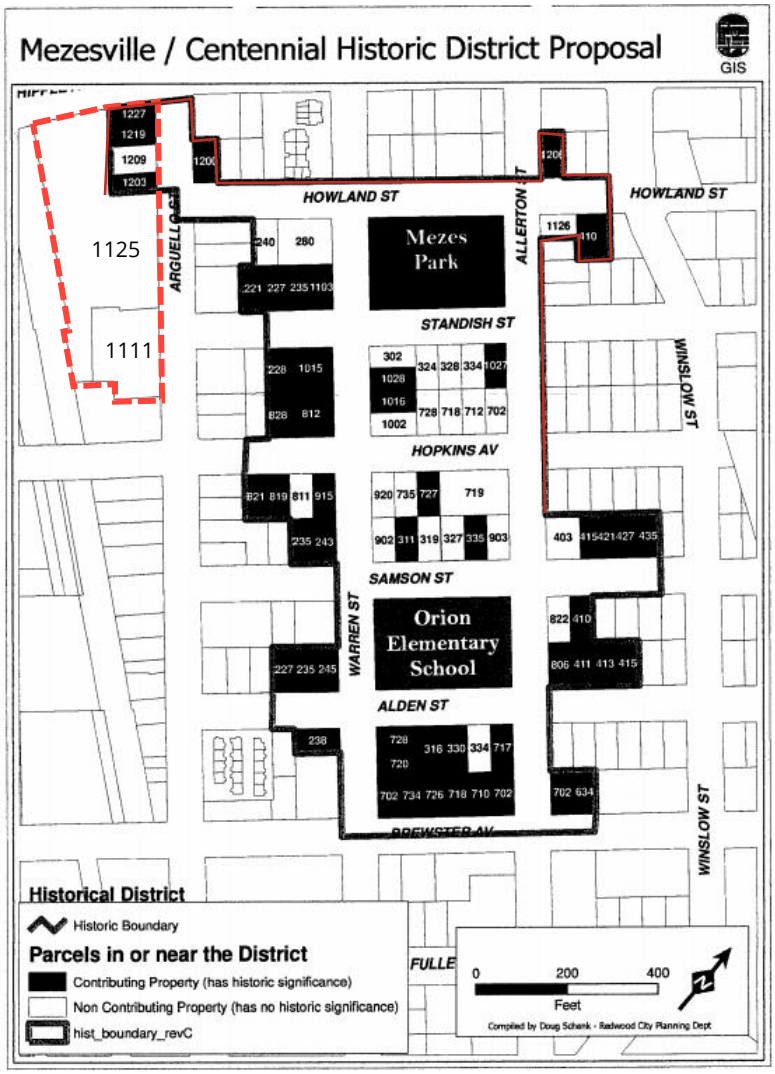

Figure 9. Map of the Mezesville Historic District. The proposed project at 1111-1227 Arguello Street is outlined in red. Source: City of Redwood City. Edited by Page & Turnbull.

1219 ARGUELLO STREET

1219 Arguello Street was built in 1908 by father and son, Edward M. and Harry B. Hanson as a single family residence. The building is a one-story, pyramidal Folk Victorian style house with a transitional application of Classical and Victorian elements, and was converted to an office use. The building at 1219 Arguello Street is a Redwood City local landmark, and therefore is an individual historical resource for the purposes of CEQA.

1227 ARGUELLO STREET

1227 Arguello Street was built in 1890 by Edward M. Hanson as a vernacular Folk Victorian cottage, and has since been converted to an office use. The building at 1227 Arguello Street is a Redwood City local landmark, and therefore is an individual historical resource for the purposes of CEQA.

Character-Defining Features

For a property to be eligible for national, state, or local designation under criteria related to type, period, or method of construction, the essential physical features (or character-defining features) that enable the property to convey its historic identity must be evident. These distinctive character-defining features are the physical traits that commonly recur in property types and/or architectural styles. Characteristics can be expressed in terms such as form, proportion, structure, plan, style, or materials.

MEZESVILLE HISTORIC DISTRICT

Due to the Mezesville Historic District's approximately 80-year period of significance and the various architectural styles expressed by its contributing properties, it does not have a strictly unified historic character. Rather, the "Draft Report for the Proposed Mezesville Historic District, Redwood City, California" states that:

> Mezesville district retains its character defining features such as modest single-story residences with stoops or open entry porches on small lots with deep front yard setbacks, shallow backyards, and wide planting strips with a canopy of street trees. The streets and blocks are generally as they were when Mezes platted them in 1854, including the Mezes Park. Although land assembly starting in the 1950s has led to the intrusion of inappropriately over-scaled buildings, these are primarily at the margins of the original district. The overall urban "grid" of 50 ' X 100 ' lots with one and two-story houses, many retaining their porches and other simple, yet well-scaled character defining features.[2]

Based on review of the "Draft Report for the Proposed Mezesville Historic District, Redwood City, California" and visual inspection during a site visit, Page & Turnbull has identified the following character-defining features of the Mezesville Historic District:

- Predominantly residential use
- Primarily single-family homes
- One- to two-story building scale

[2] Circa: Historic Property Development, "Draft Report for the Proposed Mezesville Historic District, Redwood City, California," prepared for The City of Redwood City Planning Department and Historic Resources Advisory Committee (March 2, 2006), 6.

- Grid of 50- by 100-foot lots
- Streetscape composed of deep front yard setbacks and wide planting strips with street trees
- Gabled or hipped roofs, or flat roofs with parapets
- Horizontal wood, wood shingle, or stucco siding
- Original decorative treatments appropriate to the properties' respective dates of construction and architectural styles
- Mezes Park.

1219 ARGUELLO STREET

Page & Turnbull has identified the following character-defining features of 1219 Arguello Street:

- One-story, rectangular-plan residential style building
- Pyramid hipped roof with overhanging eaves
- Projecting gable-roofed entry portico
- Fenestration pattern, including original one-over-one, double-hung wood windows with ogee lugs, twelve-lite fix window, and partially glazed wood panel entry door
- Chamfered corners at primary façade
- Exterior brick and rubble stone chimney.

1227 ARGUELLO STREET

Page & Turnbull has identified the following character-defining features of 1227 Arguello Street:

- One-story, rectangular plan residential style building
- Hipped roof with flat top and hipped roof dormer
- Full-width front entry porch
- Fenestration pattern, including original one-over-one, double-hung wood windows with ogee lugs and partially glazed wood panel entry door with multi-colored divided lites
- Projecting corner bay with gabled roof, including twelve-over-one, double-hung wood window with ogee lugs
- Tongue-and-groove wood siding
- Scalloped wood shingles below roof eaves
- Applied decorative wood ornamentation.

III. PROJECT IMPACT ANALYSIS

This section analyzes the potential project-specific impacts of the proposed project at 1111-1227 Arguello Street on the environment, as required by CEQA. The following analysis describes the proposed project, assesses its compliance with the Secretary of the Interior's Standards, and identifies whether the project will result in any cumulative impacts.

Proposed Project Description

The "1111-1227 Arguello Street Planning Application" drawing set by DLR Group, dated May 7, 2021, and submitted to the City of Redwood City, provides the following brief proposed project description:

> 1111-1227 Arguello is envisioned as a mixed-use project featuring standalone for sale, family size, multifamily housing, child care and office buildings within the Redwood City Mixed-Use Transitional (MUT) Zoning District. The approximately 3.5-acre project site is made up of six parcels bounded by Whipple Avenue to the north, Arguello Street to the east, and Caltrain to the west. Buildings on three of the parcels, 1219, 1227 and 1203 Arguello Street, are all located within the boundaries of the Mezesville Historic District. The site was recently re-zoned for MUT. This zoning facilitates a creative mix of residential, commercial and industrial uses. Through its community benefits program, MUT will allow for up to 2.0 far, 60 feet of height, and 40 dwelling units per acre.[3]

The project design has evolved since the pre-application, but the above description remains accurate. As currently proposed, the project includes 33 units (100%) below market rate (BMR) affordable housing, an approximately 4,100-square-foot childcare facility (including the rehabilitated buildings at 1219 and 1227 Arguello Street and a new one-story building), and approximately 301,000 square feet of office and amenity space in a new four-story building (with rooftop mechanical penthouse and three stories of underground parking) **(Figure 10 and Figure 11)**. A residential building at 1203 Arguello Street will be demolished, as will a non-historic accessory dwelling unit (ADU) at 1203 Arguello Street and a non-historic detached garage at 1219 Arguello Street. All of the non-historic industrial buildings at 1111 and 1125 Arguello Street will be demolished.

[3] DLR Group, "1111-1227 Arguello Street Planning Application" (May 7, 2020), Sheet G.001.

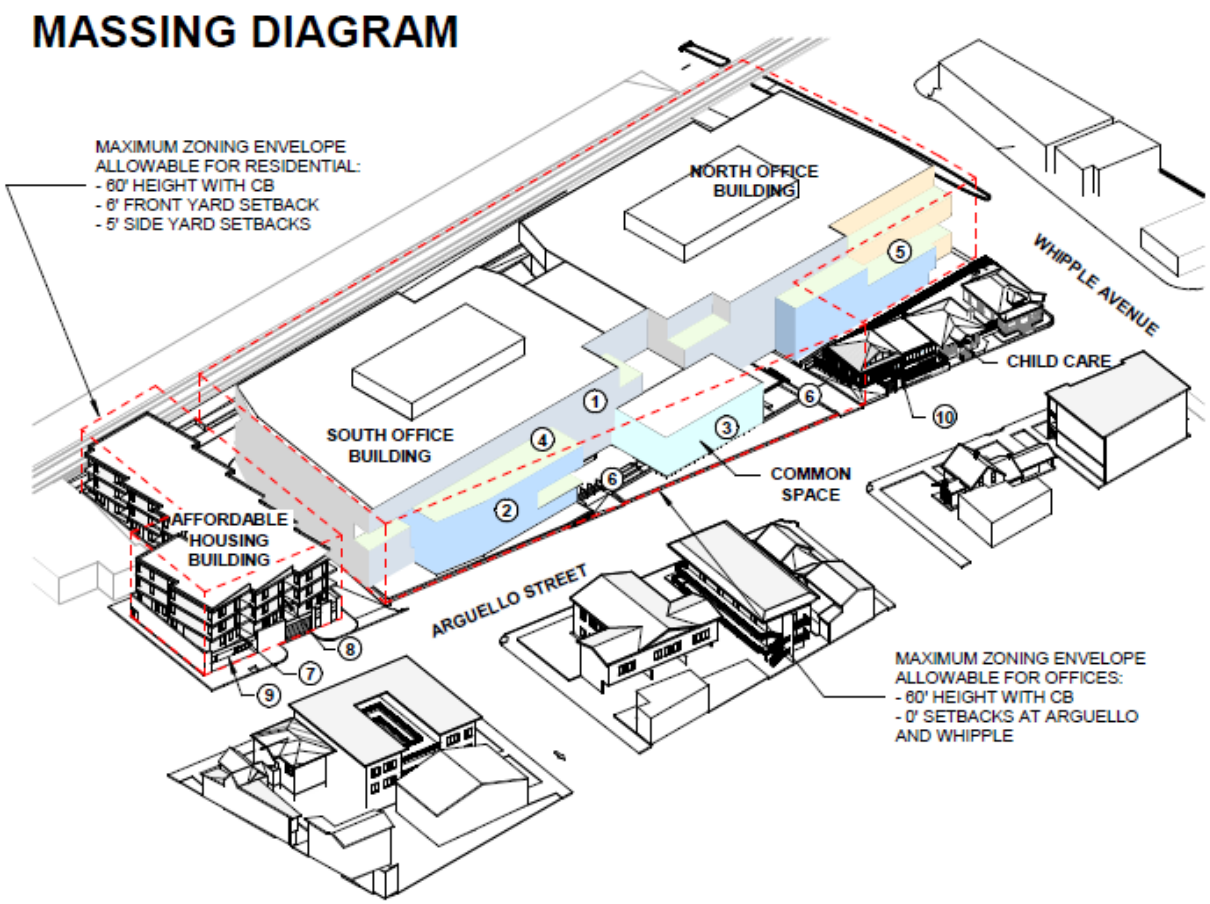

Figure 10. Massing diagram for proposed project at 1111-1227 Arguello Street with the affordable housing the south (left) end of the site, the office building at the center, and the childcare center (including rehabilitated 1219 and 1227 Arguello Street) at the northeast end of the site (right). Source: DLR Group, "1111-1227 Arguello Street Planning Application" (May 7, 2021), Sheet G.002.

Figure 11. Rendering of proposed project at 1111-1227 Arguello Street, viewed from Arguello Street looking southwest from near the intersection with Whipple Avenue. Source: DLR Group, "1111-1227 Arguello Street Planning Application" (May 7, 2021), Sheet T.001.

The project proposes to rehabilitate the existing historic buildings at 1219 and 1227 Arguello Street. Interior modifications will be made to accommodate the new use, but exterior features and materials will be retained. The rear and side yards of 1219 and 1227 Arguello Street, which are currently a shared surface parking lot and driveway, will be altered to accommodate a raised outdoor play area, enclosed by a wood fence. A new childcare building will be constructed at 1209 Arguello Street, which is currently a vacant lot with a surface parking lot and driveway accessing 1125 Arguello Street. The new childcare building will feature a one-story, rectangular plan building with a hipped roof volume, clad in horizontal wood siding, and a glazed flat roof volume that will abut the existing building at 1219 Arguello Street. The new childcare building will be accessed via stair, centered on the hipped roof volume, and an ADA-compliant ramp that will run parallel to the glazed hyphen. The glazed hyphen will be set back from the chamfered front corners of the building at 1219 Arguello Street. **(Figure 12 and Figure 13)**

Figure 12. Site plan of rehabilitated 1227 and 1219 Arguello Street for childcare center, with new childcare building abutting the south side of 1219 Arguello Street. Source: DLR Group, "1111-1227 Arguello Street Planning Application" (May 7, 2021), Sheet AC.201.

Figure 13. Rendering of street-facing facades of the proposed new childcare building (left), abutting 1219 Arguello Street (middle), with 1227 Arguello Street at right. Source: DLR Group, "1111-1227 Arguello Street Planning Application" (May 7, 2021), Sheet AC.201.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) is state legislation (Pub. Res. Code §21000 et seq.) that provides for the development and maintenance of a high-quality environment for the present-day and future through the identification of significant environmental effects.[4] CEQA applies to "projects" proposed to be undertaken or requiring approval from state or local government agencies. "Projects" are defined as "activities which have the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits and the approval of tentative subdivision maps."[5] Historic and cultural resources are considered to be part of the environment. In general, the lead agency must complete the environmental review process as required by CEQA.

According to CEQA, a "project with an effect that may cause a substantial adverse change in the significance of an historic resource is a project that may have a significant effect on the environment."[6] Substantial adverse change is defined as: "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historic resource would be materially impaired."[7] The significance of an historical resource is materially impaired when a project "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources."[8] Thus, a project may cause a substantial change in a historic resource but still not have a significant adverse effect on the environment as defined by CEQA as long as the impact of the change on the historic resource is determined to be less-than-significant, negligible, neutral, or even beneficial.

In general, the lead agency must complete the environmental review process as required by CEQA. The basic steps are:

1. Determine if the activity is a "project;"
2. Determine if the project is exempt from CEQA;
3. Perform an Initial Study to identify the environmental impacts of the Project and determine whether the identified impacts are "significant."

[4] California Environmental Quality Act (CEQA), *California Legislative Information,* accessed April 26, 2021, http://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=PRC&division=13.&title=&part=&chapter=&article=.
[5] Ibid.
[6] CEQA Guidelines subsection 15064.5(b).
[7] CEQA Guidelines subsection 15064.5(b)(1).
[8] CEQA Guidelines subsection 15064.5(b)(2).

Based on the finding of significant impacts, the lead agency may prepare one of the following documents:

a. Negative Declaration for findings of no "significant" impacts;
b. Mitigated Negative Declaration for findings of "significant" impacts that may revise the Project to avoid or mitigate those "significant" impacts;
c. Environmental Impact Report (EIR) for findings of "significant" impacts.

STATUS OF EXISTING BUILDING AS A HISTORICAL RESOURCE

In completing an analysis of a project under CEQA, it must first be determined if the project site possesses a historical resource. A site may qualify as a historical resource if it falls within at least one of four categories listed in CEQA Guidelines Section 15064.5(a). The four categories are:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing, in the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Pub. Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Pub. Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Pub. Resources Code sections 5020.1(j) or 5024.1.

In general, a resource that meets any of the four categories listed in CEQA Guidelines Section 15064.5(a) is considered to be a historical resource unless "the preponderance of evidence demonstrates" that the resource "is not historically or culturally significant."[9]

Based on analysis and evaluation contained in the "1111-1227 Arguello Street: Historic Resource Evaluation" prepared by Page & Turnbull (revised, November 4, 2021), the proposed project site contains three historic resources for CEQA: the Mezesville Historic District, 1219 Arguello Street, and 1227 Arguello Street. These resources are locally listed and are therefore considered to be historical resources under CEQA according to Category 2.

Analysis of Project-Specific Impacts Under CEQA

The proposed project site includes two types of historic resources—individual historic resources (1227 and 1219 Arguello Street) and contributors to a historic district (Mezesville Historic District). The analysis of project-specific impacts under CEQA is divided into two discussions. The first discussion will analyze the proposed project based on the Secretary of the Interior's Standards for Rehabilitation relative to the two individual historic resources—1227 and 1219 Arguello Street. The second discussion will analyze the potential impacts of the proposed project to the three contributors and overall Mezesville Historic District.

ANALYSIS OF PROJECT SPECIFIC IMIPACTS TO INDIVIDUAL HISTORIC RESOURCES

Secretary of the Interior's Standards

As stated previously, the project site includes eligible historic resources for the purposes of CEQA and must substantially meet the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (the Standards) in order to avoid significant adverse impacts to the historic resource.[10] The Standards provide guidance for reviewing proposed work on historic properties and are a useful analytic tool for understanding and describing the potential impacts of substantial changes to historic resources. Conformance with the Standards does not determine whether a project would cause a substantial adverse change in the significance of a historic resource. Rather, projects that comply with the Standards benefit from a regulatory presumption that they would have a less-than-significant adverse impact on a historic resource. Projects that do not comply with the Standards may or may not cause a substantial adverse change in the significance of an historic resource.

[9] CEQA Guidelines §§15064.5(a)(2).
[10] Anne E. Grimmer, *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings,* (U.S. Department of the Interior National Park Service Technical Preservation Services, Washington, D.C.: 2017), accessed April 26, 2021, https://www.nps.gov/tps/standards/treatment-guidelines-2017.pdf.

The Secretary of the Interior offers four sets of standards to guide the treatment of historic properties: Preservation, Rehabilitation, Restoration, and Reconstruction. The four treatments are summarized as follows:

> **Preservation:** The Standards for Preservation "require retention of the greatest amount of historic fabric, along with the building's historic form, features, and detailing as they have evolved over time."
>
> **Rehabilitation:** The Standards for Rehabilitation "acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character."
>
> **Restoration:** The Standards for Restoration "allow for the depiction of a building at a particular time in its history by preserving materials from the period of significance and removing materials from other periods."
>
> **Reconstruction:** The Standards for Reconstruction "establish a limited framework for recreating a vanished or non-surviving building with new materials, primarily for interpretive purposes."[11]

Typically, one set of standards is chosen for a project based on the project scope. For the purposes of the proposed project at 1111-1227 Arguello Street, the Standards for Rehabilitation, which "acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character," would be the appropriate Standards for the proposed project's scope.[12]

Standards for Rehabilitation Analysis

The following analysis applies each of the Standards for Rehabilitation to the proposed project at 1111-1227 Arguello Street. This analysis is based on the "1111-1227 Arguello Street Planning Application" drawing set prepared by architecture firm DLR Group, dated May 7, 2021 **(Appendix A)**.

[11] Ibid.
[12] Ibid.

Rehabilitation Standard 1: *A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.*[13]

Discussion: The proposed project will change the use of 1219 and 1227 Arguello Street to a childcare center use. While built as residential buildings, both buildings have been used as offices for decades. The proposed new use does not require exterior alterations to the buildings' historic features or materials, and minimal changes to the spatial relationship between the buildings are required. Therefore, the proposed project is consistent with Standard 1.

Rehabilitation Standard 2: *The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.*

Discussion: The proposed project retains and preserves all of the character-defining features and spaces of the two historic buildings at 1219 and 1227 Arguello Street. A concrete site wall is proposed to create a raised platform between and behind the buildings at 1219 and 1227 Arguello Street, which will serve as an outdoor play area for the childcare center; a wood fence will enclose the play area. The site wall and wood fence are set back from the primary facades of 1219 and 1227 Arguello Street, have a similar appearance to a residential rear yard fence, and will not diminish the character of the buildings as one-story, detached residential-type buildings. A new building will be constructed as part of the childcare complex at the adjacent site (currently vacant) and will abut the building at 1219 Arguello Street, but will not alter or remove any exterior features; the new childcare building is discussed further in Standards 9 and 10. The spatial relationships of 1219 and 1227 Arguello Street and to each other will be retained. Therefore, the proposed project is consistent with Standard 2.

Rehabilitation Standard 3: *Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.*

Discussion: The proposed project does not create a false sense of historical development and does not add conjectural features or elements from other historic properties. The proposed new childcare building is contemporary in style, but compatible in massing, scale, and materials (as is discussed in greater detail in Standard 9). As previously noted in Standard 2, no exterior features of

[13] This and the following Standards are listed in Grimmer (2017) and also at National Park Service, U.S. Department of the Interior, "Technical Preservation Services: Rehabilitation as a Treatment," accessed April 26, 2021, https://www.nps.gov/tps/standards/four-treatments/treatment-rehabilitation.htm.

the historic buildings at 1219 and 1227 Arguello Street are being altered or moved in a manner that will create a false sense of historical development. Therefore, the proposed project is consistent with Standard 3.

Rehabilitation Standard 4: *Changes to a property that have acquired historic significance in their own right will be retained and preserved.*

Discussion: The building at 1227 Arguello Street was altered at some point between 1890 and circa 1908, when a full-width front porch, hipped roof front dormer, and a projecting corner bay were added; these features have acquired historic significance and are considered character-defining features. These features will be retained in the proposed project, and will not be altered. Therefore, the proposed project is consistent with Standard 4.

Rehabilitation Standard 5: *Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.*

Discussion: The materials, features, finishes, and construction techniques that characterize the former residential buildings at 1219 and 1227 Arguello Street will be retained with no change to the resources' historic character-defining features. The exterior materials and architectural features will all be retained, including roof forms, exterior siding, entry porches, original fenestration, primary doors and doorways, and the applied wood ornamentation at 1227 Arguello Street and exterior chimney at 1219 Arguello Street. In several locations at rear or side facades, existing clear glazing will be replaced with frosted glazing for privacy, but the glass will be replaced within the existing window assemblies. The detached rear garage at 1219 Arguello Street will be demolished, but it is not an original feature of the property (built in 1986) and has not been identified as historic or a character-defining feature of the property. Therefore, the proposed project is consistent with Standard 5.

Rehabilitation Standard 6: *Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.*

Discussion: The proposed project specifies that all exterior materials and features—including siding, wood windows and doors, and architectural and decorative features—will be repaired or replaced "with matching finishes only if deteriorated beyond repair." In several locations at rear or side facades, existing clear glazing will be replaced with frosted glazing for privacy, but it will be replaced within the existing window assemblies. As such, the proposed project is consistent with Standard 6.

Rehabilitation Standard 7: *Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.*

Discussion: As planned, the proposed project does not involve chemical or physical treatments of historic materials. Therefore, the project will be consistent with Standard 7.

Rehabilitation Standard 8: *Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.*

Discussion: The proposed project will include substantial excavation for the construction of the underground parking at the new office building, and excavation for the foundation of the new childcare building. If any archaeological material is discovered during this process, provided that standard discovery procedures are followed and the Project Sponsor follows the City of Redwood City's "Cultural Resources Management Plan," the proposed project will be consistent with Standard 8.

Rehabilitation Standard 9: *New additions, exterior alterations or related new construction will not destroy historic materials, features and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.*

Discussion: As discussed in Standards 2 and 5, the proposed project does not involve any alterations to, or removal of, the exterior character-defining features and materials of the two individually historic buildings at 1219 and 1227 Arguello Street, beyond reglazing two windows in the existing, historic window assemblies. The proposed new childcare center building will abut the south side façade of 1219 Arguello Street, but the two buildings will not be internally connected. The proposed new childcare building is contemporary in style, but takes cues from the massing, scale, and materials of the adjacent former residential buildings. The new building will have two volumes, a hipped roof volume and a flat roofed glazed volume, which abuts the building at 1219 Arguello Street. The combined two volumes provide the square footage necessary for the childcare program, but visually break up the massing and result in a more residential character. The proposed building is contemporary in style but has the massing, scale, materials, and roofline of a residential building and is sited such that it continues the rhythm of the streetscape along the east side of Arguello Street.

The proposed hipped roof volume is approximately the same height of the adjacent residential buildings and has a slope that is only slightly steeper than that of the adjacent hipped roof building

at 1219 Arguello Street. The proposed hipped roof volume has a gabled dormer feature with a clerestory window, which is a contemporary interpretation of the smaller dormer features on the adjacent historic buildings. The proposed hipped roof volume is clad in horizontal wood siding, which is a typical cladding material in the surrounding residential neighborhood, and has windows that are of a similar shape and scale as the adjacent residential buildings. A stairway is centered on the hipped roof volume, aligned with an approximately doorway-sized window, which continues the pattern of the central entrances accessed via patios or porticos at the adjacent 1219 and 1227 Arguello Street buildings. An ADA-compliant ramp is proposed along the primary façade of the new building, adjacent the stair. The proposed new childcare building is differentiated from the two historic buildings by a glazed, flat roofed volume, which is set back from the plane of the primary façade of 1219 Arguello Street, and is lower than the eave of the historic building. Thus, the massing and roofline of the historic building at 1219 Arguello Street remain legible and unimpaired. While the rehabilitated historic buildings and proposed new building will have a non-residential childcare use, the residential character of the buildings and the streetscape will remain intact.

Other related new construction includes the detached four-story office building with three stories of underground parking, and the detached multi-family residential building which will be located on the site of 1111 and 1125 Arguello Street. The site is currently occupied by one- to two-story industrial buildings and a large, paved service area along the Caltrain tracks. This site has historically contained a non-residential use and larger-scale buildings than the adjacent residential neighborhood. Two- and three-story portions of the proposed office building will be located at the area closest to the two historic buildings at 1219 and 1227 Arguello Street, creating a stepped down volume and providing some transition to their residential scale. A two-story pavilion entrance to the office building and landscaped area are proposed to the south of the childcare center building, which is more residential in scale along Arguello Street. The proposed new buildings will be behind the two historic buildings, and will not cut them off from the surrounding residential area and area sufficiently setback to protect the surrounding environment.

Therefore, the proposed project is consistent with Standard 9.

Rehabilitation Standard 10: *New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

Discussion: If the proposed new childcare building and raised outdoor play were, hypothetically, removed in the future, the essential form and integrity of the two historic buildings at 1219 and 1227 Arguello Street will be unimpaired. The childcare flat-roofed volume will abut the building at 1219 Arguello Street; if removed in the future, limited patch repairs may be required to the wood

shingle siding. However, the overall material fabric will be unimpaired, and the form and design of the building will be intact. All of the character-defining features will be retained. Additionally, if the proposed new detached office building and multi-family residential buildings were removed in the future, the environment of the two historic buildings will be unimpaired. Therefore, the proposed project is consistent with Standard 10.

Rehabilitation Standards Summary

As the above analysis illustrates, the proposed project at 1111-1227 Arguello Street, as currently designed, appears to be in full compliance with all ten Standards with regard to the two individually eligible historic resources at 1219 and 1227 Arguello Street. Thus, the historic buildings will continue to be able to express the features, design, and context that make them eligible for local landmark listing. According to CEQA Guidelines Section 15126.4(b)(1), if a project complies with the *Standards for Rehabilitation*, the project's impact "will generally be considered mitigated below a level of significance and thus is not significant." As the proposed project is in overall compliance with the Standards for Rehabilitation, it will not cause a significant adverse impact to the individual historic resources under CEQA.

ANALYSIS OF PROJECT SPECIFIC IMPACTS TO HISTORIC DISTRICT

As discussed above, substantial adverse change is defined by CEQA as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired."[14] The significance of an historical resource is materially impaired when a project "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance" and that justify or account for its inclusion in, or eligibility for inclusion in, the California Register or a local register.[15]

The Mezesville Historic District has 77 parcels, including 52 contributing properties and 25 non-contributing properties. If the project was to be constructed as proposed, the demolition of 1203 Arguello Street will result in the removal of one contributing property from the edge of the historic district. The removal of 1203 Arguello Street would change the percentage of contributors from 67.5% to 66.2%. The location of 1203 Arguello Street is at the edge of a very irregular historic district boundary, adjacent to an industrial site and not in the heart of the historic district. Thus, the demolition of 1203 Arguello Street will not substantially disrupt any streetscape patterns or visual cohesiveness within the district. The residence is one of a number of Craftsman bungalows in the Mezesville Historic District. Therefore, the demolition of 1203 Arguello Street alone does not result

[14] CEQA Guidelines subsection 15064.5(b)(1).
[15] CEQA Guidelines subsection 15064.5(b)(2).

in a loss of historic significance or integrity of the overall historic district. The Mezesville Historic District, which is the historic resource considered in an analysis of impacts under CEQA when contributing properties are affected, will remain eligible for continued listing as a local historic district.

The proposed new office and residential buildings on the project site will be sited behind and adjacent to the contributing properties at 1219 and 1227 Arguello Street, and will border the Mezesville Historic District. The new buildings proposed in the 1111-1227 Arguello project will be four stories tall, but will be set back from the two contributing buildings. The properties immediately to the west, south, and east (across Arguello Street) from the project street are outside the historic district. The proposed new buildings south and west of the historic district contributors at 1219 and 1227 Arguello Street will be generally located on what is currently a large surface parking and work area behind several one- to two-story industrial buildings that will be demolished. A landscaped open space area and driveway accessing an underground parking garage (below the new buildings) will separate 1219 and 1227 Arguello Street from the new construction. While contemporary in architectural style and design, the proposed new buildings will be sufficiently set back and appropriately sited such that their scale and design will not substantially affect the setting of the historic district. As demonstrated in the previous Secretary of the Interior's Standards Analysis, the contributing buildings at 1219 and 1227 Arguello Street will remain eligible as individual local landmarks and will remain eligible as contributors to the district. The Mezesville Historic District, the heart of which surrounds Mezes Park, will retain its street grid and residential character.

Therefore, the proposed project, including the demolition of the contributing building at 1203 Arguello Street and the construction of new buildings immediately adjacent to the historic district, would have a **less-than-significant** impact on the Mezesville Historic District for the purposes of CEQA, and will not affect the eligibility of the historic district.

Cumulative Impacts Under CEQA

The California Environmental Quality Act defines cumulative impacts as follows:

> "Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.
>
> a) The individual effects may be changes resulting from a single project or a number of separate projects.

b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.[16]

According to the City of Redwood City's list of 'major development projects,' including those that are proposed, approved, under construction, and recently completed, the following projects are within an approximately ¼-mile radius of the proposed project site **(Figure 14)**:

- **690 Veterans Blvd. Hotel** (approved) - Develop a 4-story, 91-unit hotel. Proposed square footage is approximately 53,670 square feet, with 71 parking spaces that would be on the ground floor with utilizing a stacker system and valet.
- **77 Birch Townhomes** (proposed) – Nine townhomes with two-bedroom condos totaling 25,865 square feet with 18 covered parking spaces, and three outdoor parking spaces.
- **Sequoia Station Development** (proposed) – Bounded by Arguello Street, Broadway, Perry Street, and Brewster Avenue. Request to initiate a General Plan Amendment and Downtown Precise Plan amendment to study transit-oriented development proposal on a 12-acre site adjacent to the transit station and within the Transit District. Requested initiation includes increasing the Downtown Precise Plan development caps and building heights, and reducing the parking ratios. The proposal at this time is a request to study this area further through a General Plan Amendment.
- **601 El Camino Real** (under construction) - Demolition of an existing 23,825 square-foot automotive dealership (Honda), and construction of 33 for-sale residential units.
- **120 El Camino Real** (under construction) **-** Application for an Architectural Permit, Tentative Parcel Map, Planned Development Permit, and Condominium Permit to construct 12 for-sale townhome condominiums in the Mixed-Use Neighborhood (MUN) Zoning District. Three-story townhomes would contain two covered parking spaces each for a total of 24 parking spaces for the site.
- **150 El Camino Real** (completed) – Twelve for sale townhouse units on two vacant lots totaling 19,157 square feet.
- **550 Allerton Street** (completed) - Replacement of an existing surface parking lot with a new six-story, 69,478 square-foot office building with 150 on-site parking

[16] 2020 CEQA Statutes & Guidelines, Article 20, Subsection 15355.

spaces. The parking will be accommodated within two levels of parking and will be fully valeted.[17]

Figure 14. Map of major development projects in Redwood City, including those that are proposed, approved, under construction, and recently completed, within approximately ¼-mile of the proposed project site. Subject proposed project at 1111-1227 Arguello Street is shown with a red outline. Mezesville Historic District is shaded in purple. Source: Redwood City Community GIS Map, available online http://webgis.redwoodcity.org/community/. Edited by Page & Turnbull.

However, none of these other major development projects is located within the Mezesville Historic District. None of these other major development projects are within or immediately adjacent to the Mezesville Historic District such that they could have any potential to cause a significant cumulative impact to the historic district which would compound or increase environmental impacts. Thus, the

[17] "Development Projects," Redwood City, accessed online April 26, 2021, https://www.redwoodcity.org/city-hall/current-projects/development-projects.

proposed project at 1111-1227 Arguello Street would not cause cumulative impacts to the historic district resulting from several projects.

Assessment of other potential environmental impacts such as aesthetics, air quality, noise, pollution, etc. are outside the scope of this report.

Redwood City Entitlements Process

In addition to CEQA review, for which the City of Redwood City will act as the lead agency, the proposed project will also require entitlements pursuant to the City of Redwood City's local plans, policies, and codes.

REDWOOD CITY GENERAL PLAN

The Redwood City General Plan specifies that projects that could potentially affect historic resources should be evaluated according to the Secretary of the Interior's Standards. Specifically, Goal BE-37 of the Redwood City General Plan is "Protect, preserve, restore, rehabilitate, and/or enhance historic resources." The following policies are directly relevant to the proposed project:

> **Policy BE-37.1**: Enhance, restore, preserve, and protect, as appropriate, historic resources throughout the city.
>
> **Policy BE-37.2**: Preserve historic landmark structures, landscapes (including trees), trails, and sites that serve additional community needs, such as recreational open space and/or cultural needs.
>
> **Policy BE-37.3**: Encourage the retention and/or adaptive reuse of historic residential, commercial, and industrial buildings.
>
> **Policy BE-37.4**: Consider relocation of landmark structures to vacant sites within established landmark districts when no other alternative exists for their preservation, or if a particular structure is not protected by ordinance.
>
> **Policy BE-37.5**: Provide incentives, support, and guidance to the owners of designated historic landmark sites to preserve and rehabilitate structures.
>
> **Policy BE-37.6**: Allow only compatible, historically appropriate development on vacant parcels within or adjacent to designated historic areas, neighborhoods, and/or sites in compliance with the Secretary of the Interior's Standards.

> **Policy BE-37.7**: Strive for compatibility with existing historic resources when planning for infrastructure improvements, restorations, new construction, alterations, or similar projects in designated historic districts.
>
> **Policy BE-37.8**: Permit removal of non-contributing elements of structures in or adjacent to designated historic resources to allow replacement by compatible, historically appropriate structures.

The Redwood City General Plan further elaborates on strategies for implementing these policies, including in the implementation of the Secretary of the Interior's Standards:

> **Program BE-107**: Secretary of the Interior's Standards. Continue to evaluate "projects" affecting historic resources using architectural standards from the Secretary of the Interior's Standards for landmark districts to help determine compatibility of existing structures and future construction, including such things as periods of construction; architectural styles; types of materials, textures, signs, fences and front yard hardware; character of street improvements; location; and relationship to other structures.

REDWOOD CITY HISTORIC PRESERVATION ORDINANCE

Chapter 40 of the Redwood City Municipal Code establishes the Redwood City Historic Preservation Ordinance. Ordinance sections that are directly relevant to the proposed project analysis are summarized here.

Per Section 40.8 of the Historic Preservation Ordinance, a permit is required to "tear down, demolish, construct, alter, remove or relocate any improvement, or any portion thereof, which has been designated an historic landmark pursuant to the provisions of this Chapter, or which lies within an historic district, or to alter in any manner any exterior architectural feature of such an historic landmark or improvement within an historic district, or to place, erect, alter, or relocate any sign within an historic district or on an historic landmark or historic site."

Section 40.10 of the Historic Preservation Ordinance outlines the following criteria for the approval of a permit:

> The Commission, or the City Council upon appeal, shall issue an approval for any proposed work as described in Section 40.8 based upon the following criteria or other criteria as determined by the Commission pursuant to Section 40.5:

A. In the case of any property designated a historic landmark, the proposed work would not detrimentally alter, destroy or adversely affect any exterior architectural feature; or
B. In the case of any property located within a historic district, the proposed construction, removal, rehabilitation, alteration, remodeling, excavation or exterior alteration conforms to the prescriptive standards as adopted by the Commission, and does not adversely affect the character of the district; or
C. In the case of construction of a new improvement, building, or structure upon a historic site, the exterior of such improvements will not adversely affect and will be compatible with the external appearance of existing designated improvements, buildings, and structures on said site.

REDWOOD CITY ENTITLEMENTS SUMMARY

In the case of potential demolition of 1203 Arguello Street, which is a contributor to the Mezesville Historic District, Page & Turnbull's understanding is that the threshold for permit approval is met when the demolition conforms to the prescriptive standards of the Historic Preservation Ordinance Section 40.10, which is when the project does not adversely affect the character of the district.

Based on General Plan Policy BE-37.6 and Historic Preservation Ordinance Section 40.10, the proposed new childcare facility building adjacent to 1219 and 1227 Arguello Street, within the boundary of the Mezesville Historic District, should be designed in a manner that is "compatible, historically appropriate" with the adjacent historic buildings. As the above analysis demonstrates, the proposed project, including the new childcare facility building, is designed in a manner that is consistent with the Standards for Rehabilitation. The design of the new building is compatible in scale and massing with the adjacent former residential buildings at 1219 and 1227 Arguello Street. Without being a falsely historicist design, the proposed new childcare building is residential in character with a hipped roof form that references the hipped roofs of the adjacent buildings, and provides a central stair that continues the pattern of the residential streetscape. Thus, the proposed childcare facility meets the requirements of General Plan Policy BE-37.6 and Historic Preservation Ordinance Section 40.10.

IV. RECOMMENDATIONS

Based on the above analysis, the proposed project, including the demolition of the contributing building at 1203 Arguello Street and the construction of new buildings immediately adjacent to the historic district, would have a **less-than-significant** impact on the Mezesville Historic District for the purposes of CEQA, and will not affect the eligibility of the historic district. Therefore, mitigation measures would not be required for the purposes of CEQA. However, the following recommendations are provided at the request of Redwood City Building & Planning Department staff as suggestions for best practices to protect the two individual landmarks at 1219 and 1227 Arguello Street, and to document 1203 Arguello Street prior to execution of the proposed project.

1. **Photographic Documentation**: Prior to the start of demolition of 1203 Arguello Street, a contributor to the Mezesville Historic District, it is recommend that the Project Sponsor hire a photographer who is experienced in Historic American Buildings Survey (HABS) photography to take standard large-format or digital HABS-style photographs of 1203 Arguello Street.[18] Photographs should include views of the exterior facades of the main residence at 1203 Arguello, and general views that illustrate the setting and include adjacent buildings at 1219 and 1227 Arguello Street. All views should be referenced on a photographic key.

   Copies of the HABS-style photographic documentation, along with the 1111-1227 Arguello Street Historic Resource Evaluation (HRE) report, should be provided to the Redwood City Building & Planning Department and publicly accessible repositories such as the San Mateo County History Museum and Redwood City Public Library. The Project Sponsor should contact each repository to determine if physical and/or digital copies of HABS-style documentation and Historic Resource Evaluation are preferred. This measure would create a collection of reference materials that would be available to the public and inform future research.

2. **Protection of Historical Resources from Construction Activities & Construction Monitoring**: The Project Sponsor should undertake a construction monitoring program to minimize damage to the historic buildings at 1219 and 1227 Arguello Street, and to ensure that any such damage is documented and repaired. Prior to the start of any ground-

[18] "Heritage Documentation Programs – HABS/HAER/HALS Photography Guidelines," United States Department of the Interior, National Park Service, Heritage Documentation Programs (November 2011, Updated June 2015), accessed online October 27, 2021, https://www.nps.gov/hdp/standards/PhotoGuidelines.pdf; and "National Register Photo Policy Fact Sheet," United States Department of the Interior, National Park Service (updated May 15, 2013), accessed online October 27, 2021, https://www.nps.gov/subjects/nationalregister/upload/Photo_Policy_update_2013_05_15_508.pdf.

disturbing activity, the Project Sponsor should engage a historic architect or qualified historic preservation consultant to undertake a preconstruction survey of the main former residential buildings at 1219 and 1227 Arguello Street and photograph the buildings' existing conditions. The consultant should, in consultation with City of Redwood City Building & Planning Department, develop a vibration management and monitoring plan. Strategies outlined in the vibration management and monitoring plan may include staging of equipment and materials as far as feasible from historic buildings to avoid direct damage; using techniques in demolition, excavation, shoring, and construction that create the minimum feasible vibration (such as using concrete saws instead of jackhammers or hoe-rams to open excavation trenches, the use of nonvibratory rollers, and hand excavation); maintaining a buffer zone, when possible, between heavy equipment and historic resource(s); and/or enclosing construction scaffolding to avoid damage from falling objects or debris.

The consultant should conduct ongoing construction monitoring site visits and reports as appropriate during ground-disturbing activities that may include demolition, excavation, and foundation construction. The consultant should conduct a final post-construction survey to document the condition of the main former residential buildings at 1219 and 1227 Arguello Street at that time, and produce a report on the results of the monitoring survey program and any impacts to the historic structures from the Project.

V. CONCLUSION

Based on Page & Turnbull's analysis, the proposed project, including the rehabilitation of the two individual historic resources at 1219 and 1227 Arguello Street, proposed new abutting childcare building, and proposed new detached office and multi-family residential buildings, meets all ten of the *Secretary of the Interior's Standards for Rehabilitation* for CEQA. The proposed project is designed in a compatible manner with the existing individual historic resources, consistent with General Plan Policy BE-37.6. 1219 and 1227 Arguello Street will retain historic integrity and remain eligible for local listing; thus, the proposed project will have no significant adverse impact to the two individual historic resources under CEQA.

The demolition of one contributing property, 1203 Arguello Street, would have a less-than-significant impact on the Mezesville Historic District, which is a historic resource for the purposes of CEQA impact analysis. The Mezesville Historic District will still have sufficient integrity to retain its eligibility for local listing. Furthermore, the construction of the proposed new buildings on the project site, which will be outside the boundary of the Mezesville Historic District, would have a less-than-significant impact on the historic district according to CEQA. The buildings will be between one story and four stories in height, the latter of which is generally taller than the residences within the historic district, but the new buildings will be sufficiently set back from adjacent district contributors. They will be located outside the district boundary and on a site that has historically had industrial uses with a mix of one- to three-story buildings. As such, the character and setting of the Mezesville Historic District will not be impacted to a degree that will affect the district's integrity or eligibility for local listing.

VI. REFERENCES

Association of Environmental Professionals. *2021 CEQA: Statute and Guidelines*. Accessed April 26, 2021. https://www.califaep.org/docs/CEQA_Handbook_2021.pdf.

California Environmental Quality Act (CEQA). Public Resources Code Sections 21083.2 and 21084.1.

California Environmental Quality Act (CEQA). *California Legislative Information.* Accessed April 26, 2021, http://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=PRC&division=13.&title=&part=&chapter=&article=.

California Office of Historic Preservation. *Technical Assistance Bulletin No. 7: How to Nominate a Resource to the California Register of Historical Resources.* Sacramento: California Office of State Publishing, September 4, 2001.

California Office of Historic Preservation. *Technical Assistance Bulletin No. 8: User's Guide to the California Historical Resource Status Codes & Historic Resources Inventory Directory*. Sacramento: California Office of State Publishing. November 2004. Accessed October 7, 2020, http://ohp.parks.ca.gov/pages/1069/files/tab8.pdf.

Circa: Historic Property Development. "Draft Report for the Proposed Mezesville Historic District, Redwood City, California." Prepared for The City of Redwood City Planning Department and Historic Resources Advisory Committee (March 2, 2006).

City of Redwood City. *City of Redwood City General Plan*. Prepared by Hogle-Ireland, Inc. for City of Redwood City. October 11, 2010, amended June 11, 2018.

---------. *Cultural Resources Management Plan*. Accessed online April 26, 2021, https://www.redwoodcity.org/home/showdocument?id=2006.

"Development Projects," Redwood City. Accessed April 26, 2021, https://www.redwoodcity.org/city-hall/current-projects/development-projects.

Grimmer, Anne E. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings.* U.S. Department of the Interior National Park Service Technical Preservation Services, Washington, D.C.: 2017. Accessed April 26, 2021, https://www.nps.gov/tps/standards/treatment-guidelines-2017.pdf.

National Park Service, U.S. Department of the Interior, "Technical Preservation Services: Rehabilitation as a Treatment. Accessed April 26, 2021, https://www.nps.gov/tps/standards/four-treatments/treatment-rehabilitation.htm.

Redwood City Municipal Code, Chapter 40 - Historic Preservation, Ordinance No. 1815. Accessed online April 26, 2021, https://library.municode.com/ca/redwood_city/codes/code_of_ordinances?nodeId=CH40HIPR.

VII. APPENDICES

Appendix A – Proposed Project Drawings

"1111-1227 Arguello Street Planning Application" drawing set for the proposed project by architects, DLR Group, dated May 7, 2021.

Appendix B – Preparer Qualifications

This Proposed Project Impact Analysis report was prepared by Page & Turnbull of San Francisco, California. Page & Turnbull staff responsible for this report include: Ruth Todd, FAIA, Principal-in-charge and Hannah Simonson, Cultural Resources Planner and primary author, both of whom meet or exceed the Secretary of the Interior's Professional Qualification Standards for Historic Architecture, Architectural History, or History.

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C. SUPPLEMENTAL MEMORANDUM

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MEMORANDUM

DATE	November 3, 2022	P&T PROJECT NUMBER	19391
TO	Anna Radonich, Principal Planner	PROJECT	1125 Arguello Street Mixed-Use Development Project, Redwood City
OF	Stantec 1340 Treat Blvd, Suite 300 Walnut Creek, CA 94597	FROM	Hannah Simonson, Project Manager, Cultural Resources Planner Ruth Todd, Principal-in-Charge
CC	Casey Finch, Director, Hines	VIA	Email

REGARDING Recycled Waterline Off-Site Improvement – Historical Resources Impact Analysis

This Historical Resources Impact Analysis Memorandum has been prepared at the request of Stantec, the California Environmental Quality Act (CEQA) consultant for the 1125 Arguello Street Mixed Use Development Project in Redwood City, to address potential impacts to historical resources by the installation of a length of recycled waterline ("purple pipe"), an off-site improvement required by the City of Redwood City. This memorandum serves as an addendum to the 1111-1227 Arguello Street: Proposed Project Impact Analysis report prepared by Page & Turnbull on November 4, 2021, which analyzed potential project-specific and cumulative impacts and has previously been reviewed by Stantec and the City of Redwood City. This memorandum provides a project description for the purple pipe off-site improvement, identifies historical resources that front the purple pipe alignment ("study area"), and analyzes proposed impacts to historical resources in accordance with CEQA.

Methodology

Page & Turnbull previously conducted site visits in December 2019 and February 2021. In preparation for this memorandum, Page & Turnbull reviewed the revised project description for the 1125 Arguello Street Mixed Use Development Project, dated October 23, 2022, which was provided to Page & Turnbull via email from Casey Finch of Hines on October 25, 2022, and a map titled "Recycled Water Distribution System | Arguello Mixed Use (1125 Arguello St.) Planning Exhibit" created by the Redwood City GIS & Analytics Team (dated June 30, 2022). Page & Turnbull has also referred to the relevant sections of CEQA (Public Resources Code § 21000-21189), the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, § 15000-15387), and the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.

This memorandum identifies historical resources along the alignment of the proposed off-site purple pipe improvement, including individual historical resources and historic districts listed locally through Redwood City ordinance, listed in the California Register of Historical Resources (California Register), and/or listed in the National Register of Historical Places (National Register), as well as identified or potential historical resources that are documented in the Redwood City General Plan or the California Built Environment Resource Directory (BERD). To identify these historical resources, Page & Turnbull reviewed the following sources:

- National Park Service (NPS), **National Register of Historic Places, Map Database** (last minor update, September 2020), https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466
- California Office of Historic Preservation (OHP), **California Historical Resources**, https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=41
- OHP, **Built Environment Resources Directory (BERD)**, https://ohp.parks.ca.gov/?page_id=30338
- **Redwood City Community GIS Portal**, http://webgis.redwoodcity.org/community/
- **Redwood City General Plan** (2010), "Appendix F: Redwood City Known Historic Resources," https://www.redwoodcity.org/home/showdocument?id=5063
- **Redwood City Downtown Precise Plan** (Adopted January 24, 2011)
    - "2.1 Historic Resource Preservation Regulations," https://www.redwoodcity.org/home/showpublisheddocument/9989/636150731843300000
    - "Appendix 1: Historic Resources Preservation Strategy," https://www.redwoodcity.org/home/showpublisheddocument/9977/636150731804570000
    - "Appendix 1.3: Complete Reconnaissance Survey Tables," https://www.redwoodcity.org/home/showpublisheddocument/9993/636150732183330000 (part 1) and https://www.redwoodcity.org/home/showpublisheddocument/9995/636150732187870000 (part 2).

This memorandum does not address archeological resources.

Project Description

The following project overview is from the "1125 Arguello Street Mixed-Use Development Project: Project Description" (October 23, 2022):

> HMB Redwood City LLC (Applicant) is proposing development of the 1125 Arguello Street Mixed-Use Development Project (proposed project) in the City of Redwood

> City (City), California on an approximately 3.5-acre project site. The Applicant is proposing to demolish the existing on-site structures, except for the two City Historic Landmark structures at 1227 and 1219 Arguello Street and remediate the site to construct a mixed-use development consisting of a 57,254 square foot (sf) multifamily housing building comprising 33 affordable units, approximately 300,000 sf of office space, and a 4,132 sf childcare facility. The proposed project would also include a three level underground parking garage for the office buildings, landscaping, and off-site improvements. Additionally, the proposed project would construct 3,862 linear feet of off-site recycled waterline (purple pipe).[1]

The following description of the off-site improvements is also from "1125 Arguello Street Mixed-Use Development Project: Project Description" (October 23, 2022) (see **Exhibit A**):

> The project frontage on Whipple Avenue and Arguello Street would be improved with curb, gutter, sidewalk, tree wells, utility laterals, new/widened sidewalk, Americans with Disabilities Act (ADA)-compliant ramps at corners, two new access driveways, crosswalks, and off-site utilities. The sidewalk would be 950 linear feet and 12 feet wide. In order to comply with the City's required use of recycled water the project includes the extension of the City's recycled water system service to the project site, The proposed project would construct 2,553 linear feet of 16-inch-diameter purple pipe, requiring a 5-foot wide and 15-foot deep trench [using excavators and a bobcat loader], along Arguello Street from Whipple Avenue to Marshall Street and 1,309 linear feet of 30-inch-diameter purple pipe, requiring a 5-foot wide and 15-foot deep trench, from Marshall Street to Jefferson Avenue. The maximum depth of pipe could be up to 15 feet in order to avoid other existing utilities in the public ROW.[2]

Identified Eligible & Listed Historical Resources

The following table and map include individual historical resources and historic district properties that front the alignment of the recycled water pipe that is proposed as a required off-site improvement for the 1125 Arguello Street Mixed-Use Development Project **(Table 1 and Figure 1)**. As previously discussed in the methodology, historical resources that are currently listed in a local, state, and/or national register, and potential historical resources identified in the Redwood City General Plan and BERD, have been identified.

[1] "2.1 Project Overview" in "1125 Arguello Street Mixed-Use Development Project: Project Description" (October 23, 2022), 2-1.
[2] "2.1.9 Off-site Improvements (including Recycled Water)" in "1125 Arguello Street Mixed-Use Development Project: Project Description" (October 23, 2022), 2-5.

Table 1. Identified Eligible & Listed Historical Resources in Study Area

#	Address (APN)	Year Built	Historical Resource Status	Brief Description
1	**701 Arguello St.** (052-272-150)	c. 1955	Potential resource per RWC General Plan Appendix F, and per RWC Downtown Precise Plan	Former wash & dry, Midcentury Modern.
2	**817 Arguello St.** (052-272-080)	1855	Needs to be reevaluated per BERD and per RWC General Plan Appendix F	Henney Residence; appears to have been demolished
3	**926 Arguello St.** (052-273-010)	1920	Potential historical resource, built before 1940, per RWC Community GIS	Single-family residence; altered
4	**1006 Arguello St.** (052-255-080)	1872	Potential historical resource, built before 1940, per RWC Community GIS	Single-family residence; altered
5	**1200 Arguello St.** (052-253-090)	1867, 1880	Local Landmark; Contributor to Local Mezesville Historic District	Snow-Henry Jewell Residence
6	**1203 Arguello St.** (052-252-040)	c. 1921	Contributor to Local Mezesville Historic District	Single-family residence (part of Proposed Project Site)
7	**1209 Arguello St.** (052-252-030)	N/A	Non-Contributor to Local Mezesville Historic District	Vacant lot (part of Proposed Project Site)
8	**1219 Arguello St.** (052-252-020)	1908	Local Landmark; Contributor to Local Mezesville Historic District	Edward & Harry Hanson Residence (part of Proposed Project Site)
9	**1227 Arguello St.** (052-252-060)	1890	Local Landmark; Contributor to Local Mezesville Historic District	Edward M. Hanson House (part of Proposed Project Site)
10	**2200 Broadway** (052-367-010)	1910	Individually listed in National Register (automatically listed in California Register); Local Landmark	Former San Mateo County Courthouse
11	**627 Hamilton St.** (052-344-140)	1863	Individually listed in National Register (automatically listed in California Register); Local Landmark	Lathrop House; Relocated to same parcel as the Former San Mateo County Courthouse in 2021.
12	**210 Howland St.** (052-254-010)	1870	Potential historical resource, built before 1940, per RWC Community GIS	Single-family residence; altered
13	**710 Winslow St.** (052-361-030)	c. 1945	Individual property that is eligible for local listing or designation per RWC General Plan Appendix F; "Historic Resource to be Preserved" per RWC Downtown Precise Plan	Falcone Building; Art/Streamline Moderne commercial flatiron building.

Properties within 1125 Arguello Street project site are shaded pink.

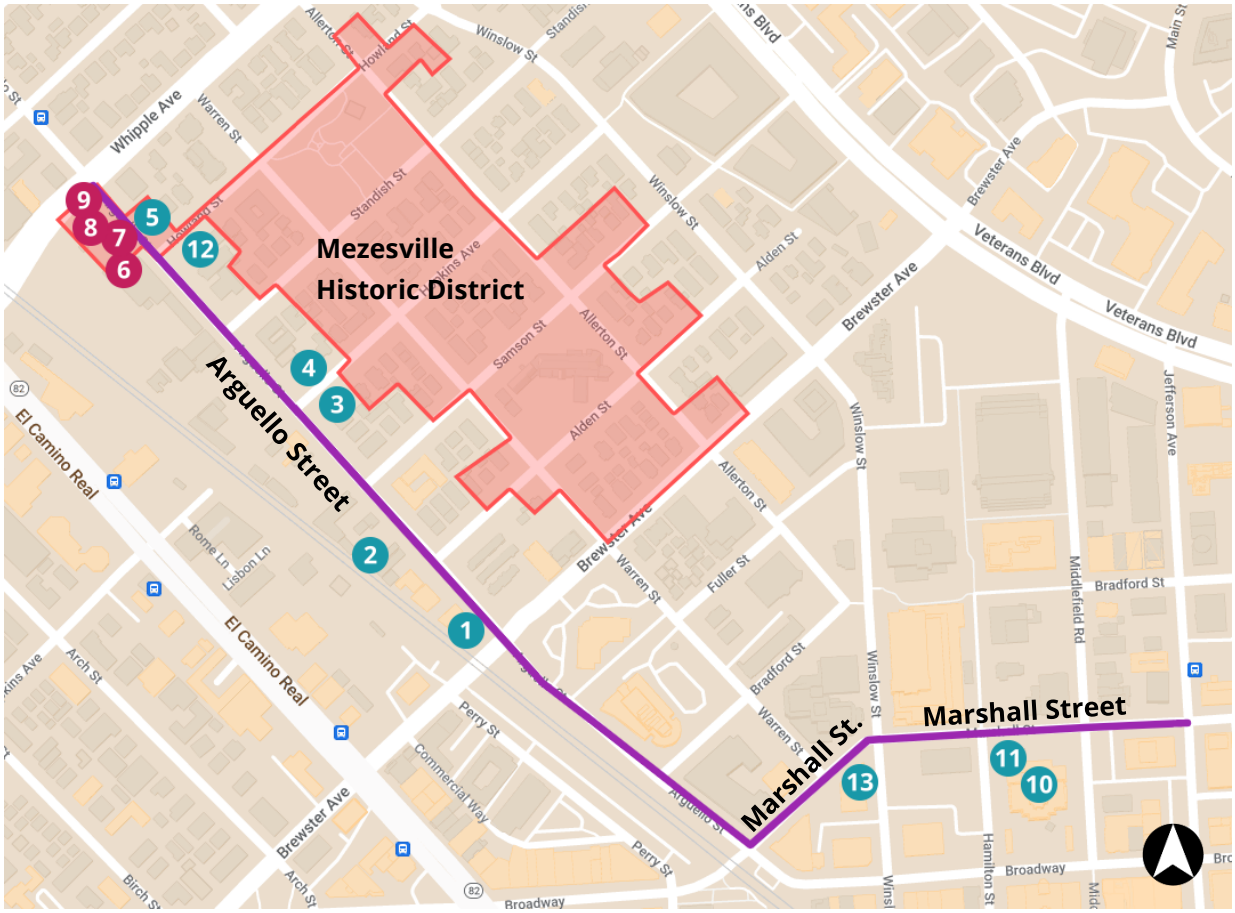


Figure 1. Map of Identified Eligible & Listed Historical Resources in Study Area. Purple line indicates alignment of the proposed off-site recycled water (purple pipe) improvements. Historical resources are numbered based on Table 1. Map created by Page & Turnbull using Google Maps, November 2022.

Analysis of Potential Impacts to Historical Resources

The scope of work that is being analyzed for potential impacts to historical resources in this memorandum is limited to the installation of a recycled water (purple) pipeline and related excavation, as a required off-site improvement for the 1125 Arguello Street Mixed-Use Development Project.[3] Based on Page & Turnbull's review of existing documentation, 13 historical resource properties have at least one property frontage along the alignment of the proposed purple pipe installation along Arguello and Marshall streets. These historical resources include five properties that are located within the locally listed Mezesville Historic District (three of which are also

[3] Previous analysis prepared by Page & Turnbull provided recommendations for the protection from construction activities and construction monitoring for the historic resources on the project site (1203-1227 Arguello Street), addressing the on-site construction activities related to the proposed development project; refer to, Page & Turnbull, 1111-1227 Arguello Street: Proposed Project Impact Analysis (November 4, 2021), 29-30.

individually listed local landmarks); the National Register-listed former San Mateo County Courthouse (also a local landmark); the National Register-listed Lathrop House (also a local landmark); and six identified eligible or potentially eligible historical resources.

The installation of the off-site purple pipeline will entail excavation of a trench, up to five feet wide and 15 feet deep, using excavators and a bobcat loader. The trench will be located entirely in the public right-of-way along Arguello and Marshall streets. Thus, none of the excavations will occur within the property boundaries of any of the identified historical resources. The pipe will be below-grade, and covered such that there will be no substantial adverse change to the character, alignment, or grade of the street that would impact the character of the neighborhood or overall historical development patterns. All historical resources will retain their historic register eligibility, including individual historical resources and the Mezesville Historic District. As such, the proposed off-site improvements will be in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* as well as relevant Redwood City General Plan Policies, in particular Policy BE-37.7 and Program BE-107.

All of the identified historical resources in the study area appear to be wood-frame buildings, with the exception of the former San Mateo Courthouse building at 2200 Broadway, built in 1910 (#10). The former courthouse building is located at the center of a large through-block lot, and the historic masonry portion of the former San Mateo County Courthouse is located over 80 feet from the public right-of-way along Marshall Street. Other historical resources are closer to the sidewalk and public right-of-way but are typical wood frame buildings and are not at substantial risk for adverse impacts due to vibration from the excavation for the purple pipe within the public right-of-way.

Identified historical resources within the Redwood City Downtown Precise Plan are subject to a tiered set of regulations and mitigation measures. No alterations or construction activity are proposed within the property boundaries of the historical resources identified in the Redwood City Downtown Precise Plan, which includes the former San Mateo County Courthouse (#10), Lathrop House (#11), and Falcone Building (#13). As such, the proposed off-site purple pipeline is compliant with the guidelines outlined for each of these three buildings. No vibration monitoring mitigation measures are outlined in the Redwood City Downtown Precise Plan. One Downtown Precise Plan impact mitigation measure addresses mitigation of impacts of development on properties adjacent to historical resources, which states:

> Each proposed development adjacent to a historic resource that requires a discretionary approval shall be reviewed by a qualified architect or architectural historian approved by the City and meeting the Secretary of the Interior's

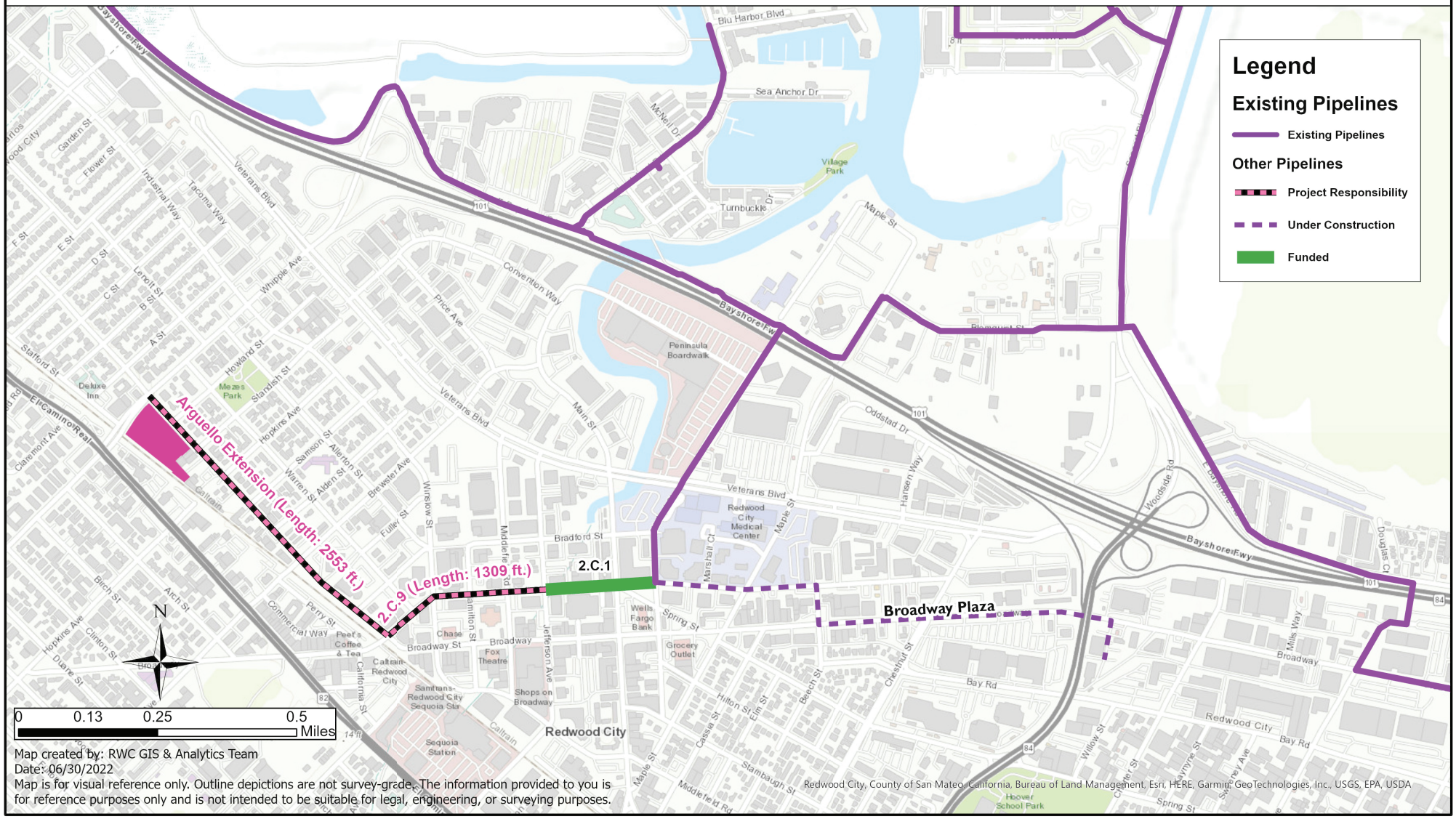
> Professional Qualifications Standards (36 CFR part 6) and by the City's Historic Resources Advisory Committee for its potential impacts on the adjacent historic resource, and any site and architectural design modifications identified through this review process as necessary to avoid a "substantial adverse change" in the significance of the adjacent historic resource and protect its continued eligibility for listing on the California Register, as determined by the City, shall be required as conditions of project approval.[4]

This memorandum is prepared by a qualified architectural historian who meets the requirements outlined, and constitutes an analysis of potential impacts to adjacent historical resources. As stated previously, the proposed off-site purple pipeline installation along Arguello and Marshall streets will not have a substantial adverse change in the significance of any adjacent historical resources, and the resources will retain their eligibility for listing on the respective local, state, and/or national register.

As such, the proposed off-site recycled water pipeline installation related to the 1125 Arguello Street Mixed-Use Development Project will have no significant adverse impact on historical resources per CEQA.

[4] Redwood City Downtown Precise Plan, Book II: Development Regulations (2011), 43.

EXHIBIT A Recycled Water Distribution System | Arguello Mixed Use (1125 Arguello St.) Planning Exhibit



Map created by: RWC GIS & Analytics Team
Date: 06/30/2022
Map is for visual reference only. Outline depictions are not survey-grade. The information provided to you is for reference purposes only and is not intended to be suitable for legal, engineering, or surveying purposes.

Appendix D
Construction Noise Calculations

Report date: 2/2/2022
Case Description: 1125 Arguello Street - Site Preparation

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential Across Arguello St	Residential	65	65	65

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	80	0
Excavator	No	40		80.7	80	0
Compressor (air)	No	40		77.7	80	0
Front End Loader	No	40		79.1	80	0
Generator	No	50		80.6	80	0
Backhoe	No	40		77.6	80	0
Backhoe	No	40		77.6	80	0
Haul Truck	No	40		76.5	80	0
Haul Truck	No	40		76.5	80	0
Haul Truck	No	40		76.5	80	0

Results

		Calculated (dBA)	
Equipment		Lmax	Leq
Excavator		76.6	72.6
Excavator		76.6	72.6
Compressor (air)		73.6	69.6
Front End Loader		75	71
Generator		76.5	73.5
Backhoe		73.5	69.5
Backhoe		73.5	69.5
Haul Truck		72.4	68.4
Haul Truck		72.4	68.4
Haul Truck		72.4	68.4
	Total	**84.6**	**80.8**

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/2/2022
Case Description: 1125 Arguello Street - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residential Across Arguell	Residential	65	65	65

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	80	0
Drill Rig Truck	No	20		79.1	80	0
Drill Rig Truck	No	20		79.1	80	0
Drill Rig Truck	No	20		79.1	80	0
Drill Rig Truck	No	20		79.1	80	0
Drill Rig Truck	No	20		79.1	80	0
Drill Rig Truck	No	20		79.1	80	0
Excavator	No	40		80.7	80	0
Excavator	No	40		80.7	80	0
Generator	No	50		80.6	80	0
Generator	No	50		80.6	80	0
Compressor (air)	No	40		77.7	80	0
Front End Loader	No	40		79.1	80	0
Crane	No	16		80.6	80	0
Backhoe	No	40		77.6	80	0
Backhoe	No	40		77.6	80	0
Roller	No	20		80	80	0
Haul Truck	No	40		76.5	80	0
Haul Truck	No	40		76.5	80	0
Haul Truck	No	40		76.5	80	0

Results

Equipment	Calculated (dBA) Lmax	Leq
Dozer	77.6	73.6
Drill Rig Truck	75.1	68.1
Drill Rig Truck	75.1	68.1
Drill Rig Truck	75.1	68.1
Drill Rig Truck	75.1	68.1
Drill Rig Truck	75.1	68.1
Drill Rig Truck	75.1	68.1
Excavator	76.6	72.6
Excavator	76.6	72.6
Generator	76.5	73.5
Generator	76.5	73.5
Compressor (air)	73.6	69.6
Front End Loader	75	71
Crane	76.5	68.5
Backhoe	73.5	69.5
Backhoe	73.5	69.5
Roller	75.9	68.9
Haul Truck	72.4	68.4
Haul Truck	72.4	68.4
Haul Truck	72.4	68.4
Total	**88.2**	**83.4**

Report date: 2/2/2022
Case Description: 1125 Arguello Street - Building Construction

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential Across Arguello St	Residential	65	65	65

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	80	0
Crane	No	16		80.6	80	0
Crane	No	16		80.6	80	0
Crane	No	16		80.6	80	0
Compressor (air)	No	40		77.7	80	0
Backhoe	No	40		77.6	80	0
Man Lift	No	20		74.7	80	0
Man Lift	No	20		74.7	80	0
Welder / Torch	No	40		74	80	0
Welder / Torch	No	40		74	80	0
Welder / Torch	No	40		74	80	0
Welder / Torch	No	40		74	80	0
Welder / Torch	No	40		74	80	0
Welder / Torch	No	40		74	80	0

	Results Calculated (dBA)	
Equipment	Lmax	Leq
Crane	76.5	68.5
Crane	76.5	68.5
Crane	76.5	68.5
Crane	76.5	68.5
Compressor (air)	73.6	69.6
Backhoe	73.5	69.5
Man Lift	70.6	63.6
Man Lift	70.6	63.6
Welder / Torch	69.9	65.9
Welder / Torch	69.9	65.9
Welder / Torch	69.9	65.9
Welder / Torch	69.9	65.9
Welder / Torch	69.9	65.9
Welder / Torch	69.9	65.9
Total	**84.9**	**78.7**

Report date: 2/2/2022
Case Description: 1125 Arguello Street - Paving

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential Across Arguello St	Residential	65	65	65

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	80	0
Paver	No	50		77.2	80	0
Man Lift	No	20		74.7	80	0
Front End Loader	No	40		79.1	80	0
Roller	No	20		80	80	0
Compressor (air)	No	40		77.7	80	0

Results

	Calculated (dBA)	
Equipment	Lmax	Leq
Backhoe	73.5	69.5
Paver	73.1	70.1
Man Lift	70.6	63.6
Front End Loader	75	71
Roller	75.9	68.9
Compressor (air)	73.6	69.6
Total	**81.7**	**77.1**

Report date: 2/2/2022
Case Description: 1125 Arguello Street - Architectural Coating

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential Across Arguello St	Residential	65	65	65

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	80	0

Results

	Calculated (dBA)	
Equipment	Lmax	Leq
Compressor (air)	73.6	69.6
Total	**73.6**	**69.6**

Report date: 11/16/2022
Case Description: 1125 Arguello Street - Off-Site Recycled Waterline Installation

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential Across Arguello St	Residential	65	65	65

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50	0
Excavator	No	40		80.7	50	0
Excavator	No	40		80.7	50	0
Front End Loader	No	40		79.1	50	0
Haul Truck	No	40		76.5	50	0
Haul Truck	No	40		76.5	50	0
Haul Truck	No	40		76.5	50	0
Haul Truck	No	40		76.5	50	0
Flat Bed Truck	No	40		74.3	50	0

Results

	Calculated (dBA)	
Equipment	Lmax	Leq
Excavator	80.7	76.7
Excavator	80.7	76.7
Excavator	80.7	76.7
Front End Loader	79.1	75.1
Haul Truck	76.5	72.5
Haul Truck	76.5	72.5
Haul Truck	76.5	72.5
Haul Truck	76.5	72.5
Flat Bed Truck	74.3	70.3
Total	**88.1**	**84.1**

Appendix E
Local Transportation Analysis and Supplemental Memorandum

LOCAL TRANSPORTATION ANALYSIS

1125 ARGUELLO STREET

NOVEMBER 2021 | DRAFT FINAL

Prepared By:

Kimley»Horn

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CONTENTS

TABLES

FIGURES

EXECUTIVE SUMMARY

The 1125 Arguello Street Project ("Project") is a mixed-use redevelopment of an approximately 3.5-acre site consisting of 6 parcels (1111,1125,1203,1209, and 1227 Arguello Street). The Project is bounded by Whipple Avenue, Arguello Street, and the Caltrain tracks. The site is proposed to be accessed by two unsignalized driveways along Arguello Street.

The mixed-use development will consist of 301,261 square feet of office building, 33 dwelling units of affordable housing, and a separate 4,132 square foot childcare facility. The project will also construct an approximately 5,000 square-foot neighborhood park on the northeast corner of Brewster Avenue and Arguello Street.

This local transportation analysis (LTA) was prepared to determine potential deficiencies related to the project based on standards and methodologies set forth by the City of Redwood City (City) and the San Mateo City/Council Association of Governments (C/CAG). This study includes evaluations during the AM and PM peak hour traffic conditions for 14 intersections, eight (8) roadway segments and two (2) freeway segments. This study also addresses the potential transportation effects of the proposed project to assist the City with project planning and the identification of potential conditions of approval for the project.

PROJECT TRIP ESTIMATES

Trips generated by the proposed project were based on the equations for ITE Land Use 710 (General Office Building), Land Use 221 (Multifamily Housing, Mid-Rise), and the rate for Land Use 565 (Day Care Center) from the Institute of Transportation Engineer's (ITE) publication, Trip Generation, 10th Edition. It should be noted that it was assumed that the proposed park at Brewster Avenue and Arguello Street would attract visitors within walking distance, rather than any new external vehicle trips and therefore will be excluded from the trip generation calculations.

Trip reductions for internal capture, transit proximity, and a transportation demand management (TDM) plan implementation were assumed. Internal capture reductions were considered to account for the interaction between the separate uses within the development. The transit reduction was applied due to the project's proximity to the Redwood City Caltrain's station, downtown area, and high-quality transit nearby on El Camino Real. TDM reductions were assumed that would establish the Project in compliance with the overall single occupancy vehicle (SOV) target requirements outlines in *RWCmoves* planning document.

The proposed project is expected to generate a net new total of 212 vehicle trips in the AM peak hour and a 223 vehicle trips in the PM peak hour.

PROJECT IMPACTS AND MITIGATION MEASURES

As of August 1, 2020, the state of California has fully adopted a change in the California Environmental Quality Act (CEQA) significant impact methodology for transportation impacts to use vehicle miles traveled (VMT) as opposed to level of service (LOS) via State Bill 743 (SB 743). Based on the City's *Redwood City Transportation Analysis Manual*, the project meets the VMT screening criteria due to proximity to Caltrain Station and therefore the Project can be presumed to cause a less-than significant impact.

PROJECT DEFICIENCIES AND RECOMMENDED MITIGATION IMPROVEMENTS

Project deficiencies were determined based on the City's mobility deficiency and Congestion Management Program (CMP) deficiency criteria. **Table E1** summarizes deficiencies and mitigation improvements associated with the proposed project.

Table E1 - Summary of Project Deficiencies and Mitigation Improvements

Deficiency #	Deficiency Type	Location	Scenarios	Mitigation Improvement
1	LOS	#1 – Whipple Avenue & US-101 NB Off-Ramp	Cumulative Plus Project AM	Adjust signal timing
2	Queuing	#2 – Whipple Avenue & Veterans Boulevard	Existing Plus Project AM Background Plus Project AM Cumulative Plus Project AM and PM	Extend southbound right storage length
3	Queuing	#4 – Whipple Avenue & Arguello Street	Existing Plus Project AM and PM Background Plus Project AM and PM Cumulative Plus Project AM and PM	Extend northbound left turn lane Extend westbound left turn lane
4	LOS Queuing	#5 – Whipple Avenue & El Camino Real	Background Plus Project	Widen eastbound approach to construct an eastbound left-turn lane Extend westbound right storage length
5	Queuing	#8 – Brewster Avenue & El Camino Real	Existing Plus Project PM Background Plus Project PM Cumulative Plus Project PM	Extend westbound left storage length
6	Roadway	Whipple Avenue Between Arguello Street and Industrial Way/Winslow Street	Existing Plus Project	Adjust signal timing
7	Parking	Entire Site	Existing Plus Project AM and PM Background Plus Project AM and PM Cumulative Plus Project AM and PM	No deficiency when transit and TDM reduction are accounted for

1. INTRODUCTION

This report presents the results of the local transportation analysis (LTA) for a proposed mixed-use development located in the City of Redwood City, California. The proposed project ("Project") will merge six parcels (1111, 1125, 1203,1209, 1227 Arguello Street) and construct a 301,261-square foot office building, 33 dwelling units of Affordable Housing, and a 4,132 square foot Childcare Facility. The project will also construct an approximately 5,000 square-foot neighborhood park on the northeast corner of Brewster Avenue and Arguello Street. The park will be for office use and will not generate external trips.

Figure 1 illustrates the location of the project site in relation to the adjacent roadway network. The Project is bounded by Whipple Avenue, Arguello Street, and the Caltrain tracks. The site is proposed to be accessed by two unsignalized driveways along Arguello Street.

This traffic study was prepared to determine potential deficiencies related to the project based on standards and methodologies set forth by the City of Redwood City (City) and the San Mateo City/Council Association of Governments (C/CAG). This study includes evaluations during the AM and PM peak hour traffic conditions for 14 intersections, eight (8) roadway segments, and two (2) freeway segments. This study also addresses the potential transportation effects of the proposed project to assist the City with project planning and the identification of potential conditions of approval for the Project.

STUDY AREA

The proposed project will generate new vehicular trips that will increase traffic volumes on the nearby street network. To assess changes in traffic conditions associated with the proposed project, the following intersections, roadway segments, and freeway segments were studied, as shown in **Tables 1, 2** and **3**, respectively. Study intersections and roadway segments were selected based on the *Redwood City Transportation Analysis Manual*. **Figure 1** illustrates the intersection locations.

Table 1 - Study Intersections

#	Intersection	Existing or Future Intersection
1	Whipple Avenue & US-101 NB Off-Ramp	Existing
2	Whipple Avenue & Veterans Boulevard	Existing
3	Whipple Avenue & Industrial Way-Winslow Street	Existing
4	Whipple Avenue & Arguello Street	Existing
5	Whipple Avenue & El Camino Real	Existing
6	Brewster Avenue & Veterans Boulevard	Existing
7	Brewster Avenue & Arguello Street	Existing
8	Brewster Avenue & El Camino Real	Existing
9	Jefferson Avenue & Middlefield Road	Existing
10	Jefferson Avenue & El Camino Real	Existing
11	A Street & Arguello Street	Existing
12	Standish Street & Warren Street	Existing
13	Arguello Street & Driveway 1	Future
14	Arguello Street & Driveway 2	Future

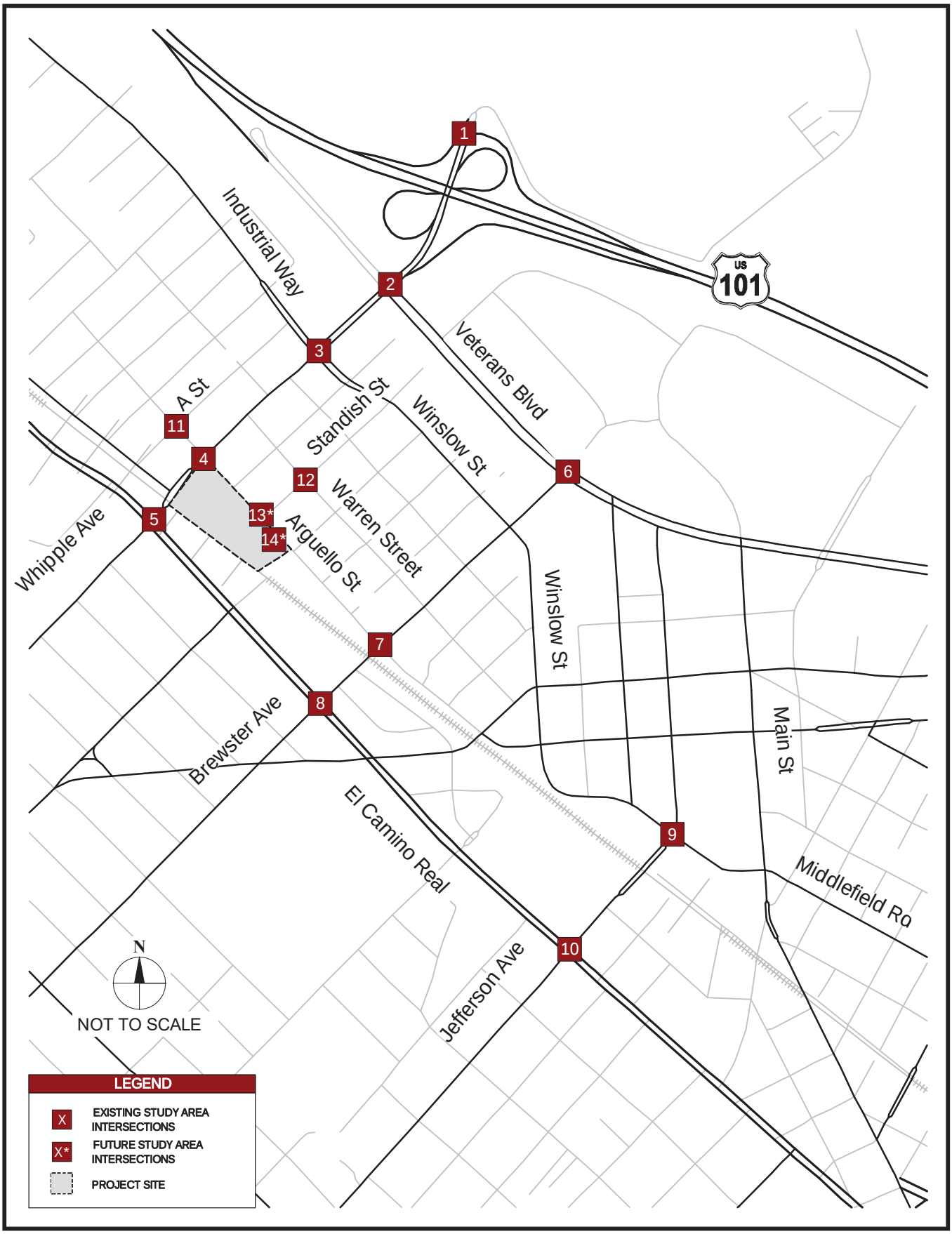

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FIGURE 1

PROJECT LOCATION AND STUDY INTERSECTIONS

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1125 ARGUELLO STREET LTA

Table 2 - Study Roadway Segments

#	Roadway Segments
1	Whipple Avenue between El Camino Real and Arguello Street
2	Whipple Avenue between Arguello Street and Industrial Way/Winslow Street
3	Whipple Avenue between Industrial Way/Winslow Street and Veterans Boulevard
4	Whipple Avenue between Veterans Boulevard and US 101 NB Off-Ramp
5	Brewster Avenue between El Camino Real and Arguello Street
6	Brewster Avenue between Arguello Street and Veterans Boulevard
7	El Camino Real between Whipple Avenue and Brewster Avenue
8	El Camino Real between Brewster Avenue and Jefferson Avenue

Table 3 - Study Freeway Segments

#	Freeway Segments
1	US 101 between Woodside Road and Whipple Avenue
2	US 101 between Woodside Road and Holly Street

TRAFFIC CONDITIONS

This LTA evaluates the following traffic scenarios:

- Existing Conditions – Based on traffic counts taken in March 2021 and existing roadway geometry and traffic control in 2021. Historical counts from 2014, 2016, 2017, 2018, and 2019 were used to adjust the collected counts to account for any traffic volume fluctuation due to COVID-19.
- Existing Plus Project Conditions – Based on traffic generated by the proposed project added to existing traffic volumes. Existing roadway geometry with proposed project roadway improvements and traffic controls are assumed for this scenario.
- Background Condition – Based on traffic from approved projects in the study area added to existing traffic volumes.
- Background Plus Project Conditions – Based on traffic from approved projects in the study area and traffic generated by the proposed project added to existing traffic volumes.
- Cumulative Conditions – Based on traffic from approved and pending projects in the study area added to existing traffic volumes.
- Cumulative Plus Project Conditions – Based on future cumulative year traffic projections and traffic generated by the proposed project.

VEHICLE MILES TRAVELED

As of August 1, 2020, the state of California has fully adopted a change in the California Environmental Quality Act (CEQA) significant impact methodology for transportation impacts to use vehicle miles traveled (VMT) as opposed to level of service (LOS) via State Bill 743 (SB 743).

The LTA reviewed VMT screening criteria within the *Redwood City Transportation Analysis Manual* to determine if a presumption of less-than-significance can be made based on at least one of the following VMT screening criteria:

- Transit Priority Area (TPA)
- Affordable Housing

- Small Projects
- Locally Service Public Facility
- Neighborhood Serving Retail Project

Since the Project consists of multiple land uses, each component was considered separately and found that each component of the Project fulfills at least one screening criteria and a presumption of less-than-significance can be made and no VMT analysis was conducted. Details on the screening evaluation are presented in **Chapter 4**.

STUDY METHODOLOGY

Traffic operation analysis at study intersections, roadway segments, and freeway segments were conducted to determine project deficiencies. Analysis for study intersections and roadway segments was based on the methodology of level of service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of service for this study were determined using methods defined in the *Highway Capacity Manual, 6th Edition* (HCM 6).

INTERSECTION LEVEL OF SERVICE

The intersection LOS were determined using methods defined in HCM 6 within the *Synchro 10* traffic analysis software.

The HCM includes procedures for analyzing side-street stop-controlled (SSSC), all-way stop-controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement and major street left-turns. The AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection as a whole. **Table 4** relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Table 4 - Intersection Level of Service Definitions

Level of Service	Signalized (Avg. control delay per vehicle sec/veh.)	Unsignalized (Avg. control delay per vehicle sec/veh.)
A	delay ≤ 10.0	delay ≤ 10.0
B	10.0 < delay ≤ 20.0	10.0 < delay ≤ 15.0
C	20.0 < delay ≤ 35.0	15.0 < delay ≤ 25.0
D	35.0 < delay ≤ 55.0	25.0 < delay ≤ 35.0
E	55.0 < delay ≤ 80.0	35.0 < delay ≤ 50.0
F	delay > 80	delay > 50

Source: Transportation Research Board, *Highway Capacity Manual, 6th Edition*, National Research Council, 2016

ROADWAY ANALYSIS

Roadway segments were analyzed bidirectionally using HCM 6 urban street segment methodology within the *Highway Capacity Software 7* (HCS7) software.

For motor vehicle traffic, HCM 6 defines LOS based on travel speed and volume-to-capacity ratio for a given direction of travel along an urban street segment. **Table 5** provides LOS definitions for urban street segments for motorized vehicles.

Table 5 – Vehicle Roadway Segment Level of Service Definitions

Level of Service	Percent of Base Free-Flow Speed (FFS)	V/C
A	≤ 80%	< 1.0
B	67% ≤ % Base FFS < 80%	< 1.0
C	50% ≤ % Base FFS < 67%	< 1.0
D	40% ≤ % Base FFS < 50%	< 1.0
E	30% ≤ % Base FFS < 40%	< 1.0
F	Any % Base FFS	≥ 1.0

Source: Transportation Research Board, *Highway Capacity Manual, 6th Edition*, National Research Council, 2016

For pedestrian, bicycle, and transit, HCM 6 defines LOS based on LOS Score. The LOS score is based on factors such as sidewalk widths, etc. **Table 6** provides LOS definitions for urban street segments for pedestrian, bicycle, and transit.

Table 6 – Pedestrian, Bicycle, and Transit Roadway Segment Level of Service Definitions

Level of Service	LOS Score
A	≤ 2.00
B	>2.00-2.75
C	>2.75-3.50
D	>3.50-4.25
E	>4.25-5.00
F	>5.00

Source: Transportation Research Board, *Highway Capacity Manual, 6th Edition*, National Research Council, 2016

FREEWAY SEGMENT ANALYSIS

Impacts along nearby US 101 freeway segments were evaluated in accordance with C/CAG Congestion Management Program (CMP) Deficiency Criteria. Based on 2019 CMP report, the two US 101 freeway segments are not in compliance with the adopted LOS standard, therefore freeway segment analysis determined if the Project would add traffic equal to one percent or more of the segment capacity or cause the volume-to-capacity (v/c) ratio to increase by one (1) percent. As shown in **Table 7**, the Project is expected to add less than 1% and would not result in any freeway segment deficiencies.

Table 7 – Freeway Segment Analysis

Freeway	Segment	Direction	Peak Hour	# Lane	Capacity	Project Trips	% Capacity	Project Trips > 1%?
US 101	Between Woodside Road and Whipple Avenue	NB	AM	3	6,900	41	0.6%	No
			PM	3	6,900	13	0.2%	No
		SB	AM	3	6,900	12	0.2%	No
			PM	3	6,900	43	0.6%	No
	Between Whipple Road and Holly Street	NB	AM	4	9,200	12	0.1%	No
			PM	4	9,200	43	0.5%	No
		SB	AM	4	9,200	41	0.4%	No
			PM	4	9,200	13	0.1%	No

Note: C/CAG CMP report reports US 101 has a capacity of 2,300 passenger cars per hour.

SIGNAL WARRANTS

Traffic signals may be justified when traffic operations fall below acceptable LOS standards and when one or more signal warrants are satisfied. Traffic volumes at the unsignalized study intersections were compared against the peak hour warrant in the 2014 California Manual on Uniform Traffic Control Devices (CA MUTCD)[1]. *Traffic Signal Warrant #3 – Peak Hour Volume Warrant* is satisfied when traffic volumes on the major and minor approaches exceed thresholds for one hour of the day. The Peak Hour Warrant is generally the first warrant to be satisfied. Other warrants such as those for minimum vehicle volumes, interruption of continuous traffic, and traffic progression were not evaluated because they generally require higher traffic volumes to be satisfied.

QUEUING

Queues that exceed the turn pocket length can create potentially hazardous conditions by blocking or disrupting through traffic in adjacent travel lanes. The effects of vehicle queuing were analyzed and the 95th percentile queue is reported for selected movements where the project added a significant number of new trips. The 95th percentile queue length represents a condition where 95 percent of the time during the peak hour, traffic volumes will be less than or equal to the queue length determined by the analysis. This is referred to as the "95th percentile queue." The 95th percentile queue was determined based on outputs from *Synchro 10* software.

DEFICIENCY CRITERIA

Project deficiencies were determined by comparing conditions with the proposed project to those without the proposed project, as well as other criterial listed in Table F-5 and F-6 of *Redwood City Transportation Analysis Manual*, which are summarized in **Table 8**.

[1] *California Manual on Uniform Traffic Control Devices,* (FHWA's MUTCD 2009 Edition, as amended for use in California), November 7, 2014

Table 8 – Deficiency Criteria

Study Element	Deficiency Determination
Mobility Deficiency	
Parking	• Project increase off-site parking demand above a level required by the City Zoning code
On-Site Circulation	• Project design for on-site circulation, access, and parking fail to meet City design guidelines or industry standard (*Highway Design Manual, MUTCD,* etc.) if not defined. • Failure to provide adequate accessibility for service and deliver trucks on-site including access to loading area. • Project will result in hazard or potentially unsafe conditions without improvements.
Pedestrian Facilities	• Project fails to provide safe and accessible pedestrian connections between project buildings and adjacent streets, trails, and transit facilities. • Project adds trips to an existing facility along the project frontage that does not meet current pedestrian design standards
Bicycle Facilities	• Project disrupts existing or planned bicycle facilities or is otherwise inconsistent with RWCmoves or future plans. • Project adds bicycle trips to an existing facility that does not meet current bicycle design standards
Transit	• Project disrupts existing or planned transit facilities and services or conflicts with City adopted plans, guidelines, policies, or standards
TDM Program	• A project does not comply with City's TDM ordinances including specified mode split goals.
Heavy Vehicle (Truck and Buses)	• A project fails to provide adequate accommodation of forecast heavy traffic or temporary construction-related truck traffic consistent with City of industry standards (*Highway Design Manual, MUTCD,* etc.)
Off-Site Traffic Operations	• 95th percentile vehicle queues exceed the existing or planned length of a turn pocket. • The proposed project introduces a design feature that substantially increase safety hazards

Signalized Intersection Traffic Control	• Addition of project traffic causes a signalized intersection to
	  ○ Operate at LOS E or F overall of the worst-case movement, or
	  ○ Adds five seconds of delay to intersection already operating at LOS E or F under the comparable "no project: scenario
	• For intersections located in the Downtown Precise Plan, deficiencies are triggered when project trips results in the intersection operation at LOS F or that adds five or more seconds of delay if the intersection is operation at LOS F.

Table 8 - Deficiency Criteria (Continued)

Study Element	Deficiency Determination

Unsignalized Intersection Traffic Control	• Addition of project traffic causes an all-way stop-controlled or side street stop-controlled intersection to
	  ○ Operation at LOS E or F overall of the worst-case movement and
	  ○ Meets the Caltrans signal warrant
	• For intersections located in the Downtown Precise Plan, deficiencies are triggered when project trips result in the intersection operation at LOS F and meets Caltrans signal warrants

General Plan Consistency	• Project creates condition that area inconsistent with mobility, safety, and other related goals, polices, and actions set forth in the *General Plan*
CMP Deficiency	
Transportation Demand Management	• When a project generates more than 100 new peak hour trips on the CMP network, developer and/or tenants must reduce the demand for all new peak hour trips (including the first 100 trips) projected to be generated by the development through TDM measures. C/CAG provides guidance on the TDM reduction strategies and associated reduction in vehicle trips.

Signalized Intersection	• CMP intersection currently in compliance with the adopted level of service (LOS) standard:
	  ○ A project will be considered to have a CMP deficiency if the project will cause the CMP intersection to operate at a LOS that violates the standard adopted in the current CMP.
	  ○ A project will be considered to have a CMP impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in the CMP intersection operating at a LOS that violates the standard adopted in the current CMP, and the proposed project increases average control delay at the intersection by four seconds or more.
	• CMP intersection currently not in compliance with the adopted LOS standard:
	  ○ A project is considered to have a CMP impact if the project adds additional traffic to the CMP intersection that is currently not in compliance with its adopted LOS standard as established in the CMP.

REPORT ORGANIZATION

The remainder of the report is divided into the following chapters:

- Chapter 2: Existing Conditions – describes existing conditions on the roadway network, transit system, pedestrian facilities, and bicycle facilities.
- Chapter 3: Project Description – describes the project including project trip generation, distribution, and assignment.
- Chapter 4: Vehicle Miles Traveled – describes VMT screening evaluation for the project
- Chapter 5: Traffic Operation Analysis – describes intersection level of service analysis, roadway level of service, signal warrants, and intersection queuing.
- Chapter 6: Site Access and Circulation - describes site access and circulation and parking for the site. This chapters also includes potential effects the proposed project may have on the transit system, pedestrian facilities, and bicycle facilities.
- Chapter 7: Summary of Project Deficiencies – summarizes potential deficiencies and improvements of the proposed project, if necessary.

2. EXISTING CONDITIONS

This chapter describes the existing conditions of the roadway network, transit service, pedestrian facilities, and bicycle facilities within the vicinity of the project site.

EXISTING ROADWAY NETWORK

This section provides a description of the specific roadways included in this study.

US 101

US 101 is a north-south highway that connects major cities throughout California and is one of the two major commuter routes between San Francisco and San Jose. Within the study area, the roadway has six to eight lanes and a posted speed limit of 65 miles per hour. There is also an HOV lane south of the Veterans Boulevard/Whipple Interchange.

EL CAMINO REAL (STATE ROUTE 82)

El Camino Real, State Route 82 (SR 82), is a four to six lane north-south boulevard. El Camino Real runs parallel to US 101 and connects multiple cities in the Bay Area from Daly City to the north and Santa Clara to the south. The posted speed limit on El Camino Real within the study area is 35 mph.

VETERANS BOULEVARD

Veterans Boulevard is a six-lane boulevard with on-street parking. Veterans Boulevard begins from the US 101 and Whipple Avenue interchange and ends at the US 101 and Woodside Road interchange. The roadway includes Class II bike lanes and serves mixed uses along the corridor. The speed limit on Veterans Boulevard is 35 miles per hour.

JEFFERSON AVENUE

Jefferson Avenue is a connector street that connects the residential and downtown area in Redwood City. West of Middlefield Road, Jefferson Avenue is a four-lane roadway with on-street parking and shared bicycle lanes and a speed limit of 30 miles per hour. East of Middlefield Road, Jefferson Avenue becomes a two-lane roadway with on-street parking and a speed limit of 25 miles per hour.

WHIPPLE AVENUE

Whipple Avenue is an east-west connector street that runs from Upland Road to the west and US 101 to the east. The roadway connects these residential and retail land uses to El Camion Real and US 101. Between Upland Road and El Camino Real, Whipple Avenue is a two-lane roadway with on-street parking, serving residential land uses. Between El Camino Real and US 101, Whipple Avenue is a four-lane roadway serving commercial and retail land uses with bicycle lanes or shared bicycle-vehicle lanes (sharrow). The posted speed limit is 25 miles per hour.

INDUSTRIAL WAY

Industrial Way is a two-lane industrial street with on-street parking and a TWLTL, serving industrial and residential land uses. Industrial Way connects with El Camino Real and turns into Franklin Street at Maple Street. The speed limit on Industrial Way is 30 miles per hour.

BREWSTER AVENUE

Brewster Avenue is an east-west bicycle boulevard, which runs between Upland Road and Main Street. In the study area, Brewster Avenue is a two-lane road with a two-way left-turn lane (TWLTL) and bicycle lanes or sharrow. The roadway serves residential and retail land uses. The posted speed limit on Brewster Avenue is 30 miles per hour.

MIDDLEFIELD ROAD

Middlefield Road is a generally north-south arterial which connects the residential and downtown areas. South of Maple Street, Middlefield Road is a two-lane roadway with a two-way left-turn lane, on street parking, and Class II bicycle lanes with a speed limit of 30 miles per hour. North of Maple Street, Middlefield Road a two-lane roadway with on-street parking and a speed limit of 25 miles per hour.

WINSLOW STREET

Winslow Street is a two-lane "pedestrian" street with on-street parking, TWLTL, and Class II bike lanes in both directions. Winslow Street connects to Whipple Avenue in the north and turns into Middlefield Road at Jefferson Avenue. The speed limit on Winslow Street is 30 miles per hour.

A STREET

A Street is a two-lane local street with on-street parking that serves residential uses. A Street begins at Stafford Street and ends at Industrial Way. The speed limit on A Street is 25 miles per hour.

ARGUELLO STREET

Arguello Street is a two-lane local street with a TWLTL that serves residential, commercial, and retail uses. Arguello Street provides on-street parking and Class II bike lanes. The roadway begins at E Street and becomes Broadway at Marshall Street. The speed limit on Arguello Street is 30 miles per hour.

STANDISH STREET

Standish Street is a two-lane local street with on-street parking that serves residential uses. Standish Street begins at Arguello Street and ends at Veterans Boulevard. The speed limit on Standish Street is 25 miles per hour.

WARREN STREET

Warren Street is a two-lane local street with on-street parking that serves residential uses. Warren Street begins at Whipple Avenue and ends at Marshall Street. The speed limit on Warren Street is 25 miles per hour.

EXISTING TRANSIT FACILITIES

SamTrans and Caltrain provide transit services within Redwood City and other cities in San Mateo County. The existing transit services within the study area are shown in **Figure 2** and described in this section. **Table 9** provides of a summary of the existing transit service in the study area.

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FIGURE 2
EXISTING TRANSIT FACILITIES
1125 ARGUELLO STREET LTA

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Table 9 - Existing Transit Service

Route	Description	Weekdays		Weekends	
		Operating Hours[1]	Headway[2] (minutes)	Operating Hours[1]	Headway[2] (minutes)
SamTrans					
270	Redwood City Transit Center Loop	6:30 AM to 7:10 PM	60	7:30 AM to 7:10 PM	60
278	Redwood City Transit Center - Cañada College	6:20 AM to 8:20 PM	60	7:20 AM to 7:20 PM	60
295	San Mateo Caltrain - Redwood City Transit Center	6:20 AM to 6:45 PM	120	No service	-
296	Redwood City Transit Center - Palo Alto Transit Center	4:20 AM to 1:30 AM[3]	20-60	4:25 AM to 12:25 AM[3]	30-60
397	San Francisco - Palo Alto Transit Center	12:45 AM to 5:55 AM	60	12:45 AM to 5:55 AM	60
398	Redwood City Transit Center - San Francisco Transbay Terminal	5:10 AM to 11:10 PM	60-75	5:50 AM to 11:10 PM	60
ECR	Daly City BART station - Palo Alto Transit Center	4:20 AM to 1:35 AM[3]	15-30	5:00 AM to 2:10 AM[3]	60
Caltrain					
Northbound	Gilroy to San Francisco (weekday) Tamien to San Francisco (weekend)	5:10 AM to 11:40 PM	30	8:05 AM to 11:25 PM	50-90
Southbound	San Francisco to Gilroy (weekday) San Francisco to Tamien (weekend)	5:45 AM to 8:30 PM	30	9:13 AM to 12:57 AM[3]	50-90

Notes:
[1] Operating Hours rounded to the nearest 5 minutes for weekdays and weekends.
[2] Headways are defined as the time between transit vehicles on the same route. Listed headways are the modes of the headways and rounded to the nearest 5 minutes.
[3] Operation ends the following day.
Source: SamTrans April 2021; Caltrain April 2021

SAMTRANS BUS SERVICES

SamTrans has multiple bus routes near the project site and in the vicinity of Redwood City. Routes that service the nearby area of the proposed project are described in this section.

Route 270 is a local bus service that operates on a loop, stopping at the Redwood City Transit Center, Kaiser Hospital, Bay Street and 2nd Street, Florence Street and 17th Street, and Haven Avenue and Bayshore Road. On weekdays, the route operates between 6:30 AM to 7:08 PM on 60-minute headways. On weekends, the route operates between 7:30 AM to 7:08 PM on 60-minute headways. In the vicinity of the project site, Route 270 runs on Veterans Boulevard, Jefferson Avenue, and El Camino Real, with the nearest bus stop at the Redwood City Transit Center.

Route 278 is a local bus service that operates between Cañada College and the Redwood City Transit Center. On weekdays, it operates from 6:20 AM to 8:19 PM on 60-minute headways. Route 278 operates on Saturday between 7:20 AM and 7:19 PM on 60-minute headways. In the vicinity of the project site, Route 278 runs on El Camino Real, with the nearest bus stop at the Redwood City Transit Center.

Route 295 is a local bus service that operates between San Mateo Caltrain and the Redwood City Transit Center. Route 295 operates during the weekdays between 6:20 AM and 6:43 PM on 120-minute headways. There is no weekend service. In the vicinity of the project site, Route 274 runs on Whipple Avenue and El Camino Real, with the nearest bus stop at El Camion Real and Whipple Avenue.

Route 296 is a local bus service that runs between the Redwood City Transit Center and the Palo Alto Transit Center. On weekdays, the route operates from 4:21 AM to 12:26 AM the next day for the northbound direction and 6:00 AM to 1:30 AM the next day for the southbound direction on approximately 20- to 60-minute headways. On weekends, the route operates from 4:26 AM to 12:26 AM the next day for the northbound direction and from 6:43 AM to 1:43 PM the next day for the southbound direction on approximately 30- to 60-minute headways. In the vicinity of the project site, Route 296 runs on Middlefield Road, Jefferson Avenue, and El Camino Real, with the nearest bus stop at the Redwood City Transit Center.

Route 397 is an all-night express bus service that operates between downtown San Francisco and the Palo Alto Transit Center. On weekdays and weekends, there are three buses that operate to San Francisco at 12:46 AM, 1:46 AM, and 2:46 AM and four buses that operate to Palo Alto Transit Center at 2:53 AM, 3:53 AM, 4:53 AM, and 5:53 AM. In the vicinity of the project site, Route 397 runs along Middlefield Road and El Camino Real, with the nearest bus stop at El Camino Real and Whipple Avenue.

Route 398 is an express bus service that operates between downtown San Francisco and the Redwood City Transit Center On weekdays, it operates from 5:09 AM to 11:10 PM on 60- to 75-minute headways. Route 398 operates on Saturday between 5:50 AM and 11:10 PM on 60-minute headways. In the vicinity of the project site, Route 398 runs on El Camino Real, with the nearest bus stop at El Camino Real and Whipple Avenue.

Route ECR is a rapid bus service that runs along El Camino Real from the Daly City BART station to the Palo Alto Transit Center. On weekdays, it operates from 4:21 AM to 1:34 AM the next day on 15- to 30-minute headways. ECR operates on Saturday between 5:02 AM and 2:08 AM the next day on 30-minute headways. In the vicinity of the project site, ECR runs on El Camino Real, with the nearest bus stop at El Camino Real and Whipple Avenue.

CALTRAIN

Caltrain provides commuter-heavy rail services between San Francisco County and Santa Clara County. The closest station is the Redwood City Caltrain station located on James Avenue, approximately 2,000 feet south of the project site. During the weekday AM peak (7-10 AM), the station is served by seven northbound limited-stop trains and seven southbound limited-stop trains. During the weekday PM peak (4-7 PM), the station is served by six northbound limited-stop trains and six southbound limited-stop train. Those taking Caltrain may transfer to SamTrans bus routes ECR, 270, 274, 275, 276, 278, 296, 397, 398 and Pacific Shore Shuttle.

EXISTING PEDESTRIAN FACILITIES

Sidewalks and crosswalks are mostly provided throughout the study area in Redwood City to allow pedestrians to access nearby transit stops, residential uses, and commercial uses. There are existing sidewalks present for the majority of the area surrounding the project site and marked crosswalks directly adjacent to the project site at the intersection of Arguello Street and Whipple Avenue.

EXISTING BICYCLE FACILITIES

Figure 3 shows existing bicycle facilities within the study area.

Class II bicycle lanes are located throughout the City of Redwood City. The following is a list of the Class II bicycle lanes near the study area:

- Stafford Street between Whipple Avenue and F Street
- Whipple Avenue between El Camino Real and Arguello Street and between Veterans Boulevard and US 101 northbound off ramp
- Arguello Street between Whipple Avenue and Brewster Avenue
- Winslow Street between Standish Street and Jefferson Avenue
- Marshall Street between Arguello Street and Walnut Street
- Middlefield Road between Bradford Street and Veterans
- Veterans Boulevard between Whipple Avenue and Chestnut Street
- Walnut Street from Bradford Street to Veterans Boulevard
- Winslow Street from Broadway and Howland Street

Class III bicycle routes are located throughout the City of Redwood City. The following is a list of the Class III bicycle routes near the study area:

- Whipple Avenue between Arch Street and Veterans Boulevard
- Industrial Way between B Street and Whipple Avenue
- Winslow Street between Whipple Avenue and Standish Street

EXISTING PLANS AND POLICES

The City of Redwood City has plans and policies which provides guidance, direction, and recommendations on transportation-related issues within the City. Some of these plans and polices include the City's General Plan, Redwood City Moves (RWCMoves), El Camino Real Corridor Study, and the Grade Separation Footprint Study.

REDWOOD CITY GENERAL PLAN

In 2010, the City adopted its most recent General Plan which includes goals, policies, and actions for developing the transportation network in Redwood City. Resulting from the goals, policies, and actions from the General Plan are transportation improvement projects that will help mitigate the increased vehicular demand on the network. The following is a list of relevant goals, policies, and implementation programs regulating development in the City of Redwood City:

- **Goal BE-25:** Maintain a local transportation system that balances the needs of bicyclist, pedestrian, and public transit with those of private cars.
- **Policy BE-25.6**: Ensure that the City's transportation impact fee program provides adequate funding for necessary transportation improvements that will benefit all travel modes, while also incentivizing development that is less dependent on expensive new transportation infrastructure.
- **Policy BE-26.6:** Require new development projects to provide pedestrian, bicycle, and electric bicycle/scooter facilities that connect to existing and planned pedestrian and bicycle facilities; and require large parking facilities to accommodate pedestrian, bicycle, and electric bicycle/scooter circulation.

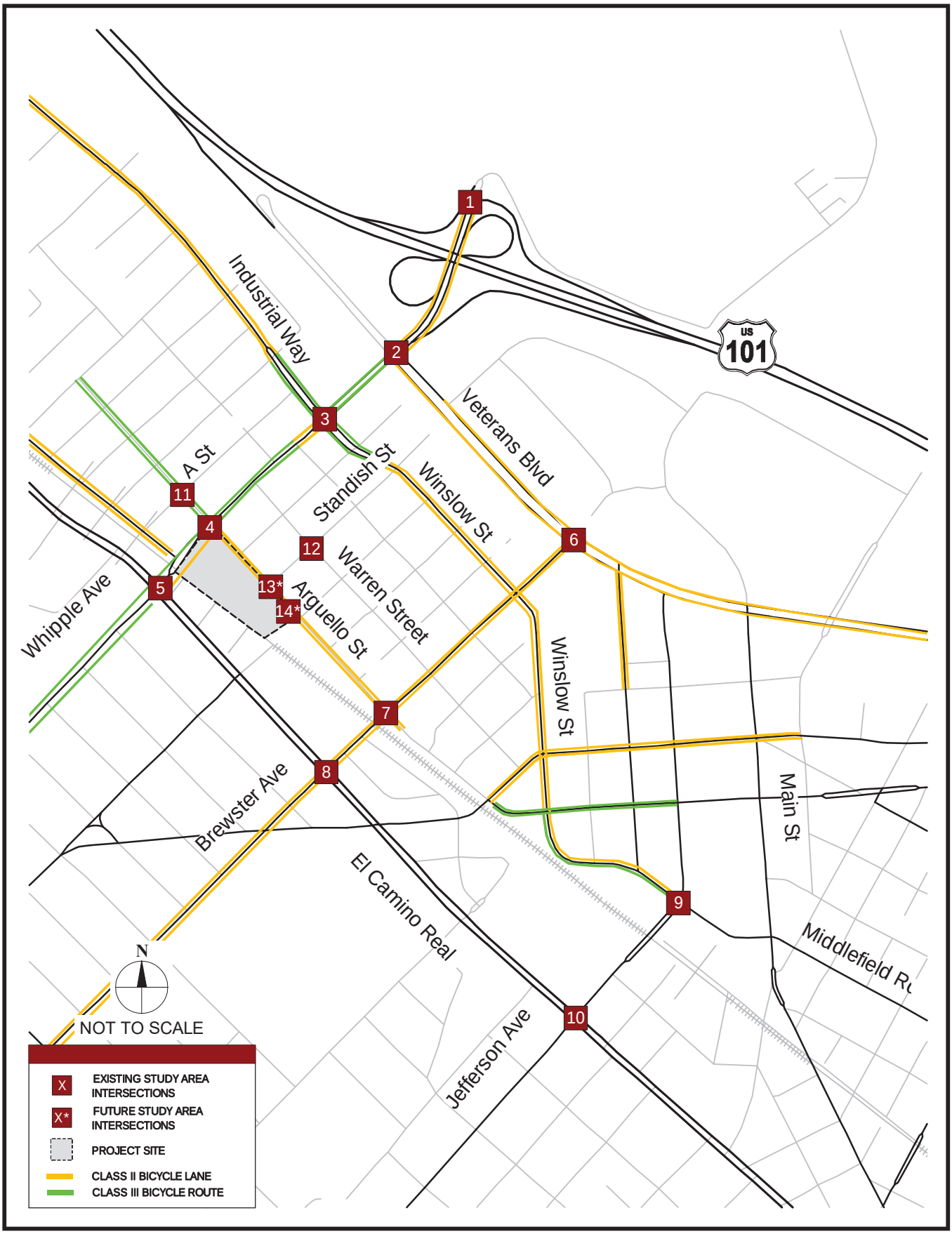

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FIGURE 3
EXISTING BICYCLE FACILITES
1125 ARGUELLO STREET LTA

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- **Implementation Program BE-38: Transportation Impact Fee.** Review and, if necessary, update the City's transportation impact fee program to ensure that funding is provided for necessary transportation improvements that will benefit all travel modes.

REDWOOD CITY MOVES (RWCMOVES)

In 2016, the City recognized substantial changes within Redwood City that would affect transportation and began developing a citywide transportation plan, Redwood City Moves (RWCMoves). The plan presents existing transportation trends and data for the City as well as serving as a guiding document by identifying and prioritizing transportation projects and programs. RWCMoves was adopted on August 23, 2018.

The vision of the RWCMoves is to "Promote the best experience possible for everyone in Redwood City by creating and maintaining a safe, multimodal, and accessible transportation network." The plan also consists of the following six goals:

1. Eliminate traffic fatalities and severe injuries for all modes by 2030
2. Create a walking and bicycling-friendly community that provides a safe, balanced, and convenient transportation system
3. Provide seamless connection and improve street access to all areas within the City, but especially along mixed-use corridors designated in the General Plan and Citywide Transportation Plan
4. Embrace innovation in all forms of emerging technologies especially in ways to creatively manage congestion and the transportation system
5. Reach over 50% of all trips being by non-driving modes by 2040, remaining automobile trips should be zero emission trips
6. Invest in projects that support a resilient, equitable and sustainable transportation system.

RWCMoves identifies and prioritizes many transportation projects for the City. **Table 4** presents improvement projects within the study area. The following projects are under construction:

- Bicycle lanes on Middlefield Road between Maple Street and Woodside Road
- Pedestrian safety improvements at Middlefield Road and Woodside Road
- Railroad safety improvements at Main Street

EL CAMINO REAL CORRIDOR PLAN

The El Camino Real Corridor Plan is a policy document that was adopted by City Council on December 4, 2017. The plan includes visions, goals, and strategies for street improvements along the El Camino Real within Redwood City to make the corridor more pedestrian-, bicycle-, and transit-friendly and support uses along the corridor. The plan focuses on four main topics: 1) Mobility, 2) Economic Vitality, 3) Housing, and 4) Place-Making.

The El Camino Real Corridor Plan identifies transportation improvements within the study area, which includes:

- Intersection improvements at Jefferson Avenue, Roosevelt Avenue, Redwood Road, and Main Street
- Installing Class IV protected bicycle facilities
- Restrict left-turn during peak commute hours to improve traffic flow along El Camino Real

TRANSIT DISTRICT PLAN

The Transit District Plan is an on-going City project to redevelop the Redwood City Caltrain station and surrounding area. The project consists of five components which include; grade separation of 6 at-grade railroad crossings; redevelopment of the Sequoia Station Shopping Center into a mixed-used development; design of a new train station platform area; adjustments of SamTrans services in the plan area; and, the proposed Dumbarton Rail Corridor Project. As of Fall 2021, this project will be hosting community meetings related to the Transit District and preferred grade separation alternatives.

RWC WALK BIKE THRIVE

RWC Walk Bike Thrive Plan is an on-going initiative to develop a citywide Pedestrian and Bicycle plan and Vision Zero Action Plan. Both of these plans will identify projects to improve traffic safety, as well as encourage walking and biking throughout the City. As of Fall 2021, the City has been gathering community input regarding walking, biking, and traffic safety.

EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL

Existing intersection lane configuration and traffic controls are illustrated in **Figure 4**. **Table 10** lists the existing traffic control for each study intersection.

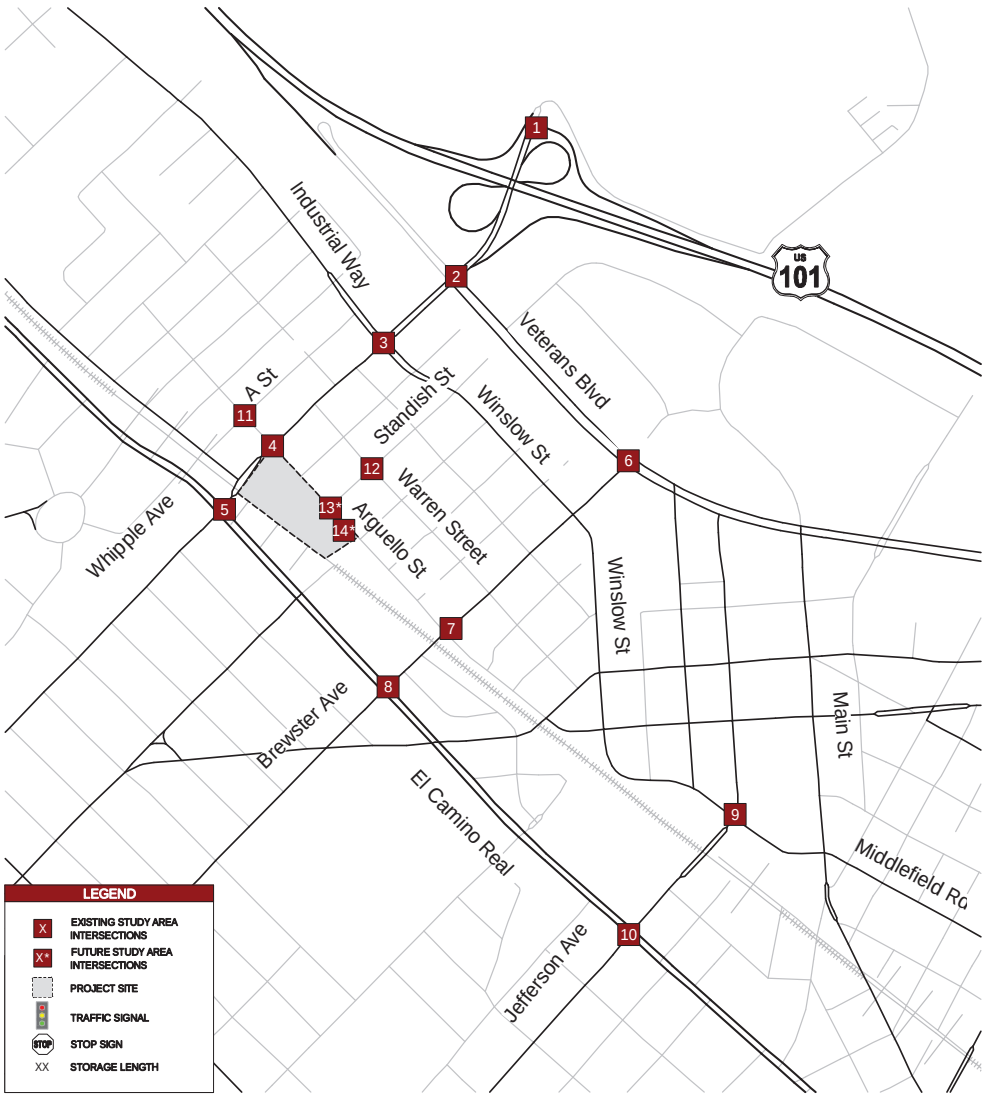
Table 10 - Study Intersection and Traffic Control

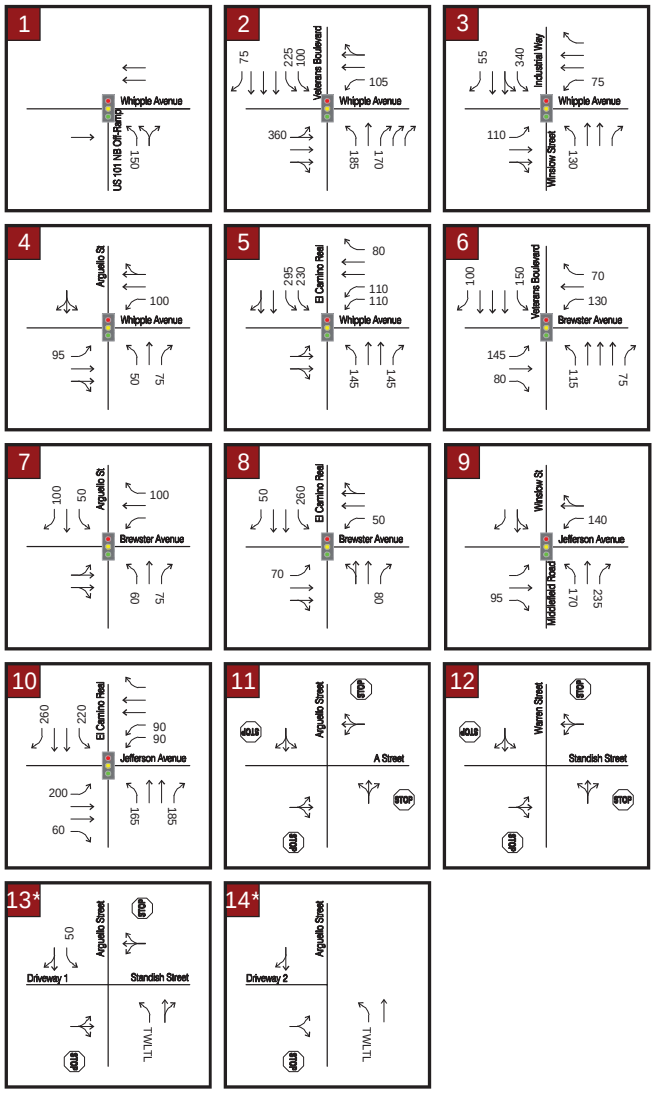
#	Intersection	Existing or Future Intersection	Traffic control
1	Whipple Avenue & US-101 NB Off-Ramp	Existing	Signal
2	Whipple Avenue & Veterans Boulevard	Existing	Signal
3	Whipple Avenue & Industrial Way-Winslow Street	Existing	Signal
4	Whipple Avenue & Arguello Street	Existing	Signal
5	Whipple Avenue & El Camino Real	Existing	Signal
6	Brewster Avenue & Veterans Boulevard	Existing	Signal
7	Brewster Avenue & Arguello Street	Existing	Signal
8	Brewster Avenue & El Camino Real	Existing	Signal
9	Jefferson Avenue & Middlefield Road	Existing	Signal
10	Jefferson Avenue & El Camino Real	Existing	Signal
11	A Street & Arguello Street	Existing	AWSC
12	Standish Street & Warren Street	Existing	AWSC
13	Arguello Street & Driveway 1	Future	SSSC
14	Arguello Street & Driveway 2	Future	SSSC
15	Arguello Street & Driveway 3	Future	SSSC

Note: SSSC – Side-Street Stop Control; AWSC – All-Way Stop Control

EXISTING MOVEMENT VOLUMES

Weekday intersection turning movement volumes for study intersections were collected in March 2021. Volumes were collected during the AM (7:00-9:00 AM) peak period and PM (4:00-6:00 PM) peak period on a weekday. The collected counts were compared to historical counts provided by the City to develop an adjustment factor for transportation volumes effected by COVID-19 travel trends. Intersection volume data sheets for all traffic counts, as well as calculation for adjustment factors are provided in the **Appendix**. Peak hour turning movement volumes are shown in **Figure 5**.





*WITH THE ADDITION OF THE PROJECT

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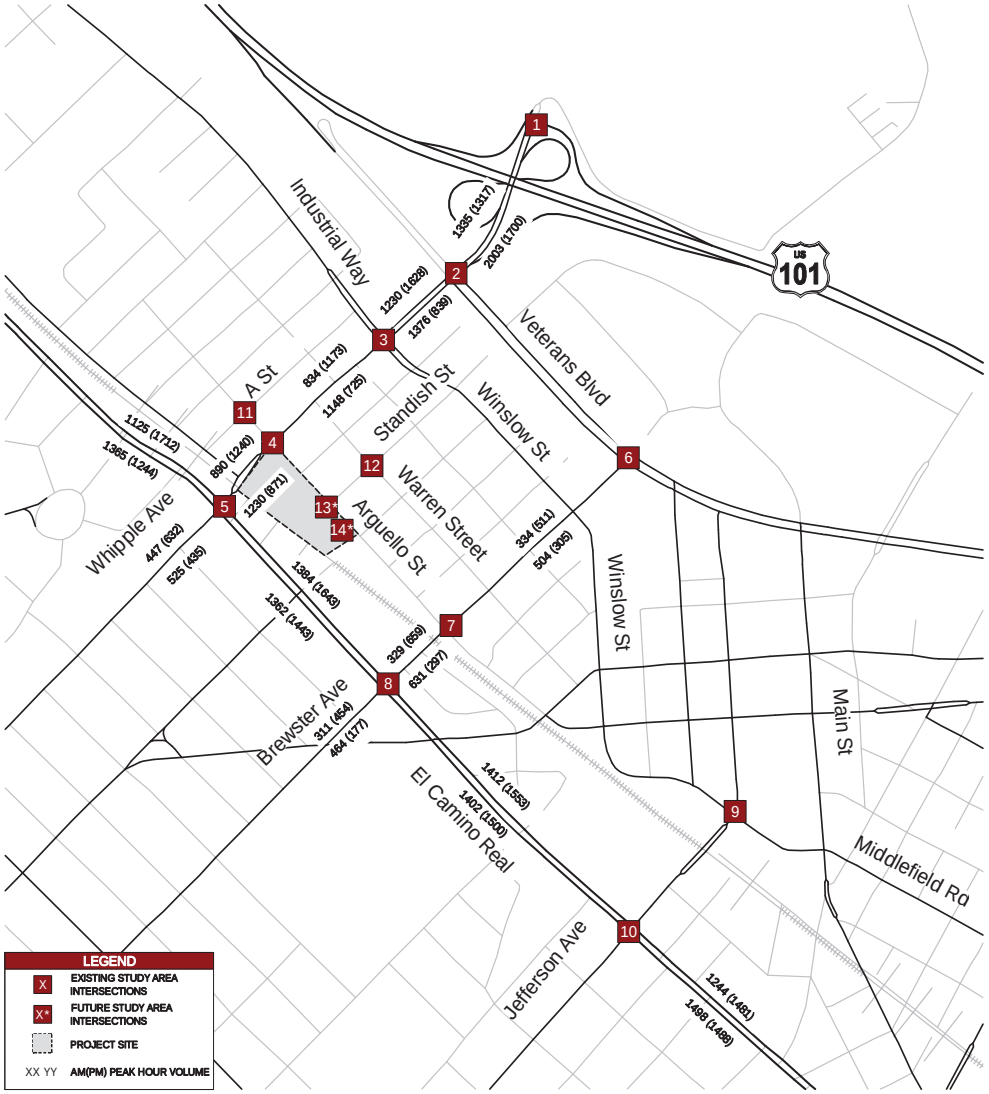
FIGURE 4
EXISTING LANE GEOMETRY AND TRAFFIC CONTROL
1125 ARGUELLO LTA



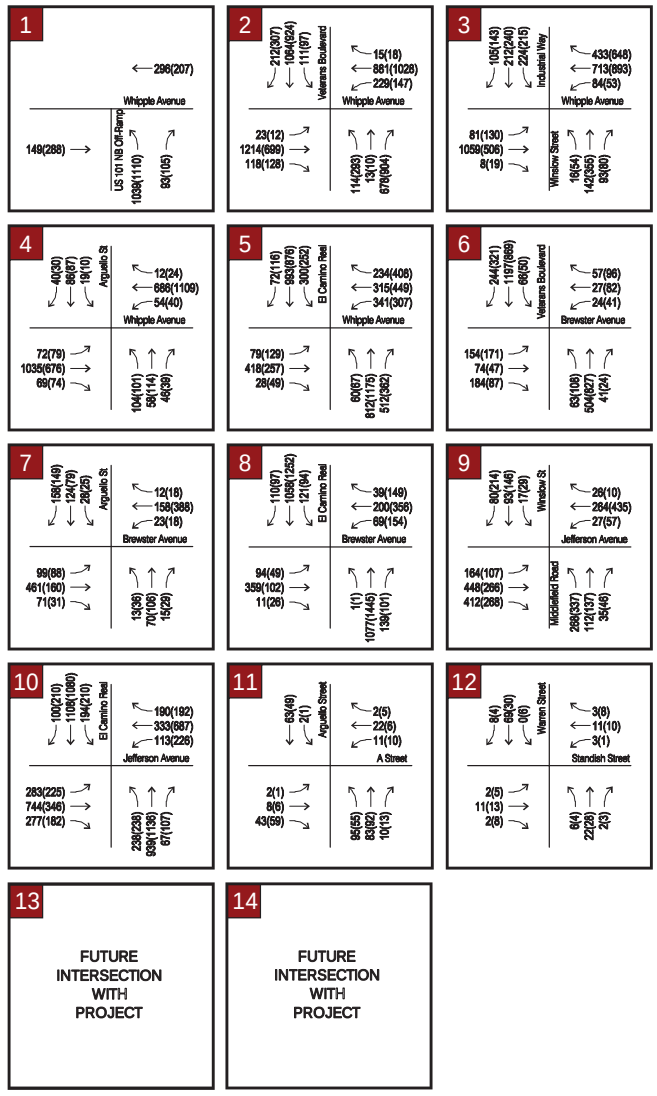


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FIGURE 5
EXISTING PEAK HOUR TURNING MOVEMENT AND ROADWAY SEGMENT VOLUMES
1125 ARGUELLO STREET LTA

3. PROJECT DESCRIPTION

This chapter presents a description of the proposed project, trip generation, trip distribution, and trip assignment, as well as potential deficiencies of the proposed project on the transportation system.

PROPOSED PROJECT

The proposed project will merge 6 parcels (1111,1125,1203,1209, 1219, and 1227 Arguello Street) and will construct a mixed-use develop which consist of 301,261 square feet of office building, 33 dwelling units of affordable housing, and 4,132 square-foot childcare facility. **Figure 6** illustrates the site plan for the proposed project, dated February 2021. The site would be accessed by two unsignalized driveways along Arguello Street. There will also be a 140-foot white zone area adjacent to the childcare facility for child drop-off/pick-up.

In addition, the Project will make streetscape improvements along Arguello Street adjacent to the project site to install landscape and lighting to improve the pedestrian/bicycle experience as well as move existing utilities underground as well as a new crosswalk with flashing beacons at Standish Street. The Project will also construct an approximately 5,000-square foot neighborhood park on the northeast corner of Brewster Avenue and Arguello Street. The park will be for project use and will not generate external trips.

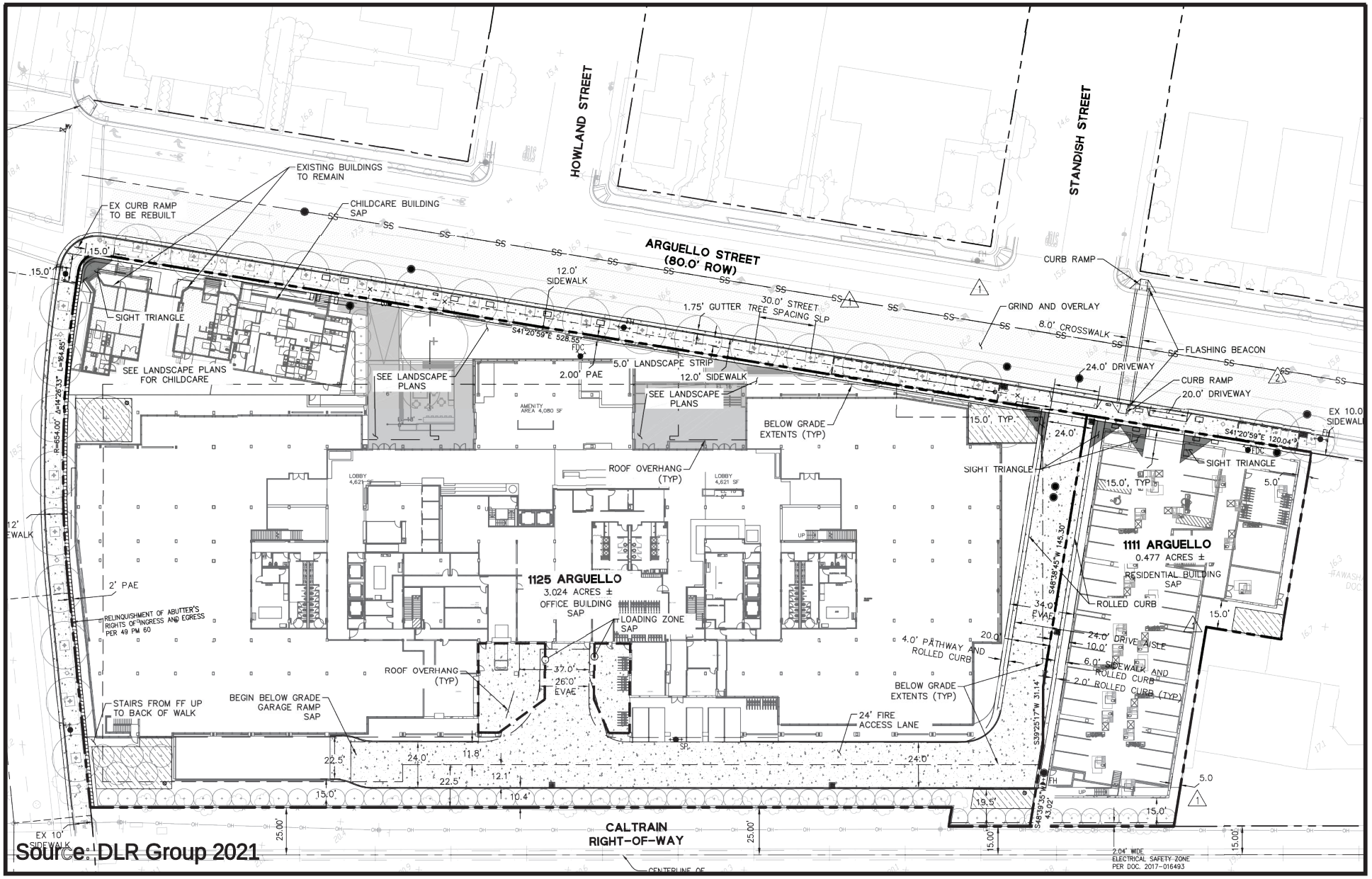
TRIP GENERATION

Trip generation for projects are typically calculated based on information contained in the Institute of Transportation Engineer's (ITE) publication, *Trip Generation Manual, 10th Edition*[2]. The manual is a standard reference used by jurisdictions throughout the country for the estimation of trip generation of proposed projects. A trip is defined in the *Trip Generation Manual* as a single or one-directional vehicle movement with either the origin or destination at the project site. In other words, a trip can be either "to" or "from" the site and therefore, a single visitor to a site is counted as two.

For purposes of determining the worst-case deficiencies of traffic on the surrounding street network, the trips generated by a proposed project are estimated for the AM peak hour (between the hours of 7:00 AM and 9:00 AM), and for the PM peak hour (between 4:00 PM and 6:00 PM) on a typical weekday. Trips generated by the proposed project were based on the equations for ITE Land Use 710 (General Office Building), Land Use 221 (Multifamily Housing, Mid-Rise), and the rate for Land Use 565 (Day Care Center). It should be noted that it was assumed that the proposed park at Brewster Avenue and Arguello Street would mostly attract visitors within walking distance, rather than new external vehicle trips and therefore was excluded from the trip generation calculations.

Trip reductions were also taken to account for internal capture, transit reduction, and TDM reduction. An internal capture reduction was considered to account for the interaction of separate uses within the multi-use development. The internal capture reduction was determined based on ITE *Trip Generation Handbook, 3rd Edition* methodology. It should be noted that ITE methodology does not include calculation for daily trips, therefore an average percent of the AM and PM peak reduction were used. Since the proposed project is within 0.5 mile from the Redwood City Caltrain station, a transit reduction was applied. Finally, a TDM plan reduction in trips was assumed at a percent reduction that would establish project compliance with the target SOV requirements established by the City for the project land uses.

[2] *Trip Generation Manual, 10th Edition*, Institute of Transportation Engineers, 2017.



Source: DLR Group 2021

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FIGURE 6
SITE PLAN

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1125 ARGUELLO STREET LTA

Table 11 presents the trip generation for the proposed project. The proposed project will generate 1,887 daily trips, 212 vehicle trips in the AM peak hour and a 223 vehicle trips in the PM peak hour. Trip generation calculation sheets are provided in the **Appendix**.

Table 11 - Project Trip Generation

ITE Land Use Code	Land Use	Size	Units	Daily Trips	AM Peak			PM Peak		
					Total	In	Out	Total	In	Out
221	Residential	33	Dwelling Unit(s)	178	12	3	9	15	9	6
565	Childcare	4.225	1,000 Sq Ft	201	46	24	22	47	22	25
710	Office	301.261	1,000 Sq Ft	3,093	310	267	43	325	52	273
Subtotal				**3,472**	**368**	**294**	**74**	**387**	**83**	**304**
Internal Capture (Daily:7%, AM: 8%, PM:6%)[1]				-231	-28	-14	-14	-22	-11	-11
Transit Reduction (Daily 5.6%, AM 7.3%, PM 6.0%)[2]				-181	-24	-20	-4	-22	-4	-18
TDM Reduction (Daily 34%, AM 28%, PM 31%)[3]				-1,173	-104	-96	-8	-120	-15	-105
Total External Trips				**1,887**	**212**	**164**	**48**	**223**	**53**	**170**

Source: ITE *Trip Generation, 10th Edition*
[1] Internal Capture calculated using ITE *Trip Generation Handbook, 3rd Edition* methodology. ITE methodology does not include calculation for weekday daily, therefore an average percentage of AM and PM hours were assumed for daily internal capture.
[2] Assumed transit reduction assumed in Redwood City Downtown Precise Plan EIR.
[3] Based on RWCmoves target SOV share of 52% for office uses and 44% for residential uses after accounting for internal capture and downtown precise plan transit reduction.

TRANSPORTATION DEMAND PROGRAM (TDM)

It should be noted that the Project is required to implement a Transportation Demand Management (TDM) plan based on City's and C/CAG's guidelines. The purpose of a TDM plan is to reduce drive-alone vehicle demand by implementing TDM elements that would encourage other modes such as providing convenient parking spaces for carpool/vanpool, transit information, or transit subsidies. The City's drive-alone mode share for the Project would be 52% for the office and 44% for the residential uses. Since a TDM plan is required and will be implemented by the Project, a TDM trip reduction was applied to the Project trip generation. The daily, AM, and PM reduction percentages shown in **Table 11** were calculated as the remaining reduction needed after accounting for internal capture and transit proximity so that the Project as a whole meets the target 52 percent SOV share for office and 44 percent SOV share for residential land uses that is required by the City.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Project trip distribution was based on existing traffic count information, general orientation of population sources to the site, and trip distribution from RWCMoves. **Figure 7** presents the traffic distribution assumed for this analysis. The project vehicle trip assignment is shown in **Figure 8.**

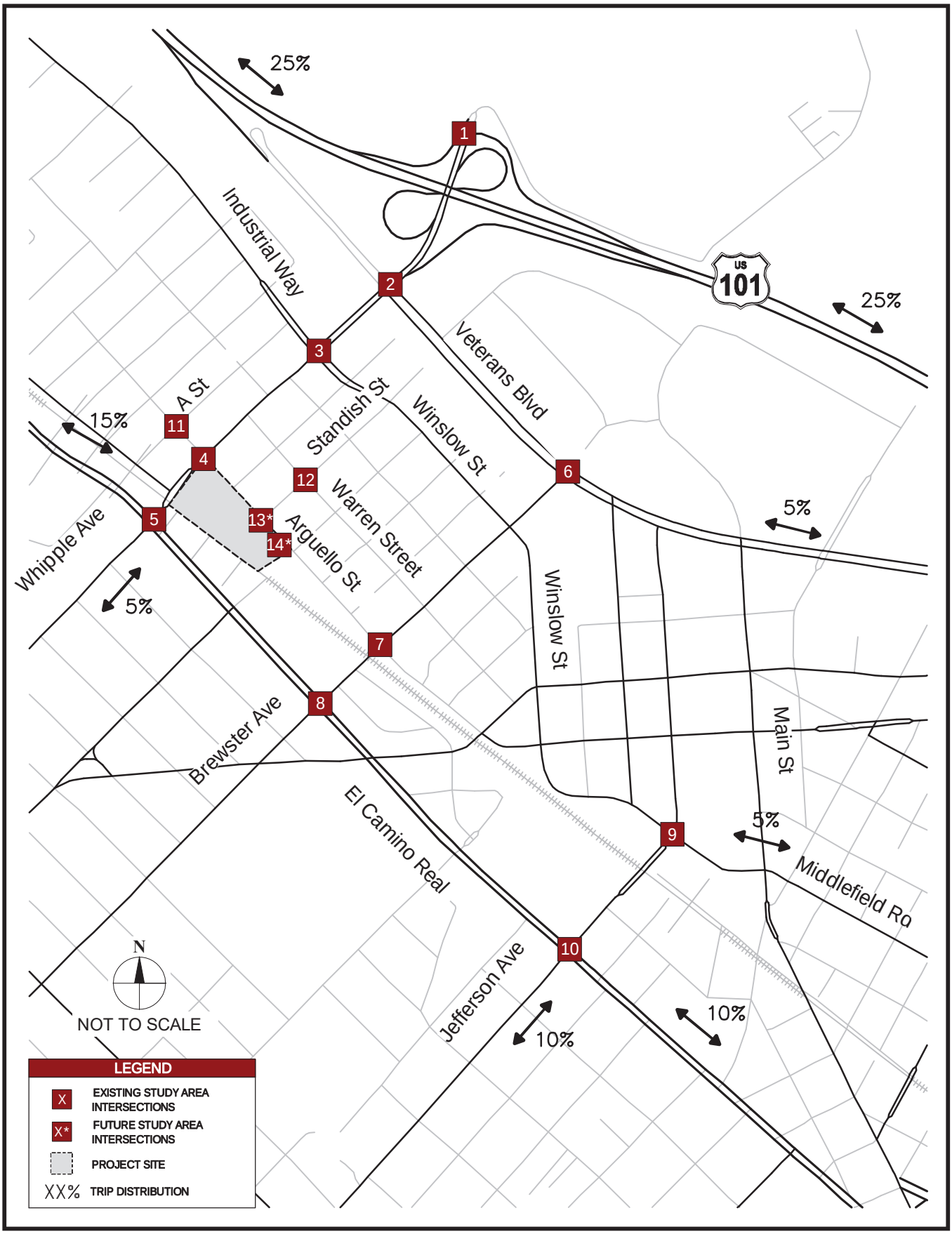

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FIGURE 7
PROJECT TRIP DISTRIBUTION
1125 ARGUELLO STREET LTA

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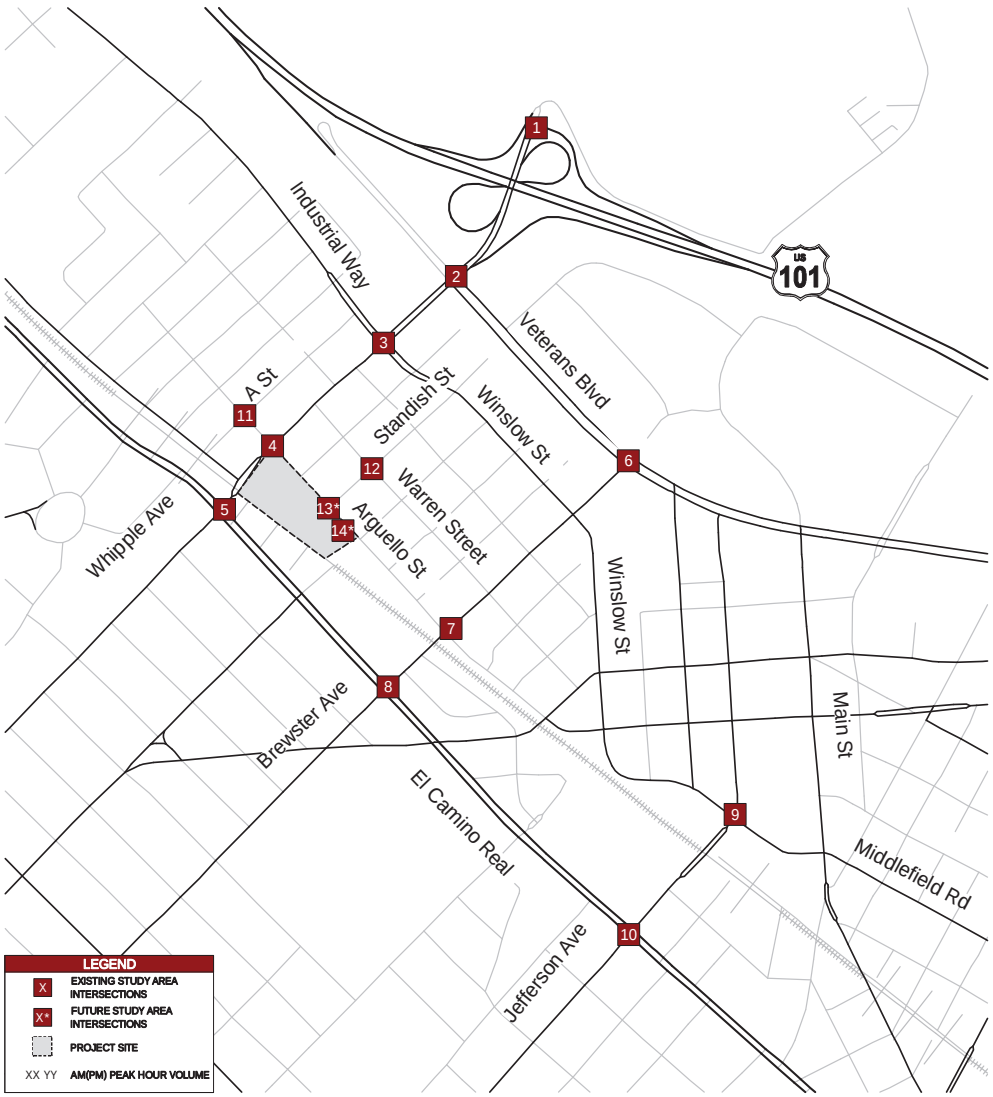

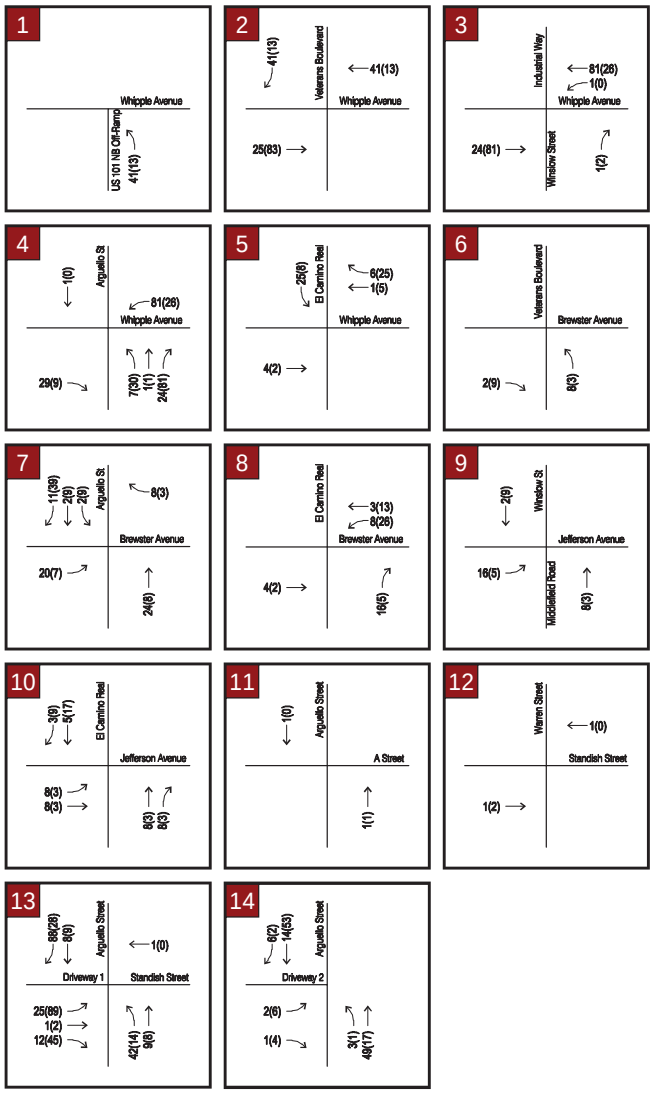

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FIGURE 8
PROJECT GENERATED PEAK HOUR TURNING MOVEMENT VOLUMES
1125 ARGUELLO STREET LTA

4. VEHICLE MILES TRAVELED

This chapter discusses the VMT screening analysis conducted for the Project.

VEHICLE MILES TRAVELED SCREENING

The *Redwood City Transportation Analysis Manual* provides VMT screening criteria to determine if a presumption of less-than-significant can be made based on at least one of the following VMT screening criteria:

- Transit Priority Area (TPA)
- Affordable Housing
- Small Projects
- Locally Service Public Facility
- Neighborhood Serving Retail Project

Since the Project includes multiple land uses, each component was considered separately, and the results are summarized in **Table 12**. As shown in **Table 12**, each component of the Project fulfills at least one screening criteria, therefore presumption of less-than-significant can be made and no VMT analysis was conducted. Detailed evaluation for each criterion is discussed in the following sub-sections.

Table 12 – Vehicle Mile Traveled Screening Summary

CEQA Land Use Screening Criteria	Project Exempt?		
	Office	Residential	Day Care
Transit Priority Area	**Yes**	**Yes**	No
Affordable Housing	N/A	**Yes**	N/A
Small Project	No	No	No
Locally Serving Public Facility	N/A	N/A	N/A
Neighborhood-Serving Retail Project	N/A	N/A	**Yes**

TRANSIT PRIORITY AREA

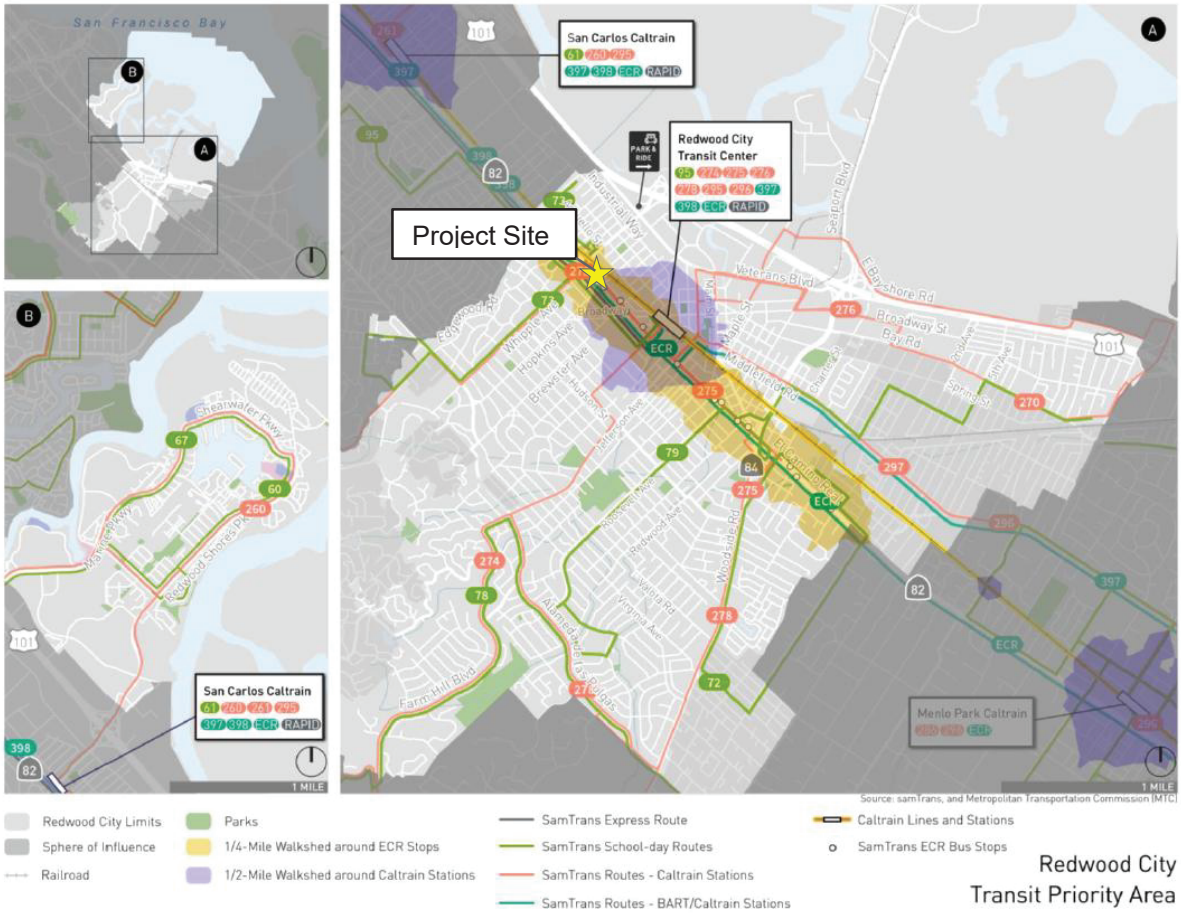
Locations near major transit stops (e.g. Redwood City Transit Center) or high-quality transit corridors (e.g. El Camino Real) are considered transit priority areas (TPA) and projects located in such an area may be exempt. **Figure 9** illustrates the TPAs within the City, which include locations within a ½-mile and ¼-mile walkshed around major transit stops and high-quality transit corridors, respectively. Based on **Figure 9**, the Project is within a ½ mile walking distance to the Redwood Caltrain station and ¼-mile walkshed of the El Camino Real bus stops.

It should be noted that the TPA screening is applicable if the project meets all of the following criteria:

- Floor Area Ratio (FAR) is 0.75 or more
- Total square footage of 500,000 square feet or less
- Proposed parking does not exceed minimum required by the Zoning Code or applicable plans
- Project is consistent with Redwood City General Plan, applicable Specific Plan, or applicable Sustainable Communities Strategy
- Existing on-site affordable residential units are maintained or increased

- Less than significant levels of VMT are expected due to project-specific of location-specific information.

TPA screening criteria applies to the Project. The total proposed square footage for the site is 358,576 square feet with a proposed FAR of 1.99. The parking for the project is still being finalized, but based on the project's location, the parking provided by the Project will be less than what is required by code. The Project is proposing adding up to 33 units of affordable housing.



Source: Redwood City Transportation Assessment Manual, August 2020

Figure 9: Transit Priority Area

AFFORDABLE HOUSING

Project components which consist of 100 percent restricted affordable housing in infill locations (development within unused or underutilized lands) or within a ½-mile of a transit stop may be exempt. The residential component of the project will be 100 percent affordable housing and as shown in **Figure 9** is within ½-mile from the El Camino Real high-quality transit corridor.

SMALL PROJECT

Small projects are defined as projects that generate less than 150 average daily trips. An average of 150 average daily trips roughly equates to:

- 15 single family residential units
- 20 multifamily residential units
- 15,000 square feet of office

As shown in **Table 11**, all of the project components generate more than 150 average daily trips.

LOCALLY SERVING PUBLIC FACILITY

Locally serving public facilities include government, civic, cultural, health, and infrastructure uses and activity which contribute to and support community needs. The project does not include any components that fit this description.

NEIGHBORHOOD-SERVING RETAIL PROJECT

The closest VMT screening criteria for the childcare component of the project would be considered a neighborhood-serving retail use since it is less than 15,000 square feet and would serve the immediate neighborhoods and have a similar use within 3-miles.

5. TRAFFIC OPERATION ANALYSIS

This chapter will discuss traffic operation analysis that was conducted to determine the effect of the proposed project on the transportation system. The operation analysis includes intersection level of service, roadway level of service, signal warrants, and intersection queuing.

EXISTING CONDITIONS

Existing conditions represent operations based on the existing roadway configuration (**Figure 4**) and existing volumes (**Figure 5**).

EXISTING INTERSECTION LEVEL OF SERVICE

Traffic operations were evaluated at the study intersections under existing traffic conditions. Results of the analysis are presented in **Table 13**. All study intersections function within acceptable LOS standards under this analysis scenario. Analysis sheets are provided in the **Appendix**.

EXISTING ROADWAY ANALYSIS

Traffic operations were evaluated at the study roadway segments under existing traffic conditions. Vehicular results of the analysis are presented in **Table 14** and multimodal results in **Table 15**. All study roadway segments function within acceptable LOS standards under this analysis scenario, except for the following segments:

- Whipple Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Arguello Street and Industrial Way/Winslow Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (PM peak hour: Vehicular)
- Whipple Avenue between Industrial Way/Winslow Street and Veterans Boulevard
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (PM peak hour: Vehicular)
- Whipple Avenue between Veterans Boulevard and US 101 NB Off-Ramp
  - Eastbound (AM and PM peak hours: Vehicular, Pedestrian, & Transit)
- Brewster Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- El Camino Real between Brewster Avenue and Jefferson Avenue
  - Northbound (AM and PM peak hours: Vehicular)
  - Southbound (AM and PM peak hours: Vehicular)

Analysis sheets are provided in the **Appendix**.

Table 13 - Existing Intersection Level of Service Summary

#	Intersection	LOS Criteria[1]	Jurisdiction	Control[2]	Existing			
					AM Peak		PM Peak	
					LOS	Delay (sec)	LOS	Delay (sec)
1	Whipple Avenue & US-101 NB Off-Ramp	D	Caltrans	Signal	C	21.2	C	21.8
2	Whipple Avenue & Veterans Boulevard	D	City	Signal	D	45.4	D	43.2
3	Whipple Avenue & Industrial Way-Winslow Street	D	City	Signal	C	20.6	D	43.9
4	Whipple Avenue & Arguello Street	D	City	Signal	C	22.1	B	13.6
5	Whipple Avenue & El Camino Real	E	Caltrans	Signal	D	44.3	E	68.0
6	Brewster Avenue & Veterans Boulevard	E	City	Signal	D	37.6	D	36.3
7	Brewster Avenue & Arguello Street	E	City	Signal	D	38.5	C	33.1
8	Brewster Avenue & El Camino Real	E	Caltrans	Signal	C	23.8	C	24.9
9	Jefferson Avenue & Middlefield Road	E	City	Signal	C	25.0	C	34.5
10	Jefferson Avenue & El Camino Real	E	Caltrans	Signal	E	73.0	E	57.6
11	A Street & Arguello Street	D	City	AWSC	A	8.2	A	7.9
12	Standish Street & Warren Street	D	City	AWSC	A	7.3	A	7.2
13	Arguello Street & Driveway 1	D	City	SSSC	Future Intersection			
14	Arguello Street & Driveway 2	D	City	SSSC	Future Intersection			

Note: Intersections that are operating below acceptable levels are shown in **BOLD**. Project caused deficiencies are shaded.

1 Intersection #5 is a CMP intersection with a LOS threshold of LOS E. Intersections #6 - 10 are within the Downtown Specific Plan with a LOS threshold of LOS E.

2 SSSC = Side Street Stop Control; AWSC = All Way Stop Control

3 The average control delay is reported for signalized and AWSC intersections. The delay for the worst movement is reported for SSSC intersections.

Table 14 – Existing Vehicular Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	Existing					
				AM			PM		
				LOS	% of Base FFS	Vol	LOS	% of Base FFS	Vol
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	D	49.0	890	D	45.0	1,240
		Eastbound	D	**E**	**38.9**	**1,230**	**E**	**39.1**	**871**
	between Arguello St and Industrial Way/Winslow St	Westbound	D	D	43.0	834	**E**	**34.9**	**1,173**
		Eastbound	D	**F**	**24.3**	**1,148**	**F**	**20.8**	**725**
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	D	40.6	1,230	**F**	**29.9**	**1,628**
		Eastbound	D	**F**	**17.6**	**1,376**	**F**	**27.1**	**839**
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	C	54.9	1,335	D	47.4	1,317
		Eastbound	D	**F**	**3.2**	**2,003**	**F**	**4.1**	**1,700**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	**F**	**26.3**	**329**	**F**	**21.7**	**656**
		Eastbound	D	**E**	**30.3**	**631**	**E**	**32.0**	**297**
	between Arguello St and Veterans Blvd	Westbound	D	C	64.3	334	C	62.3	511
		Eastbound	D	C	57.3	504	C	51.8	305
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	D	44.4	1,384	D	45.1	1,643
		Southbound	E	D	45.2	1,362	D	43.0	1,443
	between Brewster Ave and Jefferson Ave	Northbound	E	**F**	**27.2**	**1,412**	**E**	**30.3**	**1,553**
		Southbound	E	**F**	**22.9**	**1,402**	**F**	**21.5**	**1,500**

Note: Roadway segments that are operating below acceptable levels are shown in **BOLD**.

Table 15 – Existing Multimodal Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	Pedestrian				Bicycle				Transit			
				Existing				Existing				Existing			
				AM		PM		AM		PM		AM		PM	
				LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	C	3.26	C	3.44	B	2.59	B	2.67	A	1.88	B	2.07
		Eastbound	D	C	3.00	B	2.71	B	2.65	B	2.50	B	2.37	B	2.31
	between Arguello St and Industrial Way/Winslow St	Westbound	D	C	3.05	C	3.23	B	2.33	B	2.43	B	2.07	B	2.45
		Eastbound	D	D	3.51	C	3.10	B	2.55	B	2.37	C	3.02	C	3.14
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	C	3.13	C	3.25	B	2.45	B	2.59	B	2.24	C	2.76
		Eastbound	D	C	3.29	C	2.95	B	2.46	B	2.24	C	3.37	C	2.80
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	C	3.10	C	3.03	B	2.70	B	2.67	A	1.70	A	1.95
		Eastbound	D	**F**	**5.08**	**E**	**4.33**	C	2.76	B	2.66	**E**	**4.91**	**E**	**4.73**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	B	2.25	B	2.40	B	2.16	B	2.31	B	2.70	C	2.99
		Eastbound	D	B	2.53	B	2.22	B	2.21	A	1.92	A	1.17	A	1.10
	between Arguello St and Veterans Blvd	Westbound	D	B	2.65	B	2.69	B	2.27	B	2.40	A	0.47	A	0.51
		Eastbound	D	B	2.70	B	2.33	B	2.74	B	2.46	A	1.53	A	1.62
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	D	3.66	D	3.80	C	2.78	C	2.85	A	1.92	B	2.04
		Southbound	E	D	4.00	D	3.87	C	2.84	C	2.82	A	1.97	A	1.92
	between Brewster Ave and Jefferson Ave	Northbound	E	D	3.60	D	3.60	C	2.80	C	2.85	C	3.12	C	3.23
		Southbound	E	D	3.81	D	3.86	C	2.81	C	2.83	C	2.75	B	2.59

Note: Multimodal roadway segments that are operating below acceptable levels are shown in **BOLD.**

EXISTING SIGNAL WARRANT

Signal warrants were evaluated at the two (2) unsignalized study intersections under Existing Conditions. Neither intersection satisfied the peak hour signal warrant. Analysis sheets are provided in the **Appendix**.

EXISTING PLUS PROJECT CONDITIONS

EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE

Traffic operations were evaluated at the study intersections under existing conditions plus traffic generated by the project, as seen on **Figure 10**. Results of the analysis are presented in **Table 16**. All study intersections function within acceptable LOS standards under this analysis scenario. Analysis sheets are provided in the **Appendix**.

EXISTING PLUS PROJECT ROADWAY ANALYSIS

Traffic operations were evaluated at the study roadway segments under existing conditions plus traffic generated by the project. Vehicular results of the analysis are presented in **Table 17** and multimodal results in **Table 18**. Some segments operate unacceptably but are not considered a project deficiency because each segment is operating unacceptably without the project and the increase in vehicular volume is less than five (5) percent. These segments are listed include:

- Whipple Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Arguello Street and Industrial Way/Winslow Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (PM peak hour: Vehicular)
- Whipple Avenue between Industrial Way/Winslow Street and Veterans Boulevard
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (PM peak hour: Vehicular)
- Whipple Avenue between Veterans Boulevard and US 101 NB Off-Ramp
  - Eastbound (AM and PM peak hours: Vehicular, Pedestrian, & Transit)
- Brewster Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- El Camino Real between Brewster Avenue and Jefferson Avenue
  - Northbound (AM and PM peak hours: Vehicular)
  - Southbound (AM and PM peak hours: Vehicular)

Under Existing plus Project condition, the following roadway segment operates unacceptably and is considered a project deficiency:

- Whipple Avenue between Arguello Street and Industrial Way/Winslow Street
  - Westbound (AM peak hour)

Analysis sheets are provided in the **Appendix**.

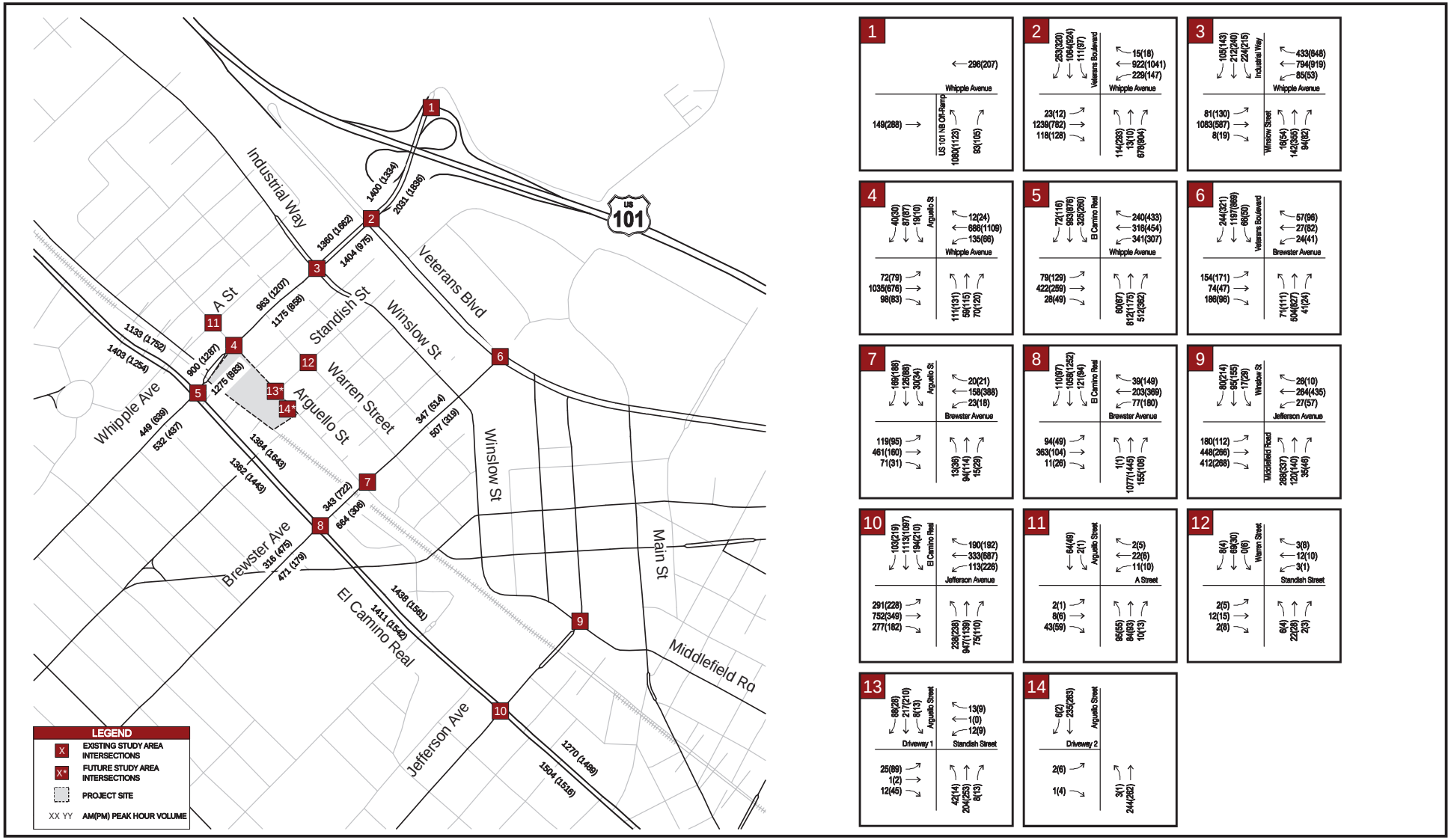


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FIGURE 10
EXISTING PLUS PROJECT PEAK HOUR TURNING MOVEMENT AND ROADWAY SEGMENT VOLUMES
1125 ARGUELLO STREET LTA

Table 16 – Existing Plus Project Intersection Level of Service Summary

#	Intersection	LOS Criteria[1]	Jurisdiction	Control[2]	Existing				Existing Plus Project					
					AM Peak		PM Peak		AM Peak			PM Peak		
					LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay[3] (sec)	Delay Var (sec)	LOS	Delay[3] (sec)	Delay Var (sec)
1	Whipple Avenue & US-101 NB Off-Ramp	D	Caltrans	Signal	C	21.2	C	21.8	C	23.3	2.1	C	22.4	0.6
2	Whipple Avenue & Veterans Boulevard	D	City	Signal	D	45.4	D	43.2	D	45.5	0.1	D	43.5	0.3
3	Whipple Avenue & Industrial Way-Winslow Street	D	City	Signal	C	20.6	D	43.9	C	20.2	-0.4	D	43.6	-0.3
4	Whipple Avenue & Arguello Street	D	City	Signal	C	22.1	B	13.6	C	28.7	6.6	B	15.8	2.2
5	Whipple Avenue & El Camino Real	E	Caltrans	Signal	D	44.3	E	68.0	D	45.9	1.6	E	74.6	6.6
6	Brewster Avenue & Veterans Boulevard	E	City	Signal	D	37.6	D	36.3	D	38	0.4	D	36.5	0.2
7	Brewster Avenue & Arguello Street	E	City	Signal	D	38.5	C	33.1	D	39.8	1.3	D	35.6	2.5
8	Brewster Avenue & El Camino Real	E	Caltrans	Signal	C	23.8	C	24.9	C	23.9	0.1	C	25.1	0.2
9	Jefferson Avenue & Middlefield Road	E	City	Signal	C	25.0	C	34.5	C	25.6	0.6	D	35.8	1.3
10	Jefferson Avenue & El Camino Real	E	Caltrans	Signal	E	73.0	E	57.6	E	74.1	1.1	E	58.4	0.8
11	A Street & Arguello Street	D	City	AWSC	A	8.2	A	7.9	A	8.2	0.0	A	7.9	0.0
12	Standish Street & Warren Street	D	City	AWSC	A	7.3	A	7.2	A	7.3	0.0	A	7.2	0.0
13	Arguello Street & Driveway 1	D	City	SSSC	Future Intersection				C	15.8	-	B	13.9	-
14	Arguello Street & Driveway 2	D	City	SSSC	Future Intersection				B	10.8	-	B	10.6	-

Note: Intersections that are operating below acceptable levels are shown in **BOLD**. Project caused deficiencies are shaded.

1 Intersection #5 is a CMP intersection with a LOS threshold of LOS E. Intersections #6 - 10 are within the Downtown Specific Plan with a LOS threshold of LOS E.

2 SSSC = Side Street Stop Control; AWSC = All Way Stop Control

3 The average control delay is reported for signalized and AWSC intersections. The delay for the worst movement is reported for SSSC intersections.

Table 17 – Existing Plus Project Vehicular Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	Existing						Existing + Project							
				AM			PM			AM				PM			
				LOS	% of Base FFS	Vol	LOS	% of Base FFS	Vol	LOS	% of Base FFS	Vol	% Change Vol	LOS	% of Base FFS	Vol	% Change Vol
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	D	49.0	890	D	45.0	1,240	D	49.2	897	0.0	D	45.1	1,270	0.0
		Eastbound	D	**E**	**38.9**	**1,230**	**E**	**39.1**	**871**	**E**	**33.8**	**1,259**	**0.0**	**E**	**37.4**	**881**	**0.0**
	between Arguello St and Industrial Way/Winslow St	Westbound	D	D	43.0	834	**E**	**34.9**	**1,173**	**E**	**36.0**	**915**	**0.1**	**E**	**33.0**	**1,199**	**0.0**
		Eastbound	D	**F**	**24.3**	**1,148**	**F**	**20.8**	**725**	**E**	**30.8**	**1,172**	**0.0**	**F**	**20.0**	**806**	**0.1**
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	D	40.6	1,230	**F**	**29.9**	**1,628**	D	41.0	1,312	0.1	**E**	**30.1**	**1,654**	**0.0**
		Eastbound	D	**F**	**17.6**	**1,376**	**F**	**27.1**	**839**	**F**	**18.3**	**1,401**	**0.0**	**F**	**28.0**	**922**	**0.1**
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	C	54.9	1,335	D	47.4	1,317	C	54.5	1,376	0.0	D	47.4	1,330	0.0
		Eastbound	D	**F**	**3.2**	**2,003**	**F**	**4.1**	**1,700**	**F**	**3.1**	**2,028**	**0.0**	**F**	**3.8**	**1,783**	**0.0**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	**F**	**26.3**	**329**	**F**	**21.7**	**656**	**F**	**26.3**	**340**	**0.0**	**F**	**21.6**	**698**	**0.1**
		Eastbound	D	**E**	**30.3**	**631**	**E**	**32.0**	**297**	**F**	**29.3**	**651**	**0.0**	**E**	**31.9**	**304**	**0.0**
	between Arguello St and Veterans Blvd	Westbound	D	C	64.3	334	C	62.3	511	C	64.1	342	0.0	C	62.2	512	0.0
		Eastbound	D	C	57.3	504	C	51.8	305	C	57.0	506	0.0	C	51.7	314	0.0
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	D	44.4	1,384	D	45.1	1,643	D	44.4	1,384	0.0	D	45.1	1,643	0.0
		Southbound	E	D	45.2	1,362	D	43.0	1,443	D	44.8	1,362	0.0	D	42.9	1,443	0.0
	between Brewster Ave and Jefferson Ave	Northbound	E	**F**	**27.2**	**1,412**	**E**	**30.3**	**1,553**	**F**	**27.1**	**1,428**	**0.0**	**E**	**30.2**	**1,559**	**0.0**
		Southbound	E	**F**	**22.9**	**1,402**	**F**	**21.5**	**1,500**	**F**	**23.2**	**1,410**	**0.0**	**F**	**21.7**	**1,526**	**0.0**

Note: Roadway segments that are operating below acceptable levels are shown in **BOLD**. Project deficiencies are shaded.

Table 18 – Existing Plus Project Multimodal Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	% Change Veh Vol		Pedestrian								Bicycle								Transit							
						Existing				Existing + Project				Existing				Existing + Project				Existing				Existing + Project			
						AM		PM		AM		PM		AM		PM		AM		PM		AM		PM		AM		PM	
				AM	PM	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	0.0	0.0	C	3.26	C	3.44	C	3.25	C	3.47	B	2.59	B	2.67	B	2.58	B	2.67	A	1.88	B	2.07	A	1.87	B	2.06
		Eastbound	D	0.0	0.0	C	3.00	B	2.71	C	3.03	B	2.72	B	2.65	B	2.50	B	2.66	B	2.50	B	2.37	B	2.31	B	2.61	B	2.39
	between Arguello St and Industrial Way/Winslow St	Westbound	D	0.1	0.0	C	3.05	C	3.23	C	3.09	C	3.24	B	2.33	B	2.43	B	2.36	B	2.44	B	2.07	B	2.45	B	2.38	B	2.54
		Eastbound	D	0.0	0.1	D	3.51	C	3.10	D	3.51	C	3.18	B	2.55	B	2.37	B	2.54	B	2.39	C	3.02	C	3.14	B	2.69	C	3.20
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	0.1	0.0	C	3.13	C	3.25	C	3.17	C	3.27	B	2.45	B	2.59	B	2.48	B	2.60	B	2.24	C	2.76	B	2.23	B	2.75
		Eastbound	D	0.0	0.1	C	3.29	C	2.95	C	3.31	C	3.01	B	2.46	B	2.24	B	2.47	B	2.27	C	3.37	C	2.80	C	3.34	C	2.77
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	0.0	0.0	C	3.10	C	3.03	C	3.09	C	3.03	B	2.70	B	2.67	B	2.70	B	2.67	A	1.70	A	1.95	A	1.71	A	1.95
		Eastbound	D	0.0	0.0	**F**	**5.08**	**E**	**4.33**	**F**	**5.06**	**E**	**4.42**	C	2.76	B	2.66	C	2.76	B	2.68	**E**	**4.91**	**E**	**4.73**	**E**	**4.92**	**E**	**4.79**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	0.0	0.1	B	2.25	B	2.40	B	2.25	B	2.42	B	2.16	B	2.31	B	2.16	B	2.33	B	2.70	C	2.99	B	2.70	C	3.00
		Eastbound	D	0.0	0.0	B	2.53	B	2.22	B	2.54	B	2.22	B	2.21	A	1.92	B	2.22	A	1.93	A	1.17	A	1.10	A	1.18	A	1.10
	between Arguello St and Veterans Blvd	Westbound	D	0.0	0.0	B	2.65	B	2.69	B	2.66	B	2.69	B	2.27	B	2.40	B	2.28	B	2.40	A	0.47	A	0.51	A	0.47	A	0.52
		Eastbound	D	0.0	0.0	B	2.70	B	2.33	B	2.70	B	2.35	B	2.74	B	2.46	B	2.74	B	2.47	A	1.53	A	1.62	A	1.54	A	1.63
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	0.0	0.0	D	3.66	D	3.80	D	3.66	D	3.80	C	2.78	C	2.85	C	2.78	C	2.85	A	1.92	B	2.04	A	1.94	B	2.05
		Southbound	E	0.0	0.0	D	4.00	D	3.87	D	4.00	D	3.87	C	2.84	C	2.82	C	2.85	C	2.82	A	1.97	A	1.92	A	1.97	A	1.92
	between Brewster Ave and Jefferson Ave	Northbound	E	0.0	0.0	D	3.60	D	3.60	D	3.61	D	3.61	C	2.80	C	2.85	C	2.80	C	2.85	C	3.12	C	3.23	C	3.11	C	3.22
		Southbound	E	0.0	0.0	D	3.81	D	3.86	D	3.82	D	3.89	C	2.81	C	2.83	C	2.81	C	2.84	C	2.75	B	2.59	C	2.75	B	2.61

Note: Multimodal roadway segments that are operating below acceptable levels are shown in **BOLD.**

EXISTING PLUS PROJECT SIGNAL WARRANT

Signal warrants were evaluated at the four (4) unsignalized study intersections under Existing Plus Project Conditions. None of the four (4) intersections satisfied the peak hour signal warrant. Analysis sheets are provided in the **Appendix**.

BACKGROUND TRAFFIC CONDITIONS

BACKGROUND LANE GEOMETRY

Under Background conditions, no roadway improvements were assumed, therefore existing lane geometry was assumed as shown in **Figure 4**.

BACKGROUND TRAFFIC VOLUMES

To generate volumes for Background traffic conditions, traffic volumes from approved projects or projects currently under construction were added to existing volumes. **Table 19** lists the projects that were included in the background traffic. **Figure 11** shows the location of all approved and pending projects. Background volumes are shown in **Figure 12**.

Table 19 – Approved Background Development Projects

Project	Project Description
601 El Camino Real	33 townhomes
353 Main Street	125-unit multi-family residential
610 Walnut Street	65,080 sf office
612 Jefferson Avenue	20-unit multi-family residential
929 Main Street	8,002 sf retail
1409 El Camino Real	350-unit multi-family residential
851 Main Street	78,832 sf office 6,900 sf retail
707 Bradford Street	117-unit multi-family residential
1180 Main Street	109,375 SF office

BACKGROUND INTERSECTIONS LEVEL OF SERVICE

Background volumes were evaluated at the study intersections and are presented in **Figure 12**. Results are presented in **Table 20**. All study intersections function within acceptable LOS standards under this analysis scenario, except for the following intersections:

- #10 – Jefferson Avenue & El Camino Real (AM peak hour)

Analysis sheets are provided in the **Appendix**.

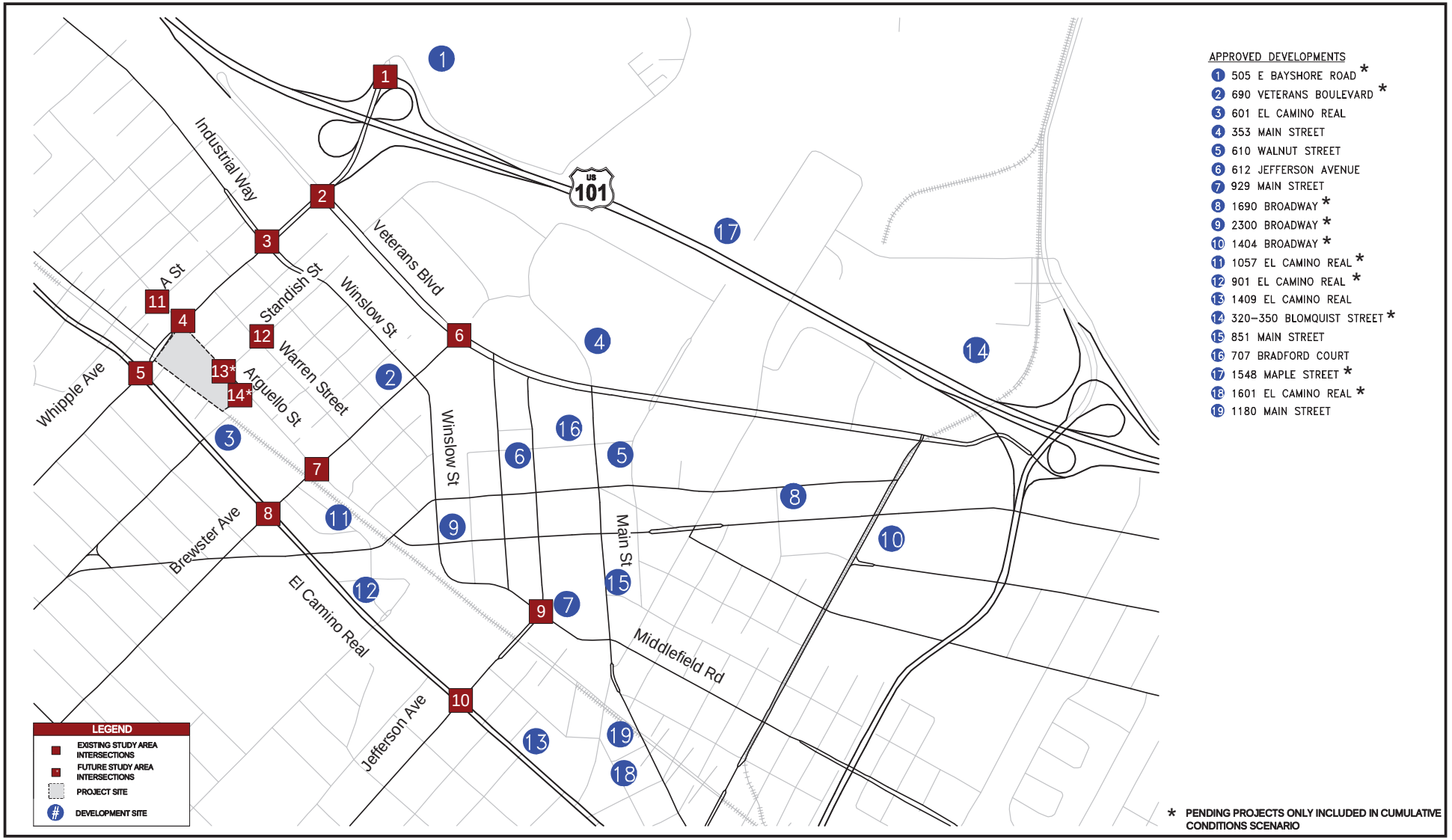

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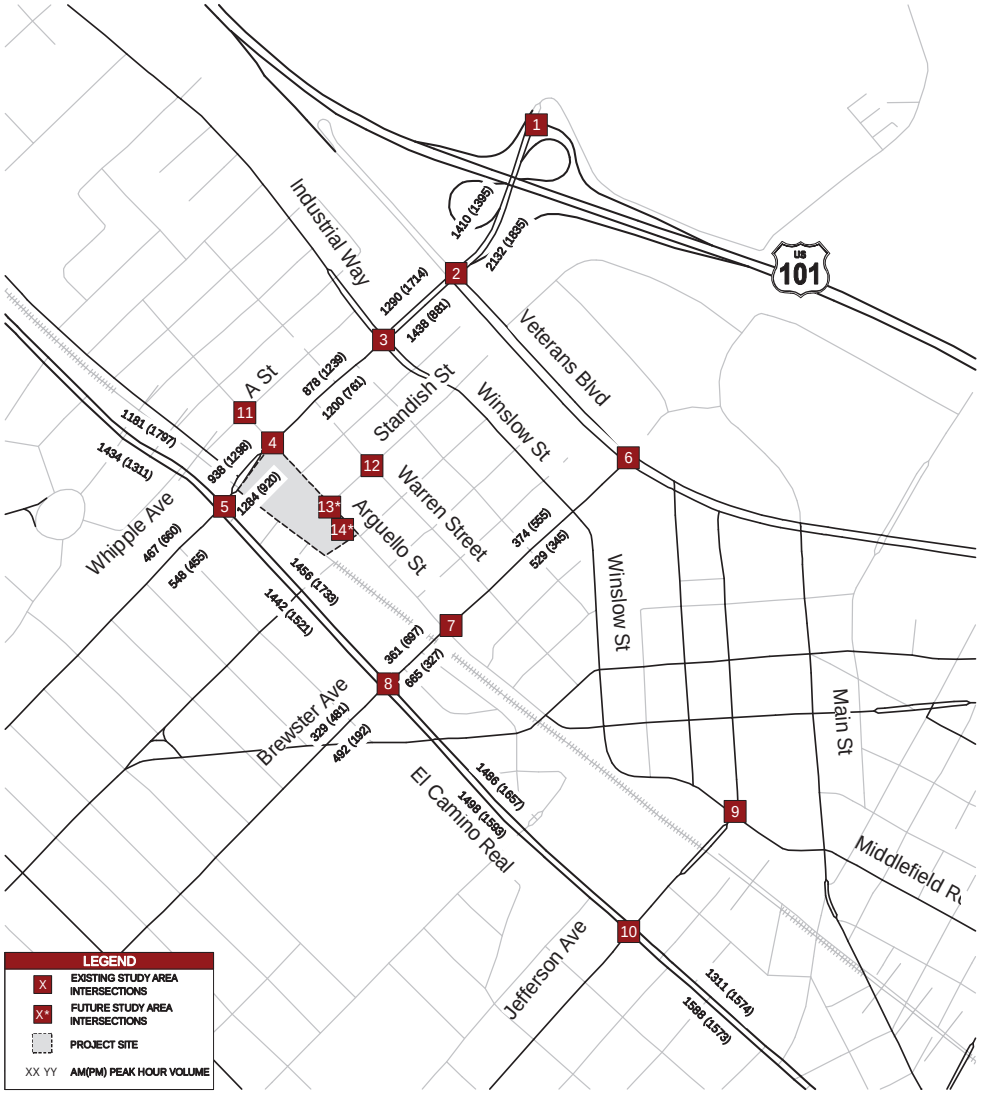
FIGURE11

APPROVED AND PENDING PROJECT LOCATIONS

1125 ARGUELLO STREET LTA



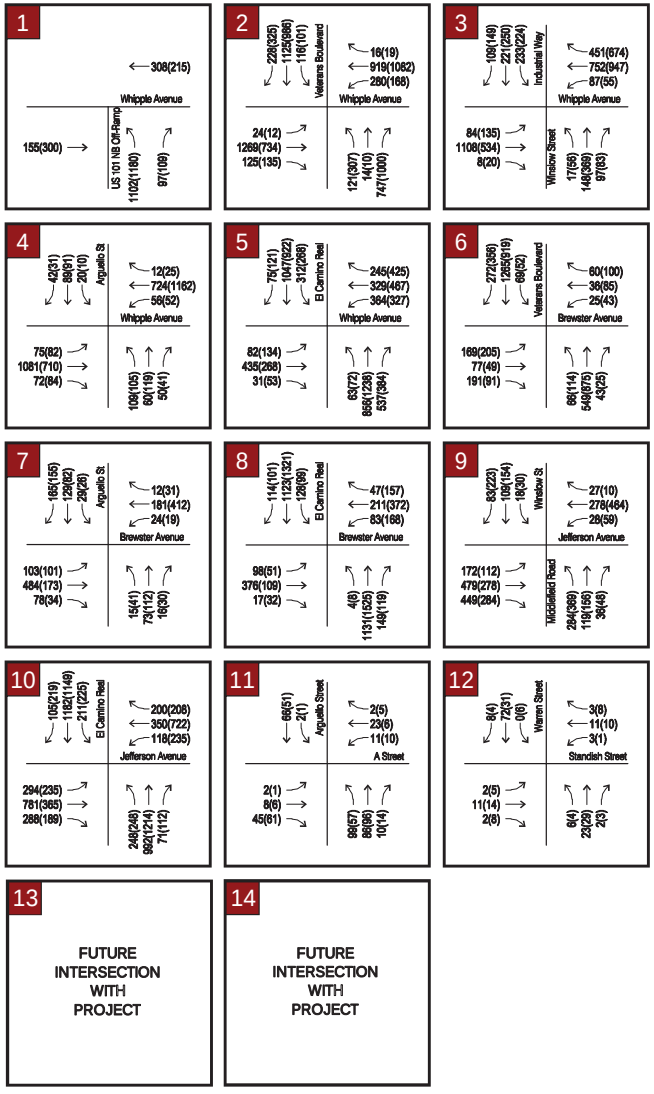


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FIGURE 12
BACKGROUND CONDITIONS PEAK HOUR TURNING MOVEMENT AND ROADWAY SEGMENT VOLUMES
1125 ARGUELLO STREET LTA

Table 20 - Background Intersection Level of Service Summary

#	Intersection	LOS Criteria[1]	Jurisdiction	Control[2]	Background			
					AM Peak		PM Peak	
					LOS	Delay (sec)	LOS	Delay (sec)
1	Whipple Avenue & US-101 NB Off-Ramp	D	Caltrans	Signal	C	26.0	C	28.8
2	Whipple Avenue & Veterans Boulevard	D	City	Signal	D	51.9	D	46.7
3	Whipple Avenue & Industrial Way-Winslow Street	D	City	Signal	C	21.5	D	47.2
4	Whipple Avenue & Arguello Street	D	City	Signal	C	22.6	B	13.7
5	Whipple Avenue & El Camino Real	E	Caltrans	Signal	D	47.4	E	73.7
6	Brewster Avenue & Veterans Boulevard	E	City	Signal	D	38.3	D	37.2
7	Brewster Avenue & Arguello Street	E	City	Signal	D	40.5	C	33.9
8	Brewster Avenue & El Camino Real	E	Caltrans	Signal	C	24.3	C	25.5
9	Jefferson Avenue & Middlefield Road	E	City	Signal	C	26.9	D	42.5
10	Jefferson Avenue & El Camino Real	E	Caltrans	Signal	**F**	**85.1**	E	65.7
11	A Street & Arguello Street	D	City	AWSC	A	8.3	A	7.9
12	Standish Street & Warren Street	D	City	AWSC	A	7.3	A	7.2
13	Arguello Street & Driveway 1	D	City	SSSC	Future Intersection			
14	Arguello Street & Driveway 2	D	City	SSSC	Future Intersection			

Note: Intersections that are operating below acceptable levels are shown in **BOLD**.

1 Intersection #5 is a CMP intersection with a LOS threshold of LOS E. Intersections #6 - 10 are within the Downtown Specific Plan with a LOS threshold of LOS E.

2 SSSC = Side Street Stop Control; AWSC = All Way Stop Control

3 The average control delay is reported for signalized and AWSC intersections. The delay for the worst movement is reported for SSSC intersections.

BACKGROUND ROADWAY ANALYSIS

Traffic operations were evaluated at the study roadway segments under existing conditions plus traffic generated by the project. Vehicular results of the analysis are presented in **Table 21** and multimodal results in **Table 22**. All study roadway segments function within acceptable LOS standards under this analysis scenario, except for the following segments:

- Whipple Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Arguello Street and Industrial Way/Winslow Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Industrial Way/Winslow Street and Veterans Boulevard
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Veterans Boulevard and US 101 NB Off-Ramp
  - Eastbound (AM and PM peak hours: Vehicular, Pedestrian, & Transit)
- Brewster Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- El Camino Real between Brewster Avenue and Jefferson Avenue
  - Northbound (AM and PM peak hours: Vehicular)
  - Southbound (AM and PM peak hours: Vehicular)

Analysis sheets are provided in the **Appendix**.

Table 21 – Background Vehicular Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	Background					
				AM			PM		
				LOS	% of Base FFS	Vol	LOS	% of Base FFS	Vol
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	D	46.9	938	D	44.7	1,298
		Eastbound	D	**E**	**38.6**	**1,284**	**E**	**38.0**	**920**
	between Arguello St and Industrial Way/Winslow St	Westbound	D	**E**	**36.7**	**878**	**E**	**31.5**	**1,239**
		Eastbound	D	**F**	**25.0**	**1,200**	**F**	**20.4**	**761**
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	**E**	**39.4**	**1,290**	**F**	**29.4**	**1,714**
		Eastbound	D	**F**	**17.8**	**1,438**	**F**	**28.1**	**881**
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	C	54.7	1,410	D	47.4	1,395
		Eastbound	D	**F**	**2.9**	**2,132**	**F**	**3.6**	**1,835**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	**F**	**25.0**	**361**	**F**	**21.0**	**697**
		Eastbound	D	**F**	**29.4**	**665**	**F**	**28.5**	**327**
	between Arguello St and Veterans Blvd	Westbound	D	C	63.9	374	C	60.1	555
		Eastbound	D	C	56.8	529	C	51.6	345
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	D	43.4	1,456	D	44.2	1,733
		Southbound	E	D	45.1	1,442	D	42.8	1,521
	between Brewster Ave and Jefferson Ave	Northbound	E	**F**	**22.6**	**1,486**	**F**	**26.9**	**1,657**
		Southbound	E	**F**	**19.0**	**1,498**	**F**	**21.6**	**1,593**

Note: Roadway segments that are operating below acceptable levels are shown in **BOLD**.

Table 22 – Background Multimodal Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	Pedestrian				Bicycle				Transit			
				Background				Background				Background			
				AM		PM		AM		PM		AM		PM	
				LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	C	3.28	C	3.46	B	2.59	B	3.68	A	1.96	B	2.08
		Eastbound	D	C	3.02	B	2.71	B	2.66	B	2.51	B	2.40	B	2.36
	between Arguello St and Industrial Way/Winslow St	Westbound	D	C	3.05	C	3.26	B	2.33	B	2.44	B	2.34	B	2.61
		Eastbound	D	D	3.55	C	3.14	B	2.55	B	2.38	C	2.99	C	3.17
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	C	3.14	C	3.27	B	2.46	B	2.61	B	2.29	C	2.79
		Eastbound	D	C	3.33	C	2.98	B	2.47	B	2.25	C	3.37	C	2.76
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	C	3.10	C	3.03	B	2.71	B	2.67	A	1.71	A	1.95
		Eastbound	D	**F**	**5.18**	**E**	**4.47**	C	2.78	B	2.69	**E**	**4.98**	**E**	**4.82**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	B	2.28	B	2.42	B	2.19	B	2.33	C	2.78	C	3.01
		Eastbound	D	B	2.53	B	2.24	B	2.22	A	1.95	A	1.18	A	1.10
	between Arguello St and Veterans Blvd	Westbound	D	B	2.68	B	2.73	B	2.31	B	2.43	A	0.48	A	0.53
		Eastbound	D	B	2.73	B	2.35	C	2.76	B	2.48	A	1.56	A	1.63
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	D	3.65	D	3.80	C	2.78	C	2.86	A	1.93	B	2.05
		Southbound	E	D	4.09	D	3.94	C	2.87	C	2.84	B	2.03	A	1.97
	between Brewster Ave and Jefferson Ave	Northbound	E	D	3.65	D	3.62	C	2.81	C	2.86	C	3.36	C	3.22
		Southbound	E	D	3.90	D	3.95	C	2.84	C	2.86	C	3.03	C	2.79

Note: Multimodal roadway segments that are operating below acceptable levels are shown in **BOLD**.

BACKGROUND SIGNAL WARRANT

Signal warrants were evaluated at the two (2) unsignalized study intersections under Background Conditions. Neither intersections satisfy the peak hour signal warrant. Analysis sheets are provided in the **Appendix**.

BACKGROUND PLUS PROJECT

BACKGROUND PLUS PROJECT INTERSECTION LEVEL OF SERVICE

Background Plus Project traffic conditions were evaluated at the study intersections and are shown in **Figure 13**. Results are presented in **Table 23**. All study intersections function within acceptable LOS standards under this analysis scenario, except for the following intersections:

- #5 – Whipple Avenue & El Camino Real (PM peak hour)
  - Intersection operating unacceptably without the project with increase in delay by more than five (5) seconds – **Project deficiency**
- #10 – Jefferson Avenue & El Camino Real (AM peak hour)
  - Intersection operating unacceptably without the project with increase in delay by less than five (5) seconds– **Not a project deficiency**

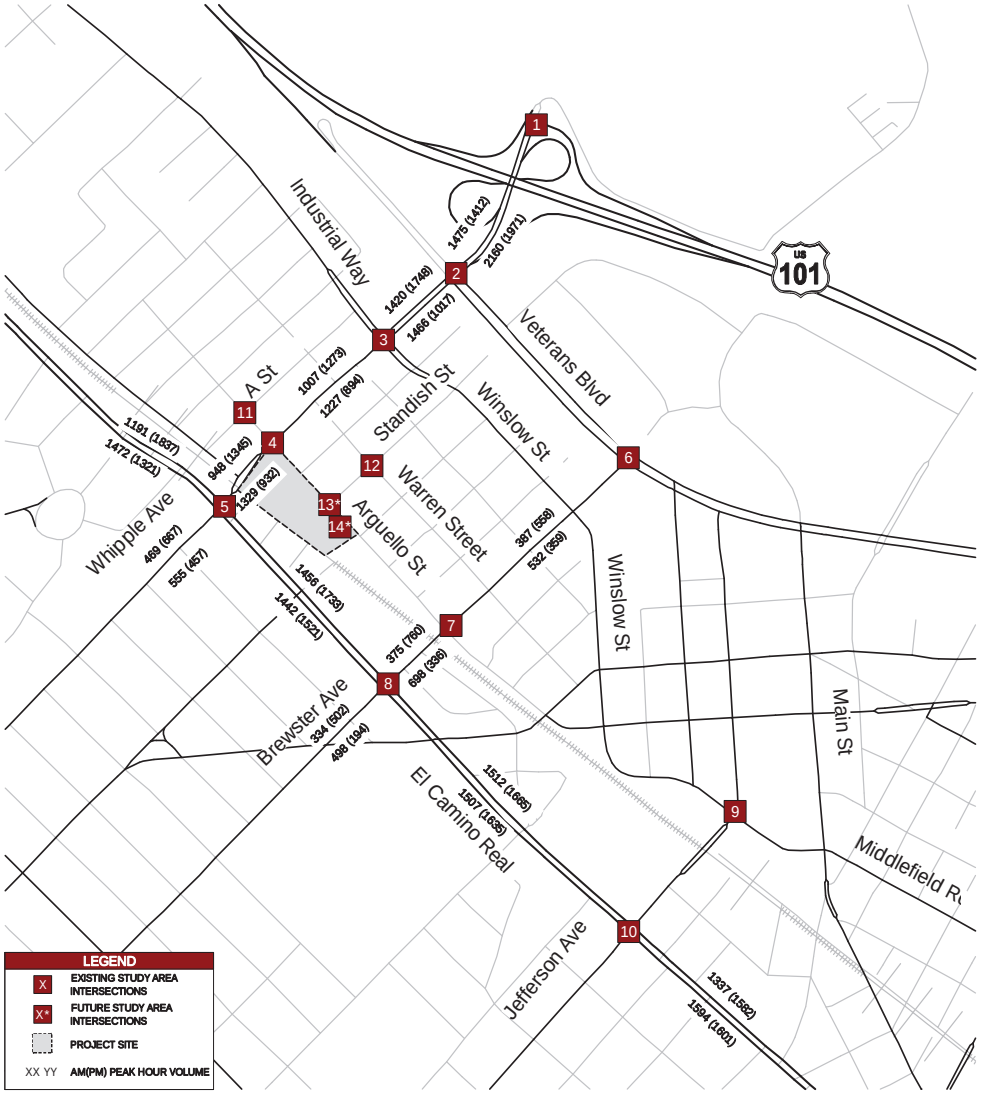
Analysis sheets are provided in the **Appendix**.

BACKGROUND PLUS PROJECT ROADWAY ANALYSIS

Traffic operations were evaluated at the study roadway segments under existing conditions plus traffic generated by the project. Vehicular results of the analysis are presented in **Table 24** and multimodal results in **Table 25**. Some segments operate unacceptably but are not considered a project deficiency because each segment is operating unacceptably without the project and the increase in vehicular volume is less than five (5) percent. These segments are listed below:

- Whipple Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Arguello Street and Industrial Way/Winslow Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hour: Vehicular)
- Whipple Avenue between Industrial Way/Winslow Street and Veterans Boulevard
  - Eastbound (AM and PM peak hour: Vehicular)
  - Westbound (PM peak hour: Vehicular)
- Whipple Avenue between Veterans Boulevard and US 101 NB Off-Ramp
  - Eastbound (AM and PM peak hours: Vehicular, Pedestrian, & Transit)
- Brewster Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- El Camino Real between Brewster Avenue and Jefferson Avenue
  - Northbound (AM and PM peak hours: Vehicular)
  - Southbound (AM and PM peak hours: Vehicular)

Analysis sheets are provided in the **Appendix**.



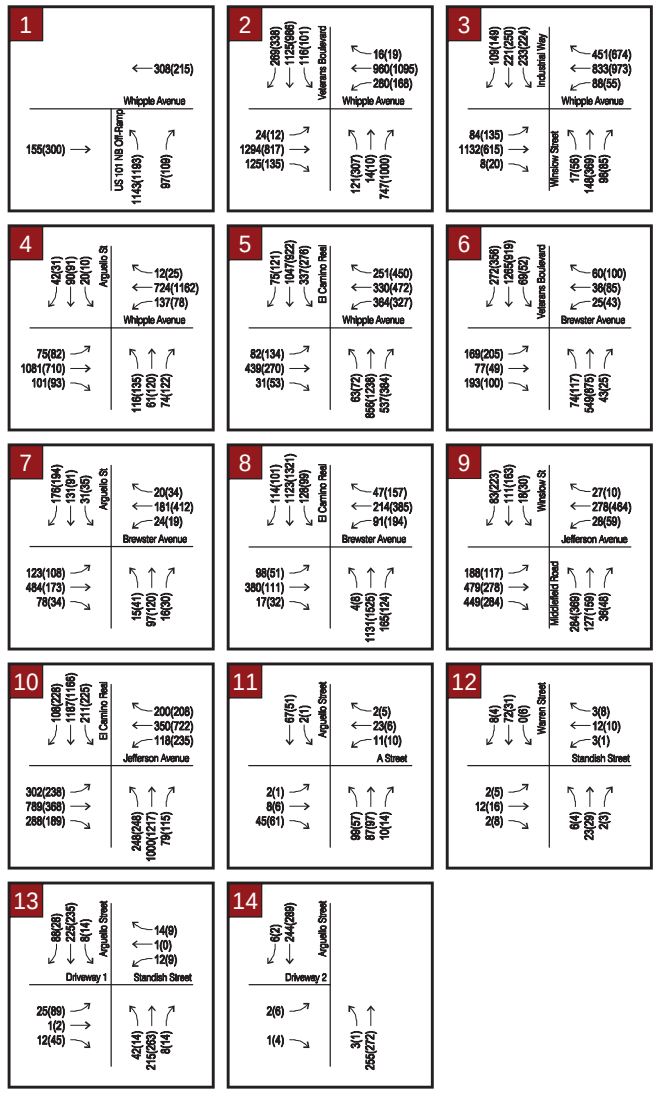


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FIGURE 13
BACKGROUND PLUS PROJECT CONDITIONS PEAK HOUR TURNING MOVEMENT AND ROADWAY SEGMENT VOLUMES
1125 ARGUELLO STREET LTA

Table 23 - Background Plus Proposed Project Intersection Level of Service Summary

#	Intersection	LOS Criteria[1]	Jurisdiction	Control[2]	Background				Background Plus Project					
					AM Peak		PM Peak		AM Peak			PM Peak		
					LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay[3] (sec)	Delay Var (sec)	LOS	Delay[3] (sec)	Delay Var (sec)
1	Whipple Avenue & US-101 NB Off-Ramp	D	Caltrans	Signal	C	26.0	C	28.8	C	31.9	5.9	C	30.7	1.9
2	Whipple Avenue & Veterans Boulevard	D	City	Signal	D	51.9	D	46.7	D	51.9	0.0	D	47.1	0.4
3	Whipple Avenue & Industrial Way-Winslow Street	D	City	Signal	C	21.5	D	47.2	C	21.0	-0.5	D	46.8	-0.4
4	Whipple Avenue & Arguello Street	D	City	Signal	C	22.6	B	13.7	C	29.2	6.6	B	15.9	2.2
5	Whipple Avenue & El Camino Real	E	Caltrans	Signal	D	47.4	E	73.7	D	49.0	1.6	**F**	**80.5**	**6.8**
6	Brewster Avenue & Veterans Boulevard	E	City	Signal	D	38.3	D	37.2	D	38.7	0.4	D	37.3	0.1
7	Brewster Avenue & Arguello Street	E	City	Signal	D	40.5	C	33.9	D	42.2	1.7	D	36.7	2.8
8	Brewster Avenue & El Camino Real	E	Caltrans	Signal	C	24.3	C	25.5	C	24.3	0	C	25.8	0.3
9	Jefferson Avenue & Middlefield Road	E	City	Signal	C	26.9	D	42.5	C	27.6	0.7	D	44.4	1.9
10	Jefferson Avenue & El Camino Real	E	Caltrans	Signal	**F**	**85.1**	E	65.7	**F**	**86.4**	**1.3**	E	66.9	1.2
11	A Street & Arguello Street	D	City	AWSC	A	8.3	A	7.9	A	8.3	0.0	A	8.0	0.1
12	Standish Street & Warren Street	D	City	AWSC	A	7.3	A	7.2	A	7.3	0.0	A	7.2	0.0
13	Arguello Street & Driveway 1	D	City	SSSC	Future Intersection				C	16.2	-	B	14.2	-
14	Arguello Street & Driveway 2	D	City	SSSC	Future Intersection				B	10.9	-	B	10.7	-

Note: Intersections that are operating below acceptable levels are shown in **BOLD**. Project caused deficiencies are shaded.

1 Intersection #5 is a CMP intersection with a LOS threshold of LOS E. Intersections #6 - 10 are within the Downtown Specific Plan with a LOS threshold of LOS E.

2 SSSC = Side Street Stop Control; AWSC = All Way Stop Control

3 The average control delay is reported for signalized and AWSC intersections. The delay for the worst movement is reported for SSSC intersections.

Table 24 – Background Plus Project Vehicular Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	Background						Background + Project							
				AM			PM			AM				PM			
				LOS	% of Base FFS	Vol	LOS	% of Base FFS	Vol	LOS	% of Base FFS	Vol	% Change Vol	LOS	% of Base FFS	Vol	% Change Vol
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	D	46.9	938	D	44.7	1,298	D	48.4	945	0.0	D	44.7	1,328	0.0
		Eastbound	D	**E**	**38.6**	**1,284**	**E**	**38.0**	**920**	**E**	**33.3**	**1,313**	**0.0**	**E**	**36.4**	**930**	**0.0**
	between Arguello St and Industrial Way/Winslow St	Westbound	D	**E**	**36.7**	**878**	**E**	**31.5**	**1,239**	**E**	**34.8**	**959**	**0.1**	**F**	**30.0**	**1,265**	**0.0**
		Eastbound	D	**F**	**25.0**	**1,200**	**F**	**20.4**	**761**	**E**	**30.4**	**1,224**	**0.0**	**F**	**19.8**	**842**	**0.1**
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	**E**	**39.4**	**1,290**	**F**	**29.4**	**1,714**	D	40.0	1,372	0.1	**F**	**29.5**	**1,740**	**0.0**
		Eastbound	D	**F**	**17.8**	**1,438**	**F**	**28.1**	**881**	**F**	**18.0**	**1,463**	**0.0**	**F**	**29.1**	**964**	**0.1**
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	C	54.7	1,410	D	47.4	1,395	C	54.6	1,451	0.0	D	47.4	1,408	0.0
		Eastbound	D	**F**	**2.9**	**2,132**	**F**	**3.6**	**1,835**	**F**	**2.9**	**2,157**	**0.0**	**F**	**3.4**	**1,918**	**0.0**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	**F**	**25.0**	**361**	**F**	**21.0**	**697**	**F**	**25.0**	**372**	**0.0**	**F**	**21.4**	**736**	**0.1**
		Eastbound	D	**F**	**29.4**	**665**	**F**	**28.5**	**327**	**F**	**27.6**	**685**	**0.0**	**E**	**31.2**	**334**	**0.0**
	between Arguello St and Veterans Blvd	Westbound	D	C	63.9	374	C	60.1	555	C	63.6	382	0.0	C	61.6	558	0.0
		Eastbound	D	C	56.8	529	C	51.6	345	C	56.8	531	0.0	C	51.6	354	0.0
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	D	43.4	1,456	D	44.2	1,733	D	43.4	1,456	0.0	D	44.2	1,733	0.0
		Southbound	E	D	45.1	1,442	D	42.8	1,521	D	44.4	1,442	0.0	D	42.7	1,521	0.0
	between Brewster Ave and Jefferson Ave	Northbound	E	**F**	**22.6**	**1,486**	**F**	**26.9**	**1,657**	**F**	**22.2**	**1,502**	**0.0**	**F**	**26.0**	**1,663**	**0.0**
		Southbound	E	**F**	**19.0**	**1,498**	**F**	**21.6**	**1,593**	**F**	**19.6**	**1,506**	**0.0**	**F**	**21.5**	**1,619**	**0.0**

Note: Roadway segments that are operating below acceptable levels are shown in **BOLD**.

Table 25 – Background Plus Project Multimodal Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	% Change Veh Vol		Pedestrian								Bicycle								Transit							
						Background				Background + Project				Background				Background + Project				Background				Background + Project			
						AM		PM		AM		PM		AM		PM		AM		PM		AM		PM		AM		PM	
				AM	PM	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	0.0	0.0	C	3.28	C	3.46	C	3.24	C	3.48	B	2.59	B	3.68	B	2.58	B	2.68	A	1.96	B	2.08	A	1.86	B	2.09
		Eastbound	D	0.0	0.0	C	3.02	B	2.71	C	3.04	B	2.72	B	2.66	B	2.51	B	2.66	B	2.51	B	2.40	B	2.36	B	2.73	B	2.44
	between Arguello St and Industrial Way/Winslow St	Westbound	D	0.1	0.0	C	3.05	C	3.26	C	3.10	C	3.27	B	2.33	B	2.44	B	2.36	B	2.45	B	2.34	B	2.61	B	2.44	B	2.69
		Eastbound	D	0.0	0.1	D	3.55	C	3.14	D	3.56	C	3.22	B	2.55	B	2.38	B	2.55	B	2.40	C	2.99	C	3.17	B	2.72	C	3.22
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	0.1	0.0	C	3.14	C	3.27	C	3.18	C	3.28	B	2.46	B	2.61	B	2.49	B	2.62	B	2.29	C	2.79	B	2.27	C	2.78
		Eastbound	D	0.0	0.1	C	3.33	C	2.98	C	3.35	C	3.04	B	2.47	B	2.25	B	2.48	B	2.28	C	3.37	C	2.76	C	3.37	B	2.72
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	0.0	0.0	C	3.10	C	3.03	C	3.10	C	3.03	B	2.71	B	2.67	B	2.71	B	2.68	A	1.71	A	1.95	A	1.71	A	1.95
		Eastbound	D	0.0	0.0	**F**	**5.18**	**E**	**4.47**	**F**	**5.20**	**E**	**4.55**	C	2.78	B	2.69	C	2.78	B	2.70	**E**	**4.98**	**E**	**4.82**	**E**	**4.99**	**E**	**4.87**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	0.0	0.1	B	2.28	B	2.42	B	2.29	B	2.44	B	2.19	B	2.33	B	2.20	B	2.35	C	2.78	C	3.01	C	2.78	C	3.02
		Eastbound	D	0.0	0.0	B	2.53	B	2.24	B	2.54	B	2.24	B	2.22	A	1.95	B	2.23	A	1.95	A	1.18	A	1.10	A	1.19	A	1.10
	between Arguello St and Veterans Blvd	Westbound	D	0.0	0.0	B	2.68	B	2.73	B	2.69	B	2.73	B	2.31	B	2.43	B	2.32	B	2.43	A	0.48	A	0.53	A	0.48	A	0.53
		Eastbound	D	0.0	0.0	B	2.73	B	2.35	B	2.74	B	2.37	C	2.76	B	2.48	C	2.76	B	2.49	A	1.56	A	1.63	A	1.56	A	1.64
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	0.0	0.0	D	3.65	D	3.80	D	3.66	D	3.80	C	2.78	C	2.86	C	2.78	C	2.86	A	1.93	B	2.05	A	1.95	B	2.06
		Southbound	E	0.0	0.0	D	4.09	D	3.94	D	4.09	D	3.94	C	2.87	C	2.84	C	2.87	C	2.84	B	2.03	A	1.97	B	2.03	A	1.97
	between Brewster Ave and Jefferson Ave	Northbound	E	0.0	0.0	D	3.65	D	3.62	D	3.65	D	3.63	C	2.81	C	2.86	C	2.82	C	2.86	C	3.36	C	3.22	C	3.33	C	3.22
		Southbound	E	0.0	0.0	D	3.90	D	3.95	D	3.91	D	3.98	C	2.84	C	2.86	C	2.84	C	2.86	C	3.03	C	2.79	C	3.05	C	2.84

Note: Multimodal roadway segments that are operating below acceptable levels are shown in **BOLD**.

BACKGROUND PLUS PROJECT SIGNAL WARRANT

Signal warrants were evaluated at the four (4) unsignalized study intersections under Background Plus Project Conditions. None of the four (4) intersection satisfy peak hour signal warrants. Analysis sheets are provided in the **Appendix**.

CUMULATIVE TRAFFIC CONDITIONS

CUMULATIVE LANE GEOMETRY

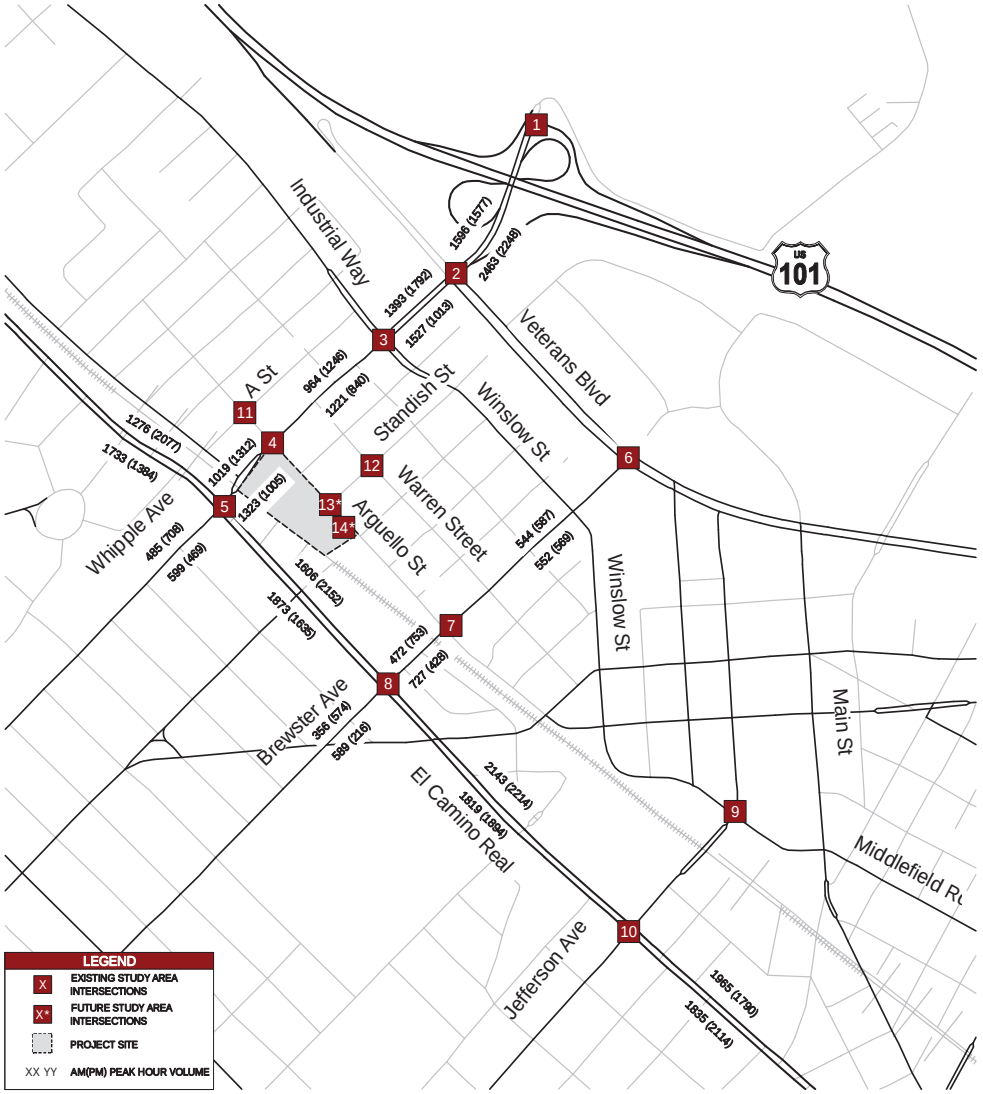
The City is currently conducting a Caltrain Grade Separation Feasibly Study which is evaluating all existing at-grade crossings in Redwood City, which would include the at-grade crossing at Whipple Avenue. Since this study is on-going and the timing of these improvements are unknown, improvements associated with this project were not assumed at the time of this LTA. Therefore, under Cumulative condition, no roadway improvement was assumed, and existing lane geometry was assumed as shown in **Figure 4**.

CUMULATIVE TRAFFIC VOLUME

To achieve Cumulative traffic conditions, traffic volumes from approved and pending projects were added to existing volumes. In addition to approved projects listed in **Table 19**, pending projects listed in **Table 26** were assumed. Cumulative volumes are shown in **Figure 14**.

Table 26 – Pending Background Development Projects

Project	Project Description
320-350 Blomquist Street	765,150 SF office 35,000 SF amenities
505 E Bayshore Road	60 townhomes
2300 Broadway	200,000 SF office
1057 El Camino Real	1,250,000 SF office 175,000 SF retail
901 El Camino Real	169,686 SF office 4,462 SF teen center 4,000 SF public open space
690 Veterans Boulevard	91-room hotel
1690 Broadway	112-room hotel
1404 Broadway	520-unit multi-family residential 420,000 SF office 26,000 SF retail
1548 Maple Street	131-unit multi-family residential
1601 El Camino Real	540-unit multi-family residential 530,000 SF office 28,841 sf retail



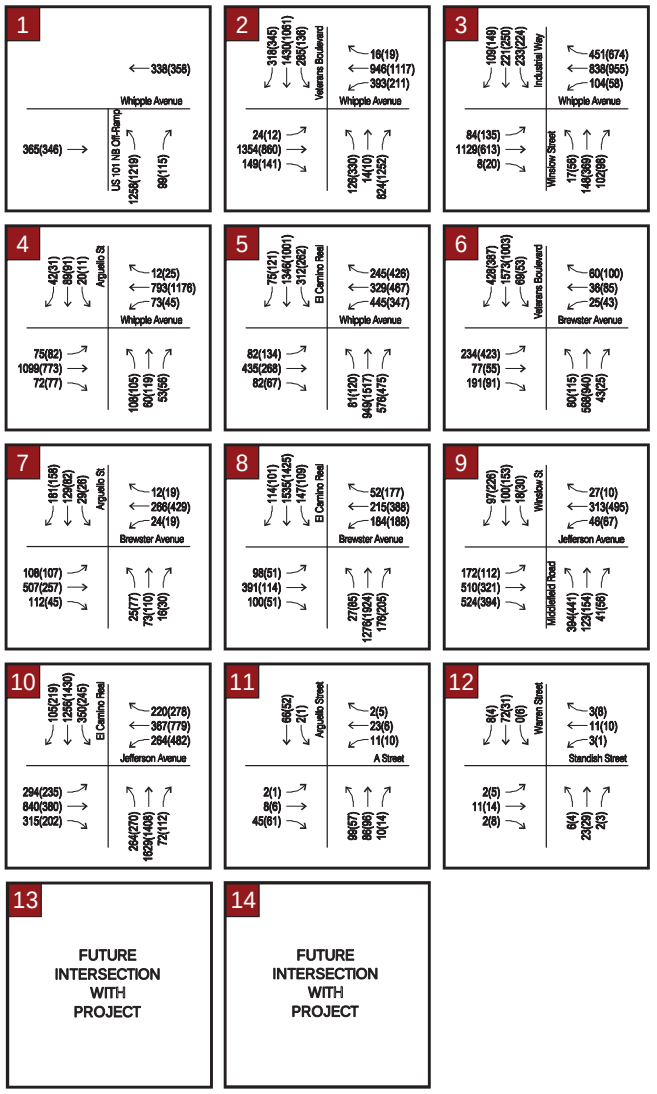


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FIGURE 14
CUMULATIVE CONDITIONS PEAK HOUR TURNING MOVEMENT AND ROADWAY SEGMENT VOLUMES
1125 ARGUELLO STREET LTA

CUMULATIVE INTERSECTIONS LEVEL OF SERVICE

Cumulative volumes were evaluated at the study intersections and are presented in **Figure 14**. Results are presented in **Table 27.** All study intersections function within acceptable LOS standards under this analysis scenario, except for the following intersections:

- #2 – Whipple Avenue & Veterans Boulevard (AM and PM peak hours)
- #6 – Brewster Avenue & Veterans Boulevard (AM peak hour)
- #8 – Brewster Avenue & El Camino Real (PM peak hour)
- #10 – Jefferson Avenue & El Camino Real (AM and PM Peak Hours)

Analysis sheets are provided in the **Appendix**.

CUMULATIVE ROADWAY ANALYSIS

Traffic operations were evaluated at the study roadway segments under cumulative conditions. Vehicular results of the analysis are presented in **Table 28** and multimodal results in **Table 29**. All study roadway segments function within acceptable LOS standards under this analysis scenario, except for the following segments:

- Whipple Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Arguello Street and Industrial Way/Winslow Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Industrial Way/Winslow Street and Veterans Boulevard
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (PM peak hours: Vehicular)
- Whipple Avenue between Veterans Boulevard and US 101 NB Off-Ramp
  - Eastbound (AM and PM peak hours: Vehicular, Pedestrian, & Transit)
- Brewster Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- El Camino Real between Whipple Avenue and Brewster Avenue
  - Northbound (AM peak hour: Vehicular)
- El Camino Real between Brewster Avenue and Jefferson Avenue
  - Northbound (AM and PM peak hours: Vehicular)
  - Southbound (AM and PM peak hours: Vehicular)

Analysis sheets are provided in the **Appendix**.

CUMULATIVE SIGNAL WARRANT

Signal warrants were evaluated at the two (2) unsignalized study intersections under Cumulative Conditions. Neither intersection satisfy the peak hour signal warrant. Analysis sheets are provided in the **Appendix**.

Table 27 - Cumulative Intersection Level of Service Summary

#	Intersection	LOS Criteria[1]	Jurisdiction	Control[2]	Cumulative			
					AM Peak		PM Peak	
					LOS	Delay (sec)	LOS	Delay (sec)
1	Whipple Avenue & US-101 NB Off-Ramp	D	Caltrans	Signal	D	49.9	C	33.0
2	Whipple Avenue & Veterans Boulevard	D	City	Signal	**F**	**81.5**	**E**	**68.2**
3	Whipple Avenue & Industrial Way-Winslow Street	D	City	Signal	C	21.9	D	47.2
4	Whipple Avenue & Arguello Street	D	City	Signal	C	23.3	B	13.6
5	Whipple Avenue & El Camino Real	E	Caltrans	Signal	D	54.2	E	79.7
6	Brewster Avenue & Veterans Boulevard	E	City	Signal	**F**	**80.3**	D	37.9
7	Brewster Avenue & Arguello Street	E	City	Signal	D	46.1	D	35.5
8	Brewster Avenue & El Camino Real	E	Caltrans	Signal	C	27.1	**F**	**91.7**
9	Jefferson Avenue & Middlefield Road	E	City	Signal	D	39.0	E	60.7
10	Jefferson Avenue & El Camino Real	E	Caltrans	Signal	**F**	**182.3**	**F**	**110.4**
11	A Street & Arguello Street	D	City	AWSC	A	8.3	A	7.9
12	Standish Street & Warren Street	D	City	AWSC	A	7.3	A	7.2
13	Arguello Street & Driveway 1	D	City	SSSC	Future Intersection			
14	Arguello Street & Driveway 2	D	City	SSSC	Future Intersection			
15	Arguello Street & Driveway 3	D	City	SSSC	Future Intersection			

Note: Intersections that are operating below acceptable levels are shown in **BOLD**.

1 Intersection #5 is a CMP intersection with a LOS threshold of LOS E. Intersections #6 - 10 are within the Downtown Specific Plan with a LOS threshold of LOS E.

2 SSSC = Side Street Stop Control; AWSC = All Way Stop Control

3 The average control delay is reported for signalized and AWSC intersections. The delay for the worst movement is reported for SSSC intersections.

Table 28 – Cumulative Vehicular Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	Cumulative					
				AM			PM		
				LOS	% of Base FFS	Vol	LOS	% of Base FFS	Vol
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	D	46.3	1,019	D	43.3	1,312
		Eastbound	D	**E**	**38.2**	**1,323**	**E**	**37.9**	**1,005**
	between Arguello St and Industrial Way/Winslow St	Westbound	D	**E**	**35.1**	**964**	**F**	**28.8**	**1,246**
		Eastbound	D	**F**	**25.5**	**1,221**	**F**	**19.8**	**840**
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	D	41.0	1,393	**F**	**29.4**	**1,792**
		Eastbound	D	**F**	**17.8**	**1,527**	**F**	**29.4**	**1,013**
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	C	54.9	1,596	D	46.5	1,577
		Eastbound	D	**F**	**2.5**	**2,463**	**F**	**2.7**	**2,248**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	**F**	**22.9**	**472**	**F**	**21.3**	**753**
		Eastbound	D	**F**	**27.2**	**727**	**E**	**31.2**	**428**
	between Arguello St and Veterans Blvd	Westbound	D	C	63.8	544	C	61.5	587
		Eastbound	D	C	56.9	552	C	51.6	569
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	**F**	**28.4**	**1,606**	D	42.6	2,152
		Southbound	E	D	47.3	1,873	D	45.8	1,635
	between Brewster Ave and Jefferson Ave	Northbound	E	**F**	**10.0**	**2,143**	**F**	**15.4**	**2,214**
		Southbound	E	**F**	**7.5**	**1,819**	**F**	**7.5**	**1,894**

Note: Roadway segments that are operating below acceptable levels are shown in **BOLD**.

Table 29 – Cumulative Multimodal Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	Pedestrian				Bicycle				Transit			
				Cumulative				Cumulative				Cumulative			
				AM		PM		AM		PM		AM		PM	
				LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	C	3.23	D	3.52	B	2.61	B	2.70	A	1.99	B	2.15
		Eastbound	D	C	3.03	B	2.68	B	2.67	B	2.52	B	2.42	B	2.38
	between Arguello St and Industrial Way/Winslow St	Westbound	D	C	3.11	C	3.33	B	2.36	B	2.46	B	2.42	C	2.75
		Eastbound	D	D	3.59	C	3.24	B	2.56	B	2.42	C	2.97	C	3.22
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	C	3.19	C	3.35	B	2.50	B	2.64	B	2.23	C	2.81
		Eastbound	D	C	3.36	C	3.06	B	2.49	B	2.29	C	3.38	B	2.71
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	C	3.12	C	3.14	B	2.72	B	2.73	A	1.71	B	2.01
		Eastbound	D	**F**	**5.48**	**E**	**4.97**	C	2.83	C	2.76	**F**	**5.10**	**F**	**5.04**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	B	2.39	B	2.48	B	2.29	B	2.36	C	2.92	C	3.05
		Eastbound	D	B	2.52	B	2.30	B	2.23	B	2.03	A	1.20	A	1.13
	between Arguello St and Veterans Blvd	Westbound	D	C	2.80	C	2.76	B	2.42	B	2.44	A	0.51	A	0.53
		Eastbound	D	C	2.77	B	2.47	C	2.78	B	2.60	A	1.56	A	1.67
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	C	3.33	C	3.48	B	2.69	C	2.82	A	1.77	A	1.85
		Southbound	E	E	4.54	D	4.06	C	2.98	C	2.88	C	2.80	B	2.05
	between Brewster Ave and Jefferson Ave	Northbound	E	D	3.59	D	3.67	C	2.80	C	2.95	D	4.12	D	4.10
		Southbound	E	E	4.44	D	4.09	C	2.96	C	2.91	D	3.96	D	3.51

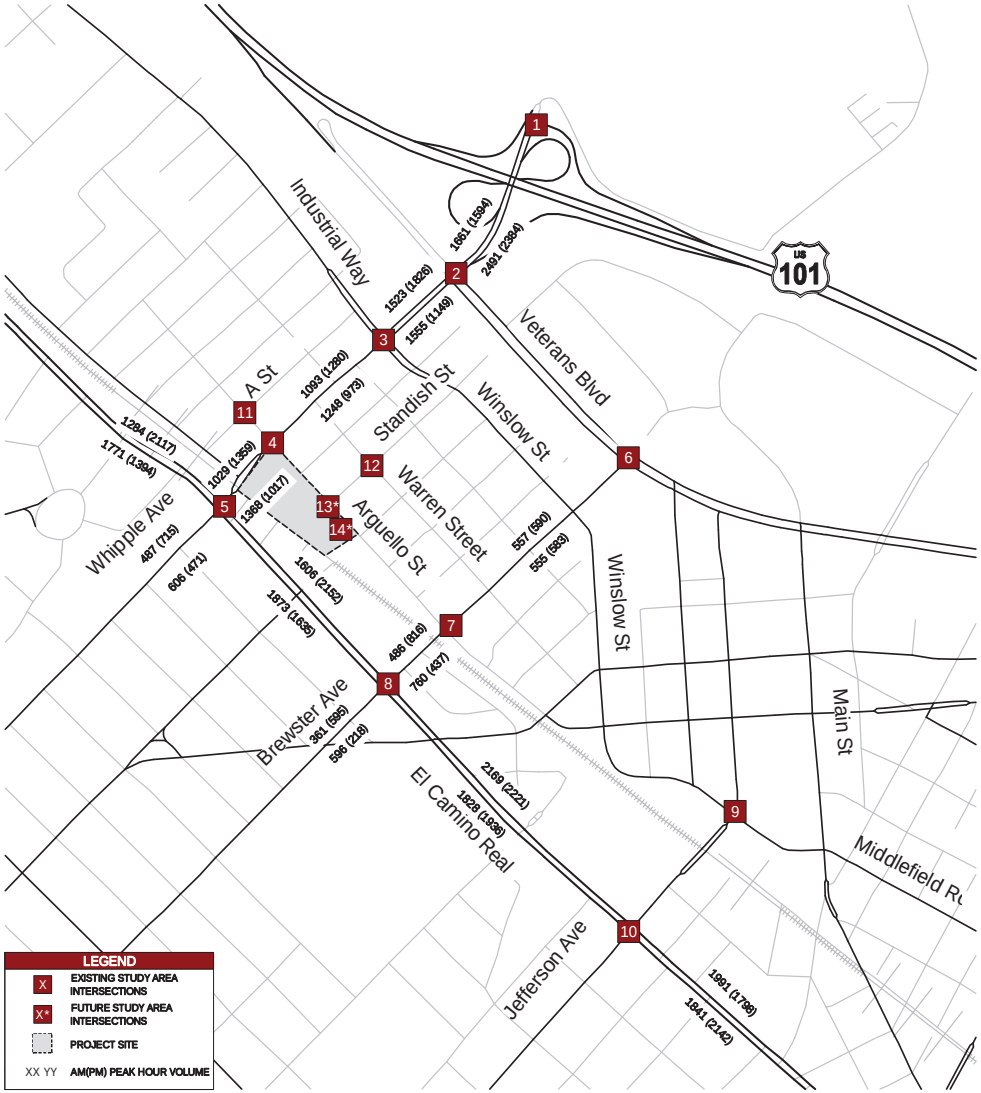
Note: Multimodal roadway segments that are operating below acceptable levels are shown in **BOLD**.

CUMULATIVE PLUS PROJECT

CUMULATIVE PLUS PROJECT INTERSECTION LEVEL OF SERVICE

Cumulative Plus Project traffic conditions were evaluated at the study intersections and are shown in **Figure 15**. Results of the analysis are presented in **Table 30**. All study intersections function within acceptable LOS standards under this analysis scenario, except for the following intersections:

- #1 – Whipple Avenue & US-101 NB Off-Ramp (AM Peak Hour)
  - Intersection operating acceptably without the project and operates unacceptably with the addition of the project – **Project deficiency**
- #2 – Whipple Avenue & Veterans Boulevards (AM and PM Peak Hours)
  - Intersection operating unacceptably without the project with increase in delay by less than five (5) seconds– **Not a project deficiency**
- #5 – Whipple Avenue & El Camino Real (PM Peak Hour)
  - Intersection operating acceptably without the project and operates unacceptably with the addition of the project– **Project deficiency**
- #6– Brewster Avenue & Veterans Boulevard (AM Peak Hour)
  - Intersection operating unacceptably without the project with increase in delay by less than five (5) seconds– **Not a project deficiency**
- #8 – Brewster Avenue & El Camino Real (PM Peak Hour)
  - Intersection operating unacceptably without the project with increase in delay by less than five (5) seconds– **Not a project deficiency**
- #9 – Jefferson Avenue & Middlefield Road (PM Peak Hours)
  - Intersection operating unacceptably without the project with increase in delay by less than five (5) seconds– **Not a project deficiency**
- #10 – Jefferson Avenue & El Camino Real (AM and PM Peak Hours)
  - Intersection operating unacceptably without the project with increase in delay by less than five (5) seconds– **Not a project deficiency**



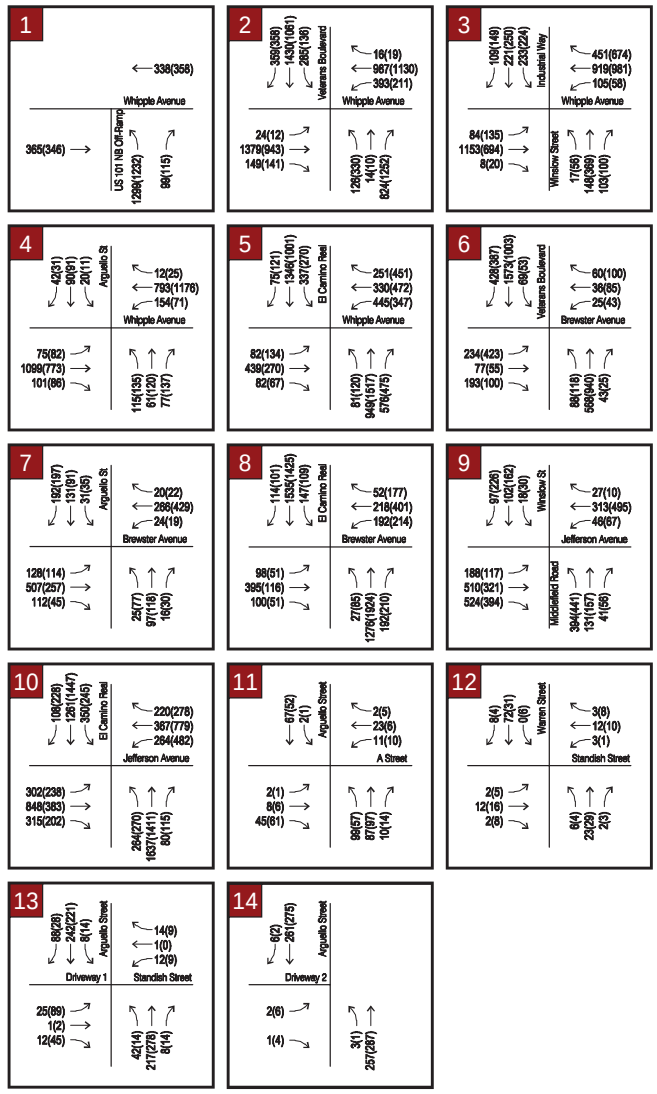


FIGURE 15
CUMULATIVE CONDITIONS PLUS PROJECT PEAK HOUR TURNING MOVEMENT AND ROADWAY SEGMENT VOLUMES
1125 ARGUELLO STREET LTA

Kimley»Horn

NOT TO SCALE

197134003 NOVEMBER 2021

Table 30 - Cumulative Plus Project Intersection Level of Service Summary

#	Intersection	LOS Criteria[1]	Jurisdiction	Control[2]	Cumulative				Cumulative Plus Project					
					AM Peak		PM Peak		AM Peak			PM Peak		
					LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay[3] (sec)	Delay Var (sec)	LOS	Delay[3] (sec)	Delay Var (sec)
1	Whipple Avenue & US-101 NB Off-Ramp	D	Caltrans	Signal	D	49.9	C	33.0	**E**	**58.9**	**9.0**	C	34.9	1.9
2	Whipple Avenue & Veterans Boulevard	D	City	Signal	**F**	**81.5**	**E**	**68.2**	**F**	**81.4**	**-0.1**	**E**	**68.4**	**0.2**
3	Whipple Avenue & Industrial Way-Winslow Street	D	City	Signal	C	21.9	D	47.2	C	21.3	-0.6	D	46.9	-0.3
4	Whipple Avenue & Arguello Street	D	City	Signal	C	23.3	B	13.6	C	32.0	8.7	B	15.7	2.1
5	Whipple Avenue & El Camino Real	E	Caltrans	Signal	D	54.2	E	79.7	E	55.8	1.6	**F**	**86**	**6.3**
6	Brewster Avenue & Veterans Boulevard	E	City	Signal	**F**	**80.3**	D	37.9	**E**	**79.9**	**-0.4**	D	38.0	0.1
7	Brewster Avenue & Arguello Street	E	City	Signal	D	46.1	D	35.5	D	48.8	2.7	D	38.3	2.8
8	Brewster Avenue & El Camino Real	E	Caltrans	Signal	C	27.1	**F**	**91.7**	C	27.4	0.3	**F**	**91.4**	**-0.3**
9	Jefferson Avenue & Middlefield Road	E	City	Signal	D	39.0	E	60.7	D	40.3	1.3	E	63.2	2.5
10	Jefferson Avenue & El Camino Real	E	Caltrans	Signal	**F**	**182.3**	**F**	**110.4**	**F**	**184.0**	**1.7**	**F**	**112.4**	**2**
11	A Street & Arguello Street	D	City	AWSC	A	8.3	A	7.9	A	8.3	0.0	A	8.0	0.1
12	Standish Street & Warren Street	D	City	AWSC	A	7.3	A	7.2	A	7.3	0.0	A	7.2	0.0
13	Arguello Street & Driveway 1	D	City	SSSC	Future Intersection				C	16.6	-	B	14.5	-
14	Arguello Street & Driveway 2	D	City	SSSC	Future Intersection				B	11.0	-	B	10.9	-

Note: Intersections that are operating below acceptable levels are shown in **BOLD**. Project caused deficiencies are shaded.

1 Intersection #5 is a CMP intersection with a LOS threshold of LOS E. Intersections #6 - 10 are within the Downtown Specific Plan with a LOS threshold of LOS E.

2 SSSC = Side Street Stop Control; AWSC = All Way Stop Control

3 The average control delay is reported for signalized and AWSC intersections. The delay for the worst movement is reported for SSSC intersections.

CUMULATIVE PLUS PROJECT ROADWAY ANALYSIS

Traffic operations were evaluated at the study roadway segments under existing conditions plus traffic generated by the project. Vehicular results of the analysis are presented in **Table 31** and multimodal results in **Table 32**. Some segments operate unacceptably but are not considered a project deficiency because each segment is operating unacceptably without the project and the increase in vehicular volume is less than five (5) percent. These segments are listed include:

- Whipple Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Arguello Street and Industrial Way/Winslow Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- Whipple Avenue between Industrial Way/Winslow Street and Veterans Boulevard
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (PM peak hour: Vehicular)
- Whipple Avenue between Veterans Boulevard and US 101 NB Off-Ramp
  - Eastbound (AM and PM peak hours: Vehicular, Pedestrian, & Transit)
- Brewster Avenue between El Camino Real and Arguello Street
  - Eastbound (AM and PM peak hours: Vehicular)
  - Westbound (AM and PM peak hours: Vehicular)
- El Camino Real between Brewster Avenue and Jefferson Avenue
  - Northbound (AM peak hour: Vehicular)
  - Southbound (AM and PM peak hours: Vehicular)

Analysis sheets are provided in the **Appendix**.

CUMULATIVE PLUS PROJECT SIGNAL WARRANT

Signal warrants were evaluated at the four (4) unsignalized study intersections under Cumulative Plus Project Conditions. None of the four (4) intersections satisfy the peak hour signal warrant. Analysis sheets are provided in the **Appendix**.

INTERSECTION VEHICLE QUEUING

The effect of vehicle queuing at key movements were evaluated. The 95th percentile queue was estimated based on HCM 6 methodology within the *Synchro 10* software and is summarized in **Table 33**.

The Project would result in the following queueing deficiencies:

- Intersection #2 - Whipple Avenue & Veterans Boulevard, southbound right
- Intersection #4 - Whipple Avenue & Arguello Street, westbound left
- Intersection #5 - Whipple Avenue & El Camino Real, westbound right
- Intersection #8 - Brewster Avenue & El Camino Real, westbound left

A summary of the queuing results is included in the **Appendix**.

Table 31 – Cumulative Plus Project Vehicular Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	Cumulative						Cumulative + Project							
				AM			PM			AM				PM			
				LOS	% of Base FFS	Vol	LOS	% of Base FFS	Vol	LOS	% of Base FFS	Vol	% Change Vol	LOS	% of Base FFS	Vol	% Change Vol
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	D	46.3	1,019	D	43.3	1,312	C	50.3	1,026	0.0	D	41.6	1,342	0.0
		Eastbound	D	**E**	**38.2**	**1,323**	**E**	**37.9**	**1,005**	**E**	**32.9**	**1,352**	**0.0**	**E**	**35.3**	**1,015**	**0.0**
	between Arguello St and Industrial Way/Winslow St	Westbound	D	**E**	**35.1**	**964**	**F**	**28.8**	**1,246**	**E**	**33.8**	**1,045**	**0.1**	**F**	**2.5**	**1,272**	**0.0**
		Eastbound	D	**F**	**25.5**	**1,221**	**F**	**19.8**	**840**	**E**	**31.0**	**1,245**	**0.0**	**F**	**20.1**	**921**	**0.1**
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	D	41.0	1,393	**F**	**29.4**	**1,792**	D	41.4	1,475	0.1	**F**	**30.0**	**1,818**	**0.0**
		Eastbound	D	**F**	**17.8**	**1,527**	**F**	**29.4**	**1,013**	**F**	**18.0**	**1,552**	**0.0**	**E**	**30.8**	**1,096**	**0.1**
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	C	54.9	1,596	D	46.5	1,577	C	54.8	1,637	0.0	D	46.5	1,590	0.0
		Eastbound	D	**F**	**2.5**	**2,463**	**F**	**2.7**	**2,248**	**F**	**2.5**	**2,488**	**0.0**	**F**	**2.5**	**2,331**	**0.0**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	**F**	**22.9**	**472**	**F**	**21.3**	**753**	**F**	**24.0**	**483**	**0.0**	**F**	**20.9**	**792**	**0.1**
		Eastbound	D	**F**	**27.2**	**727**	**E**	**31.2**	**428**	**F**	**28.6**	**74**	**-0.9**	**F**	**28.3**	**435**	**0.0**
	between Arguello St and Veterans Blvd	Westbound	D	C	63.8	544	C	61.5	587	C	65.9	552	0.0	C	60.1	590	0.0
		Eastbound	D	C	56.9	552	C	51.6	569	C	56.8	554	0.0	C	51.5	578	0.0
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	**F**	**28.4**	**1,606**	D	42.6	2,152	**F**	**28.3**	**1,606**	0.0	D	42.6	2,152	0.0
		Southbound	E	D	47.3	1,873	D	45.8	1,635	D	46.8	1,873	0.0	D	45.9	1,635	0.0
	between Brewster Ave and Jefferson Ave	Northbound	E	**F**	**10.0**	**2,143**	**F**	**15.4**	**2,214**	**F**	**9.9**	**2,159**	**0.0**	**F**	**14.9**	**2,219**	**0.0**
		Southbound	E	**F**	**7.5**	**1,819**	**F**	**7.5**	**1,894**	**F**	**7.7**	**1,827**	**0.0**	**F**	**7.6**	**1,920**	**0.0**

Note: Roadway segments that are operating below acceptable levels are shown in **BOLD**.

Table 32 – Cumulative Plus Project Multimodal Roadway Segment Analysis

Roadway	Segment	Direction	LOS Criteria	% Change Veh Vol		Pedestrian								Bicycle								Transit							
						Cumulative				Cumulative + Project				Cumulative				Cumulative + Project				Cumulative				Cumulative + Project			
						AM		PM		AM		PM		AM		PM		AM		PM		AM		PM		AM		PM	
				AM	PM	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score	LOS	Score
Whipple Avenue	between El Camino Real and Arguello St	Westbound	D	0.0	0.0	C	3.23	D	3.52	C	3.31	D	3.55	B	2.61	B	2.70	B	2.61	B	2.70	A	1.99	B	2.15	A	1.85	B	2.22
		Eastbound	D	0.0	0.0	C	3.03	B	2.68	C	3.08	B	2.69	B	2.67	B	2.52	B	2.68	B	2.52	B	2.42	B	2.38	B	2.66	B	2.49
	between Arguello St and Industrial Way/Winslow St	Westbound	D	0.1	0.0	C	3.11	C	3.33	C	3.15	C	3.34	B	2.36	B	2.46	B	2.39	B	2.47	B	2.42	C	2.75	B	2.49	C	2.82
		Eastbound	D	0.0	0.1	D	3.59	C	3.24	D	3.57	C	3.32	B	2.56	B	2.42	B	2.56	B	2.44	C	2.97	C	3.22	B	2.69	C	3.22
	between Industrial Way/Winslow St and Veterans Blvd	Westbound	D	0.1	0.0	C	3.19	C	3.35	C	3.22	C	3.36	B	2.50	B	2.64	B	2.53	B	2.64	B	2.23	C	2.81	B	2.23	C	2.78
		Eastbound	D	0.0	0.1	C	3.36	C	3.06	C	3.36	C	3.12	B	2.49	B	2.29	B	2.49	B	2.32	C	3.38	B	2.71	C	3.37	B	2.66
	between Veterans Blvd and US 101 NB Off Ramp	Westbound	D	0.0	0.0	C	3.12	C	3.14	C	3.12	C	3.14	B	2.72	B	2.73	B	2.73	B	2.73	A	1.71	B	2.01	A	1.71	B	2.01
		Eastbound	D	0.0	0.0	**F**	**5.48**	**E**	**4.97**	**F**	**5.49**	**F**	**5.09**	C	2.83	C	2.76	C	2.83	C	2.77	**F**	**5.10**	**F**	**5.04**	**F**	**5.10**	**F**	**5.08**
Brewster Avenue	between El Camino Real and Arguello St	Westbound	D	0.0	0.1	B	2.39	B	2.48	B	2.25	B	2.50	B	2.29	B	2.36	B	2.13	B	2.38	C	2.92	C	3.05	C	2.81	C	3.06
		Eastbound	D	-0.9	0.0	B	2.52	B	2.30	B	2.54	B	2.31	B	2.23	B	2.03	B	2.24	B	2.04	A	1.20	A	1.13	A	1.20	A	1.13
	between Arguello St and Veterans Blvd	Westbound	D	0.0	0.0	C	2.80	C	2.76	B	2.53	C	2.76	B	2.42	B	2.44	B	2.09	B	2.44	A	0.51	A	0.53	A	0.44	A	0.53
		Eastbound	D	0.0	0.0	C	2.77	B	2.47	C	2.77	B	2.48	C	2.78	B	2.60	C	2.78	B	2.61	A	1.56	A	1.67	A	1.56	A	1.67
El Camino Real	between Whipple Ave and Brewster Ave	Northbound	E	0.0	0.0	C	3.33	C	3.48	C	3.33	C	3.48	B	2.69	C	2.82	B	2.69	C	2.82	A	1.77	A	1.85	A	1.79	A	1.86
		Southbound	E	0.0	0.0	E	4.54	D	4.06	E	4.54	D	4.06	C	2.98	C	2.88	C	2.98	C	2.88	C	2.80	B	2.05	C	2.81	B	2.05
	between Brewster Ave and Jefferson Ave	Northbound	E	0.0	0.0	D	3.59	D	3.67	D	3.59	D	3.67	C	2.80	C	2.95	C	2.80	C	2.95	D	4.12	D	4.10	D	4.11	D	4.09
		Southbound	E	0.0	0.0	E	4.44	D	4.09	E	4.45	D	4.12	C	2.96	C	2.91	C	2.96	C	2.92	D	3.96	D	3.51	D	3.97	D	3.55

Note: Multimodal roadway segments that are operating below acceptable levels are shown in **BOLD**.

Table 33 – Intersection Queuing Summary

#	Intersection	Control	Movement	Storage Length (ft)	Existing		Existing Plus Project		Background		Background Plus Project		Cumulative		Cumulative Plus Project	
					AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	Whipple Avenue & US-101 NB Off-Ramp	Signal	NBL	1000	313	321	330	326	341	351	359	356	408	369	426	374
2	Whipple Avenue & Veterans Boulevard	Signal	SBR	75	**133**	**254**	**180**	**271**	**156**	**277**	**198**	**294**	**252**	**304**	**298**	**324**
3	Whipple Avenue & Industrial Way-Winslow Street	Signal	WBL	75	**121**	65	**122**	63	**125**	63	**127**	62	**151**	64	**148**	63
			NBR	75	43	9	45	10	46	10	46	12	48	24	47	26
4	Whipple Avenue & Arguello Street	Signal	WBL	100	92	42	**257**	65	84	50	**254**	73	99	45	**262**	65
			NBL	50	**138**	**137**	**145**	**169**	**143**	**140**	**150**	**175**	**142**	**140**	**149**	**176**
			NBR	75	1	0	24	44	6	0	28	46	8	0	31	56
5	Whipple Avenue & El Camino Real	Signal	SBL	295	188	159	203	164	194	168	210	173	194	165	210	170
			WBR	80	**114**	**301**	**116**	**353**	**127**	**353**	**128**	**391**	**127**	**356**	**128**	**392**
6	Brewster Avenue & Veterans Boulevard	Signal	NBL	115	92	**149**	103	**152**	96	**156**	106	**160**	113	**157**	124	**161**
			EBR	80	45	5	45	11	45	8	46	14	45	8	46	14
7	Brewster Avenue & Arguello Street	Signal	SBL	50	46	41	48	51	47	42	50	52	47	43	50	54
8	Brewster Avenue & El Camino Real	Signal	WBL	50	**98**	**183**	**108**	**214**	**118**	**201**	**130**	**233**	**364**	**230**	**382**	**288**
			NBR	80	4	17	4	19	4	20	5	21	1	49	0	50
9	Jefferson Avenue & Middlefield Road	Signal	EBL	550	172	117	187	121	180	121	196	126	180	121	196	126
10	Jefferson Avenue & El Camino Real	Signal	SBR	260	77	104	78	104	81	113	81	113	67	134	69	134
			EBL	200	**409**	**355**	**424**	**360**	**429**	**374**	**444**	**380**	**429**	**374**	**444**	**380**
			NBR	185	32	40	34	40	35	43	37	44	43	48	49	49
13	Arguello Street & Driveway 1	SSSC	NBL	50	Plus Project Only		3	0	Plus Project Only		3	0	Plus Project Only		3	0
			EB	190			8	33			8	35			8	35
14	Arguello Street & Driveway 2	SSSC	NBL	50			0	0			0	0			0	0
			EB	20			0	3			0	3			0	3

Note: Queues exceeding available storage by greater than 25 feet are shown in **bold**.
Deficient queues that increase by more than 25 feet under project conditions are shaded.

6. SITE ACCESS AND CIRCULATION

This chapter presents discussion of the site access, on-site circulation, and parking requirement for the proposed project.

SITE ACCESS AND CIRCULATION

The proposed project was evaluated to determine if the project will provide adequate access to the site and if the project would potentially conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian and bicycle demand that would not be accommodated by existing pedestrian or bicycle facilities and plans (including RWCMoves).

VEHICLE

As shown in **Figure 6**, vehicles may access the site by two unsignalized intersections (study intersections #13 and 14) along Arguello Street.

Childcare

It is anticipated childcare traffic will utilize the 140-foot, 5-6 vehicle capacity[3], white zone adjacent to the childcare facility for child drop-off and pick-up. Parents would park within this loading zone, drop-off/pick-up their child(ren), and then continue southbound on Arguello Street.

A queueing analysis for the loading area was conducted to determine an average dwelling time for vehicles until no parking would be available. Results are summarized in **Table 34**. The queue analysis compared the arrival rate with a departure rate during the drop-off and pick-up periods over a 30-minute period rather than the typical one-hour evaluation. The arrival rate assumed a linear arrival rate over a 30-minute period based on the AM peak inbound trip generation for the drop-off period and the commute PM peak outbound trip generation for the pick-up period. The departure rate was based on dwell time between 5 and 10 minutes where vehicles would be in the loading area.

Table 34 – Childcare Loading Queuing Summary

Time Period	Vehicles		Dwell Time (min)					
			5	6	7	8	9	10
Drop-Off	24	Total Queue	0 veh 0 feet	0 veh 0 feet	0 veh 0 feet	3 veh 75 feet	5 veh 133 feet	7 veh 180 feet
		Unserved Queue	-	-	-	-	-	2 veh 40 feet
Pick-up	25	Total Queue	0 veh 0 feet	0 veh 0 feet	1 veh 25 feet	4 veh 100 feet	6 veh 158 feet	8 veh 205 feet
		Unserved Queue	-	-	-	-	1 veh 18 feet	3 veh 65 feet

Note: Assumes approximately 25 feet per vehicle

As shown in **Table 34**, there would be no queuing issues if there is an average dwelling time of 9 minutes during the morning drop-off period or an average dwelling time of 8 minute during the evening pick-up period. To provide more curbside area for drop-off and pickup for durations greater than above, it is recommended that time limited parking be implemented on-street parking between Whipple Avenue and

[3] Assuming approximately 25 feet per vehicle

Standish Street along the project frontage to discourage long-term parking.. These additional time limitations should be signed as 60 or 90-minute or less parking, resulting in primary use by ride sharing services, project guests/visitors, and childcare parent/guardians, and limiting use for all-day or overnight parking.

Loading queuing analysis are provided in the **Appendix**.

Office

Office employees would utilize Driveway 1 (Intersection #13) to access the office's parking garage, which will be aligned with Standish Street approximately 525 feet south of Whipple Avenue. Based on intersection LOS results (**Tables 16**, **23**, and **30**), Driveway 1 will operate at an acceptable LOS D of better for all conditions. Intersection queuing (**Table 33**) results show minimal queuing at the driveway.

Entrance to the office underground parking garage, as well as the loading docks are located on the east side of the office building.

Residential

Driveway 2 (Intersection #14) would be utilized only by the residential uses, which is located approximately 60 feet south of Driveway 1. Based on intersection LOS results (**Tables 16**, **23**, and **30**), Driveway 2 will operate at an acceptable LOS B for all conditions. Intersection queuing (**Table 33**) results show minimal queuing the driveway.

PEDESTRIAN

The project site is located within walking distance to the Redwood City Caltrain Station as well as the downtown area. Pedestrians traveling to and from the Redwood City Caltrain station would utilize sidewalks along Arguello Street. There are marked crosswalks at the intersection of Arguello Street and Marshall Street, as well as Arguello Street and Brewster Street. The Project also includes a new crosswalk with flashing beacon at Arguello Street and Standish Street and streetscape improvements along the Arguello frontage which include installing landscape to improve the pedestrian experience. Within the site, there are pedestrian pathways for pedestrians to walk between the three buildings. Based on these factors, the project would not conflict with any pedestrian plans or policies and would not result in any pedestrian-related deficiencies.

BICYCLE

From the proposed site, bicyclists may utilize the bicycle lanes along Arguello Street to connect to bicycle facilities to the north such as Whipple Avenue. The bicycle lanes extend south to Brewster Avenue, where cyclists may use the bicycle routes along Broadway and Winslow Street. However, there are gaps in the existing bicycle network, for example along Arguello Street between Brewster Avenue and Broadway.

The project will also have on-site bicycle facilities at the office and residential buildings. The office building will include shower/changing rooms and long-term bicycle storage for 120 bicycles located within the building and 60 short-term bicycle parking spaces located at the rear of building. The residential use will have a bicycle storage for 48 long-term spaces and 4 temporary bicycle spaces located near the utility/storage on the first floor.

Based on these factors, the project would not conflict with any bicycle plans or policies and the project would not result in any bicycle-related deficiencies.

TRANSIT

For those taking transit, SamTrans bus routes ECR, 270, 278, 295, 296, 397, and 398 operate within the vicinity of the proposed project. There are no bus stops located adjacent to the site. The nearest bus stops are near the intersection of El Camino Real and Whipple Avenue. There are additional bus stops near the intersection of A Street and Arguello Street, however routes that service these bus stops are currently suspended due to COVID-19 ridership level impacts.

The Redwood City Caltrain station is also within ½ mile and Caltrain riders may walk/bike to the proposed project. Those walking may use sidewalks along Arguello Street. During the weekday AM peak (7-10 AM), the station is served by seven northbound limited-stop trains and seven southbound limited-stop trains. During the weekday PM peak (4-7 PM), the station is served by six northbound limited-stop trains and six southbound limited-stop trains.

Caltrain tracks are located adjacent to the west frontage of the project site. Currently there are only two tracks, however the 2040 Caltrain Business Plan envisions the Redwood City Station becoming a 4-track station, which would require construction of two additional tracks. The business plan also proposes constructing grade separated crossings at Whipple Avenue and other current at-grade crossing in Redwood City near downtown. The City is currently conducting a grade separation feasibly study to determine potential grade separated designs for Whipple Avenue. The Project design team is coordinating with the City and Caltrain to ensure that the Project would be able to accommodate potential changes associated with these improvements.

Based on the evaluation summarized above, the project would not conflict with any transit plans or policies and would not result in any transit-related deficiencies.

PARKING

VEHICLE PARKING

Table 35 summarizes parking requirements for the Project site. The City parking requirements are stated in Article 30 of Redwood City Municipal Code.

The parking requirements for professional, business, or administrative offices are dependent on whether the site is within the downtown core (radius distance less than 1,500 feet from the northerly-most corner of the Sequoia Station building adjacent to the Caltrain station). The proposed project has a radius distance of approximately 2,400 feet and is outside the downtown core and zoned to provide one (1) space for every 300 square feet of gross floor area[4], which equates to 1,004 parking spaces. In addition, the 2019 California Green Building Code requires that at least 8 percent of the parking spaces to be designated for any combination of low-emitting fuel-efficient, electric, and carpool/vanpool vehicles[5] or 80 spaces. The February 2021 site plans indicate that the office building will provide a total of 751 spaces, of which 16 spaces are ADA compliant and 80 spaces are clean air vehicle/carpool spaces.

[4] Redwood City Municipal Code. Article 30.5.B

[5] 2019 California Green Building Code. 5.106.5.2

The parking requirements for multi-family housing in mixed-use zoning districts are to provide two (2) spaces per unit for two-bedroom or larger units[6] and one (1) space for every four (4) units for guest or visitor parking, which equates to 75 parking spaces. However, the State Density Bonus Law (SDBL) may allow for a reduction[7] in parking to a ratio of one (1) space per unit for two-bedroom or larger units, which equates to 33 spaces. In addition, the 2019 California Green Building Code requires that at least 8 percent of the parking spaces to be designated for any combination of low-emitting fuel-efficient, electric, and carpool/vanpool vehicles[8] or 2 spaces. The February 2021 site plans indicate that the residential building will provide a total of 33 spaces, of which 2 spaces are ADA compliant and 2 spaces are clean air vehicle/carpool spaces.

There are no parking requirements for childcare land uses in the Redwood City Municipal Code, therefore the ITE Parking Generation was assumed, which results in a calculation of 10 spaces. The Project proposes that there will be 9 spaces in the office parking garage that will be designated for childcare employee parking. This calculation for 9 spaces was based on the employee per child ratio anticipated at the childcare facility.

Table 35 – Parking Requirement Summary

Facility	Size	Unit	Redwood City Municipal Code Requirements			Proposed Parking Spaces[1]
			Land Use Description	Requirement	Parking Spaces Required	
Office Building	301,261	Square feet	General Office Building	1 space for each 300 square feet of gross floor area	1,004	751
Multi-Family Housing	33	Dwelling units	Residential	2 spaces per dwelling unit, 1 guest space per 4 dwelling units	75	33
Childcare	4,132	Square feet	Day Care Center (ITE Parking Gen[2])	2.45 spaces for each 1000 square feet of gross floor area	10	9
Total					1,089	784

[1]Proposed parking spaces for childcare employees are reserved spaces in the office building parking garage
[2]No Redwood City Municipal Code set for Childcare parking requirement. Utilized Land Use Code 565 in Parking Generation 5th Edition, Institute of Transportation Engineers, 2019.

As shown in **Table 35**, the project will provide parking less than the City's requirement, which would be a project deficiency, however the Project is requesting a parking reduction due to an anticipated lower vehicle demand because of the Project's proximity to the Redwood City Transit Center and El Camino Real, a high-quality transit corridor. With the implemented TDM and transit reduction, we can conservatively expect a trip reduction of approximately 30%. Therefore, applying the same reduction to the number of parking spaces required would yield 766 required spaces. The proposed project will provide 784 spaces, sufficient to meet the expected peak demand. It should also be noted that for the Transit Priority Area VMT screening criterion, the Project must not exceed the minimum required by Zoning code.

[6] Redwood City Municipal Code. Article 30.4.B

[7] Government Code Section 65915(p)

[8] 2019 California Green Building Code. 4.106.3.1

BICYCLE PARKING

Article 55.8.D of the Redwood City Municipal Code requires developments within Mixed-Use Transitional (MUT) zoning district to provide the following bicycle parking:

- Non-live/work Bicycle Parking (Tenant): secure bicycle parking for five (5) percent of motorized vehicle parking capacity
- Non-live/work Bicycle Parking (Visitor): permanently anchored bicycle racks within 100 feet of the primary entrance for five (5) percent of motorized vehicle parking capacity

The project is requiring a total of 1,004 motorized vehicle parking spaces; therefore, the project is required to 50 secure bicycle parking for tenants and 50 bicycle spaces for visitors. The site plans indicate that the project will be providing 168 long-term interior spaces for tenant parking and 64 short-term exterior spaces for visitor parking, which meets the City's requirements.

7. SUMMARY OF PROJECT IMPACTS AND DEFICIENCIES

Based on the results of the traffic analysis and evaluation of the proposed site plan, potential project impacts and deficiencies were identified by the City's guidelines criteria. This chapter will discuss these potential impacts or deficiencies caused by traffic generated by the project and recommended improvements.

PROJECT IMPACTS

As of August 1, 2020, the state of California has fully adopted a change in the California Environmental Quality Act (CEQA) significant impact methodology for transportation impacts to use vehicle miles traveled (VMT) as opposed to level of service (LOS) via State Bill 743 (SB 743). Based on the City's *Redwood City Transportation Analysis Manual*, the project meets the VMT screening criteria and therefore the Project can be presumed to cause a less-than significant impact.

PROJECT DEFICIENCIES

Project deficiencies were determined based on criteria established in the City's *Transportation Analysis Manual.* **Table 36** summarizes the project deficiencies and recommended mitigation improvements.

DEFICIENCY #1 – INTERSECTION #1 – WHIPPLE AVENUE & US-101 NB OFF-RAMP

In the Cumulative Plus Project scenario, the addition of Project traffic will cause the intersection of Whipple Avenue & US 101 N Off-Ramp to operate from an acceptable LOS D to LOS E during the AM peak hours, which results in a project deficiency.

Improvement #1

It is recommended that adjusting signal timing would improve the AM peak hour LOS to acceptable LOS D with an average intersection delay of 46 seconds.

DEFICIENCY #2 – INTERSECTION #2 – WHIPPLE AVENUE & VETERANS BOULEVARD

The Project would result in a queuing deficiency for the southbound right-turn movement during the following conditions:

- Existing Plus Project (AM peak hour)
- Background Plus Project (AM peak hour)
- Cumulative Plus Project (AM and PM peak hours)

For these scenarios the queue length exceeds the 75-foot storage length without the project and the Project increases the queue length by more than one vehicle (25 feet).

Table 36 – Project Deficiencies and Mitigation Improvement Summary

Deficiency #	Deficiency Type	Location	Scenarios	Mitigation Improvement
1	LOS	#1 – Whipple Avenue & US-101 NB Off-Ramp	Cumulative Plus Project AM	Adjust signal timing
2	Queuing	#2 – Whipple Avenue & Veterans Boulevard	Existing Plus Project AM Background Plus Project AM Cumulative Plus Project AM and PM	Extend southbound right storage length
3	Queuing	#4 – Whipple Avenue & Arguello Street	Existing Plus Project AM and PM Background Plus Project AM and PM Cumulative Plus Project AM and PM	Extend northbound left turn lane Extend Westbound left turn lane
4	LOS Queuing	#5 – Whipple Avenue & El Camino Real	Background Plus Project	Widen eastbound approach to construct an eastbound left-turn lane Extend westbound right storage length
5	Queuing	#8 – Brewster Avenue & El Camino Real	Existing Plus Project PM Background Plus Project PM Cumulative Plus Project PM	Extend westbound left storage length
6	Queuing	#10 – Jefferson Avenue & El Camino Real	Background Plus Project AM Cumulative Plus Project AM	Extend eastbound left storage length
7	Roadway	Whipple Avenue Between Arguello Street and Industrial Way/Winslow Street	Existing Plus Project	Adjust signal timing
8	Parking	Entire Site	Existing Plus Project AM and PM Background Plus Project AM and PM Cumulative Plus Project AM and PM	Implement TDM program

Improvement #2

It is recommended that the southbound right-turn pocket be extended to be 350 feet to accommodate the 338-foot queue anticipated in the cumulative plus project condition. It should be noted that this extension of the turn lane queueing would require limiting parking along Veterans Boulevard.

DEFICIENCY #3 – INTERSECTION #4 – WHIPPLE AVENUE & ARGUELLO STREET

The Project would result in a queuing deficiency for westbound left-turn movement during the following conditions:

- Existing Plus Project (AM peak hour)
- Background Plus Project (AM peak hour)
- Cumulative Plus Project (AM peak hours)

For these conditions the Project causes the queue length to exceed the 100-foot storage.

The Project would also result in a queuing deficiency for the northbound left-turn movement during the following conditions:

- Existing Plus Project (PM peak hour)
- Background Plus Project (PM peak hour)
- Cumulative Plus Project (PM peak hours)

For these conditions the queue length exceeds the 50-foot storage length without the project and the Project increases the queue length by more than one vehicle (25 feet).

Improvement #3

Extending the northbound and westbound left turn lanes at these intersections would require additional acquisition of right-of-way and encroachment of existing developed adjacent land. In addition, recommended infrastructure improvements are limited by the fact that Whipple Avenue narrows east of intersection #4. Evaluation of potential retiming efforts will slightly reduce queues at this intersection.

The feasibility of these improvements or other possible improvements may be determined at the discretion of the City and the project would then pay a fair share cost for the improvement. According to City's general plan policy as well as the RWCmoves, document the participation in and compliance with a TDM program that meet city targets may, at the discretion of the City, be considered a sufficient alternative improvement.

DEFICIENCY #4 – INTERSECTION #5 – WHIPPLE AVENUE & EL CAMINO REAL

Level of Service

The Project will result in a level of service deficiency for the following conditions:

- Background Plus Project (PM peak hour)
- Cumulative Plus Project (PM peak hour)

For these conditions, the intersection operates at an unacceptable LOS and the Project increases the average intersection delay by more than five (5) seconds)

Queuing

The Project would also result in a queuing deficiency for the westbound right-turn movement during the following conditions:

- Existing Plus Project (PM peak hour)
- Background Plus Project (PM peak hour)
- Cumulative Plus Project (PM peak hours)

For these conditions the queue length exceeds the 80-foot storage length without the project and the Project increases the queue length by more than one vehicle (25 feet).

Improvement #4

It is recommended that eastbound approach be widened to accommodate an exclusive left-turn lane and that the westbound right-turn lane be extended to 425-feet. However, under current conditions, both of these improvements are infeasible due to right-of-way constraints. It should be noted that there could be potential intersection geometric improvements as part of the Caltrain Grade Separation Project.

The feasibility of these improvements or other possible improvements may be determined at the discretion of the City and the project would then pay a fair share cost for the improvement. According to City's general plan policy as well as the RWCmoves document, the participation in and compliance with a TDM program that meet city targets may, at the discretion of the City, be considered a sufficient alternative improvement.

DEFICIENCY #5 – INTERSECTION #8 – BREWSTER AVENUE & EL CAMINO REAL

The Project would result in a queuing deficiency for the westbound left-turn movement during the following conditions:

- Existing Plus Project (PM peak hour)
- Background Plus Project (PM peak hour)
- Cumulative Plus Project (PM peak hours)

For these conditions the queue length exceeds the 50-foot storage length without the project and the Project increases the queue length by more than one vehicle (25 feet).

Improvement #5

It is recommended that the storage be extended to 325 feet. However, this improvement may be infeasible due to right-of-way constraints.

The feasibility of these improvements or other possible improvements may be determined at the discretion of the City and the project would then pay a fair share cost for the improvement. According to City's general plan policy as well as the RWCmoves, document the participation in and compliance with a TDM program that meet city targets may, at the discretion of the City, be considered a sufficient alternative improvement.

DEFICIENCY #6 – WHIPPLE AVENUE BETWEEN ARGUELLO STREET AND INDUSTRIAL WAY/WINSLOW STREET

The westbound Whipple Avenue roadway segment between Arguello Street and Industrial Way/Winslow Street operates at an unacceptable LOS E during the Existing Plus Project AM peak period. Under the Existing AM peak period this segment operates at an acceptable LOS D and the project traffic causes it to operate at an unacceptable LOS, which would result in a project deficiency.

Improvement #6

It is recommended that signal coordination along Whipple Avenue be updated which may provide better progression along the corridor.

DEFICIENCY #7 – PARKING

The Project is proposing to provide a total of 784 parking spaces, which is less than 1,094 spaces needed to satisfy City's requirements.

Improvement #7

As discussed in the Parking section, the Project is requesting a parking reduction due to an anticipated lower vehicle demand because of the Project's proximity to the Redwood City Transit Center and El Camino Real, a high-quality transit corridor. It should also be noted that for the Transit Priority Area VMT screening criterion, the Project must not exceed the minimum required by Zoning code.

In addition, the Project TDM plan will reduce vehicle demand by encouraging employees and residents to use alternative transportation modes such as walking, biking, or taking transit to work. With the implemented TDM and transit reduction, we can conservatively expect a trip reduction of approximately 30%. Therefore, applying the same reduction to the number of parking spaces required would yield 766 required spaces, which the proposed project will exceed by providing 784 parking spaces.

APPENDIX

A - TURNING MOVEMENT COUNTS AND VOLUME ADJUSTMENTS

B - TRIP GENERATION

C - SYNCHRO OUTPUTS

D - HCS OUTPUTS

E - SIGNAL WARRANTS

F – CHILDCARE QUEUING OUTPUTS

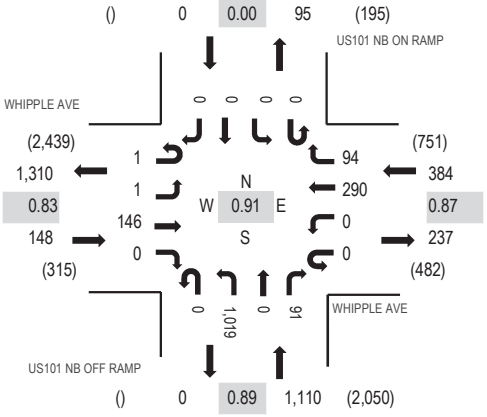
A - Turning Movement Counts and Volume Adjustments

All Traffic Data Services Inc.

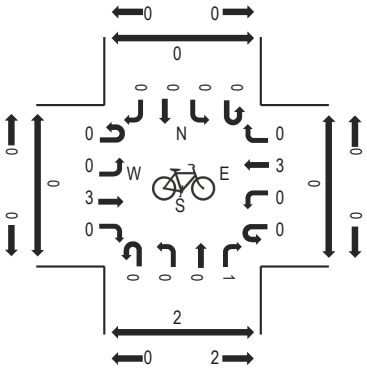
(303) 216-2439
www.alltrafficdata.net

Location: 4 US101 NB OFF RAMP & WHIPPLE AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

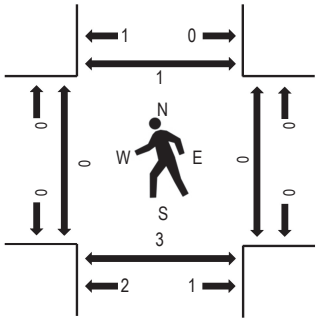
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	WHIPPLE AVE Eastbound				WHIPPLE AVE Westbound				US101 NB OFF RAMP Northbound				US101 NB ON RAMP Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	44	0	0	0	48	16	0	221	0	15	0	0	0	0	344	1,562	0	0	1	0
7:15 AM	0	0	37	0	0	0	55	19	0	225	0	21	0	0	0	0	357	1,642	0	0	0	0
7:30 AM	0	0	36	0	0	0	78	21	0	255	0	19	0	0	0	0	409	1,632	0	0	1	0
7:45 AM	0	0	35	0	0	0	80	26	0	287	0	24	0	0	0	0	452	1,599	0	0	1	0
8:00 AM	1	1	38	0	0	0	77	28	0	252	0	27	0	0	0	0	424	1,554	0	0	1	1
8:15 AM	0	0	32	0	0	0	65	24	0	214	0	12	0	0	0	0	347		0	0	3	0
8:30 AM	0	0	42	0	0	0	78	19	0	211	0	26	0	0	0	0	376		0	0	2	0
8:45 AM	0	0	49	0	0	0	77	40	0	215	1	25	0	0	0	0	407		0	0	3	0

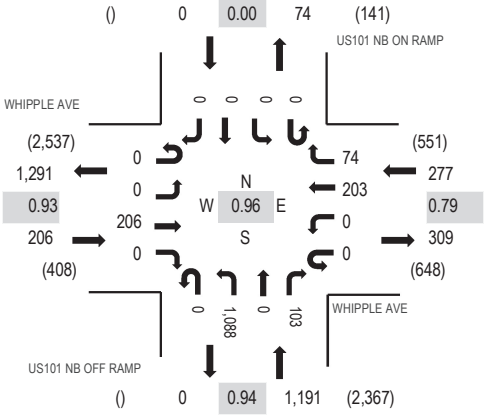
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	6	0	0	0	0	0	0	7
Lights	1	1	145	0	0	0	283	94	0	980	0	89	0	0	0	0	1,593
Mediums	0	0	1	0	0	0	6	0	0	33	0	2	0	0	0	0	42
Total	1	1	146	0	0	0	290	94	0	1,019	0	91	0	0	0	0	1,642

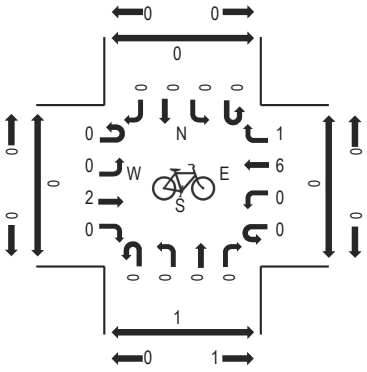
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 4 US101 NB OFF RAMP & WHIPPLE AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

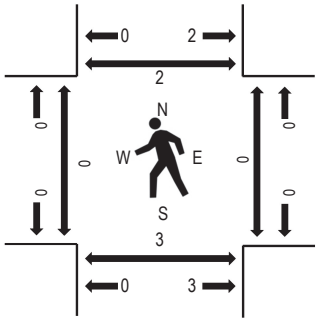
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	WHIPPLE AVE Eastbound				WHIPPLE AVE Westbound				US101 NB OFF RAMP Northbound				US101 NB ON RAMP Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	47	0	0	0	66	23	0	255	0	27	0	0	0	0	418	1,660	0	0	0	1
4:15 PM	0	0	40	0	0	0	47	13	0	271	0	23	0	0	0	0	394	1,661	0	0	0	0
4:30 PM	0	0	38	0	0	0	64	23	0	286	0	26	0	0	0	0	437	1,674	0	0	0	2
4:45 PM	0	0	44	0	0	0	34	13	0	290	0	30	0	0	0	0	411	1,659	0	0	0	0
5:00 PM	0	0	64	0	0	0	59	16	0	256	0	24	0	0	0	0	419	1,666	0	0	0	0
5:15 PM	0	0	60	0	0	0	46	22	0	256	0	23	0	0	0	0	407		0	0	3	0
5:30 PM	0	0	56	0	0	0	44	10	0	274	0	38	0	0	0	0	422		0	0	0	0
5:45 PM	0	0	59	0	1	0	49	21	0	240	0	48	0	0	0	0	418		0	0	0	0

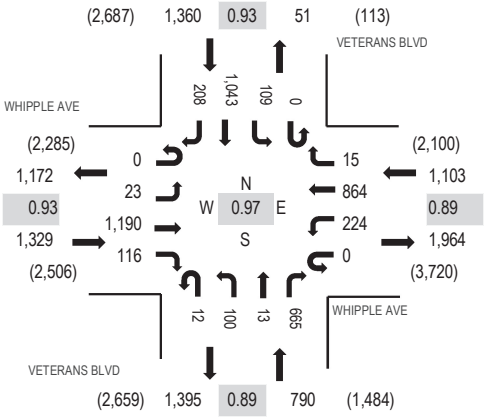
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Lights	0	0	203	0	0	0	201	74	0	1,073	0	100	0	0	0	0	1,651
Mediums	0	0	3	0	0	0	2	0	0	14	0	3	0	0	0	0	22
Total	0	0	206	0	0	0	203	74	0	1,088	0	103	0	0	0	0	1,674

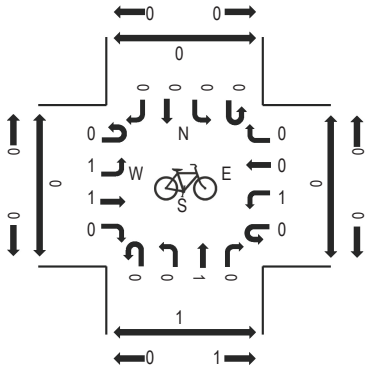
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 3 VETERANS BLVD & WHIPPLE AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

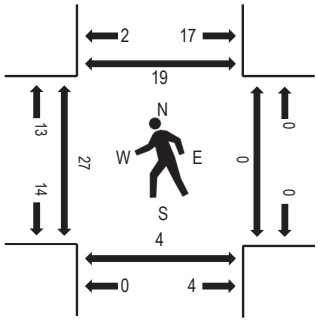
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	WHIPPLE AVE Eastbound				WHIPPLE AVE Westbound				VETERANS BLVD Northbound				VETERANS BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	4	218	19	0	51	194	3	0	17	6	119	0	38	210	64	943	4,265	2	0	0	3
7:15 AM	0	6	235	14	0	46	199	5	1	20	2	134	0	24	254	67	1,007	4,451	2	0	0	2
7:30 AM	0	8	279	28	0	43	214	7	1	21	4	175	0	27	252	71	1,130	4,551	3	0	0	5
7:45 AM	0	4	304	31	0	65	250	4	2	28	2	181	0	25	237	52	1,185	4,582	0	0	1	1
8:00 AM	0	11	285	23	0	59	246	4	0	20	3	142	0	26	271	39	1,129	4,512	11	0	2	10
8:15 AM	0	5	281	22	0	56	181	4	2	26	5	158	0	33	273	61	1,107		15	0	0	7
8:30 AM	0	3	320	40	0	44	187	3	8	26	3	184	0	25	262	56	1,161		1	0	1	1
8:45 AM	0	8	312	46	0	55	175	5	1	24	4	165	0	30	243	47	1,115		7	0	1	8

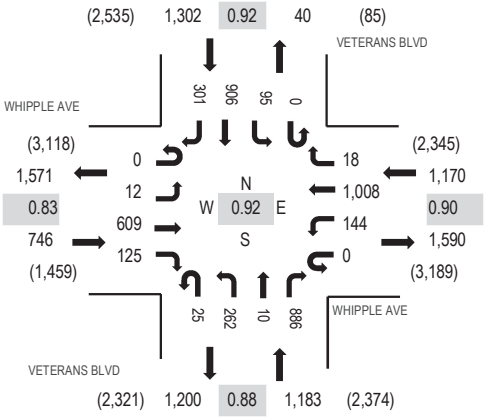
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	6	0	0	1	4	0	0	0	0	2	0	0	3	1	17
Lights	0	21	1,163	109	0	217	822	15	11	96	13	648	0	103	1,023	202	4,443
Mediums	0	2	21	7	0	6	38	0	1	4	0	15	0	6	17	5	122
Total	0	23	1,190	116	0	224	864	15	12	100	13	665	0	109	1,043	208	4,582

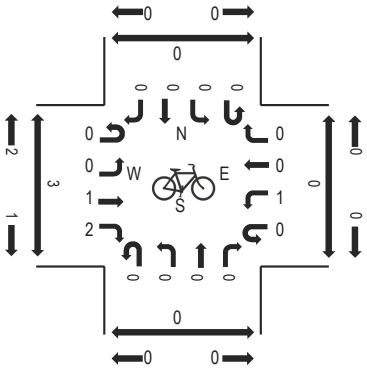
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 3 VETERANS BLVD & WHIPPLE AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

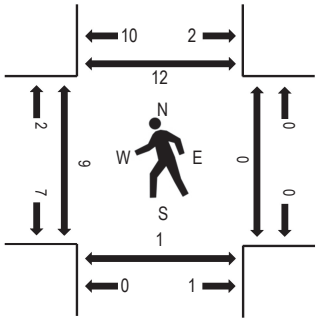
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	WHIPPLE AVE Eastbound				WHIPPLE AVE Westbound				VETERANS BLVD Northbound				VETERANS BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	3	185	38	0	38	234	2	6	59	1	312	0	24	210	78	1,190	4,401	5	0	1	4
4:15 PM	0	5	142	32	0	33	249	4	8	76	3	197	0	26	244	82	1,101	4,333	0	0	0	1
4:30 PM	0	2	132	27	0	44	276	5	7	67	4	192	0	24	234	75	1,089	4,351	4	0	0	5
4:45 PM	0	2	150	28	0	29	249	7	4	60	2	185	0	21	218	66	1,021	4,339	0	0	0	2
5:00 PM	0	4	176	28	0	37	237	6	8	76	6	252	0	33	200	59	1,122	4,312	6	0	2	6
5:15 PM	0	5	158	18	0	46	235	4	4	72	5	211	0	36	241	84	1,119		0	1	0	2
5:30 PM	0	4	151	22	0	36	254	1	5	75	5	232	0	29	201	62	1,077		0	0	0	1
5:45 PM	1	1	123	22	0	44	273	2	9	63	2	166	0	32	200	56	994		1	0	0	1

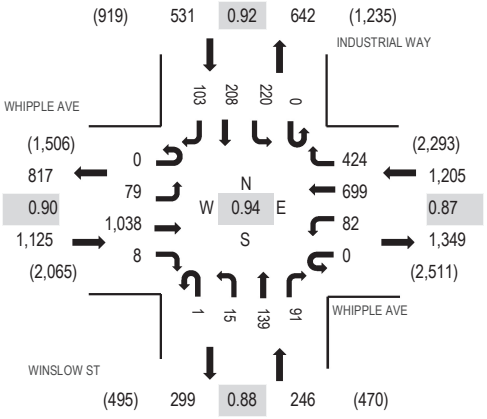
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3
Lights	0	12	600	123	0	140	992	17	25	261	10	881	0	94	897	296	4,348
Mediums	0	0	9	2	0	4	16	1	0	1	0	4	0	1	9	3	50
Total	0	12	609	125	0	144	1,008	18	25	262	10	886	0	95	906	301	4,401

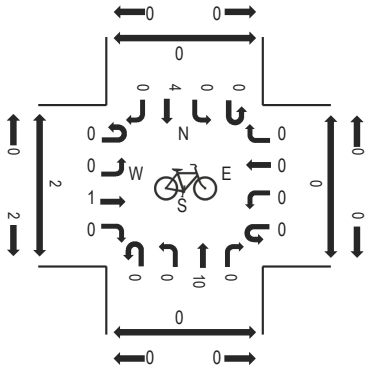
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 2 WINSLOW ST & WHIPPLE AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

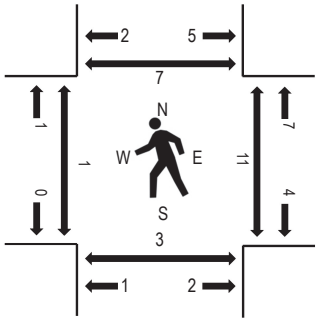
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	WHIPPLE AVE Eastbound				WHIPPLE AVE Westbound				WINSLOW ST Northbound				INDUSTRIAL WAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	10	167	1	0	16	136	108	0	3	21	24	0	37	18	13	554	2,730	1	0	1	1
7:15 AM	0	17	202	4	0	9	167	115	0	5	24	26	0	40	27	13	649	2,902	0	0	1	0
7:30 AM	0	24	219	3	0	15	172	106	0	6	20	24	0	52	36	22	699	3,026	1	0	0	1
7:45 AM	0	24	288	1	0	23	209	118	0	3	41	20	0	44	35	22	828	3,107	0	3	1	2
8:00 AM	0	16	230	4	0	16	155	106	1	3	31	22	0	58	62	22	726	3,017	1	4	1	4
8:15 AM	0	23	243	3	0	21	163	96	0	6	33	33	0	63	55	34	773		0	4	1	1
8:30 AM	0	16	277	0	0	22	172	104	0	3	34	16	0	55	56	25	780		0	0	0	0
8:45 AM	0	21	271	1	0	21	128	95	0	2	32	37	0	63	45	22	738		0	1	1	3

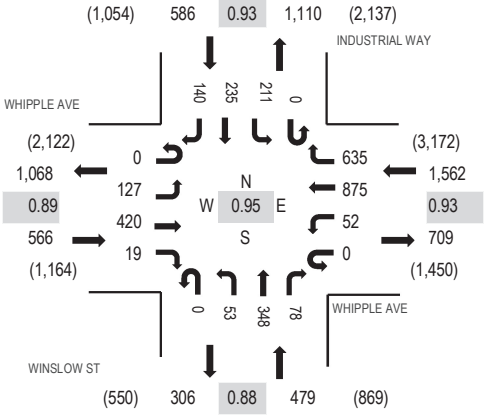
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	2	0	0	0	4	3	0	0	0	0	0	3	1	5	18
Lights	0	78	1,024	7	0	81	671	402	1	15	136	85	0	203	196	91	2,990
Mediums	0	1	12	1	0	1	24	19	0	0	3	6	0	14	11	7	99
Total	0	79	1,038	8	0	82	699	424	1	15	139	91	0	220	208	103	3,107

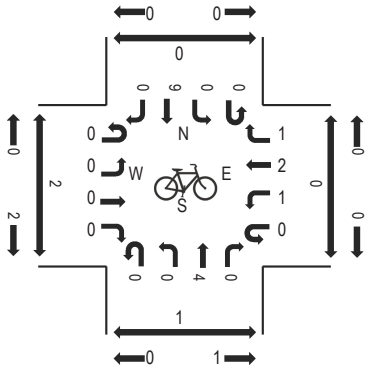
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 2 WINSLOW ST & WHIPPLE AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

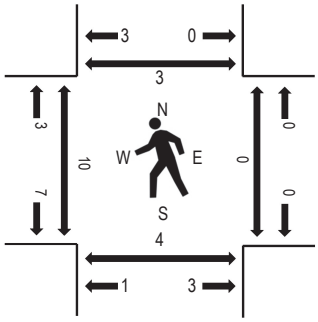
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	WHIPPLE AVE Eastbound				WHIPPLE AVE Westbound				WINSLOW ST Northbound				INDUSTRIAL WAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	14	135	5	0	14	215	134	0	12	62	29	0	65	44	26	755	3,085	2	0	0	4
4:15 PM	0	37	124	4	1	18	249	161	0	12	53	12	0	41	48	26	786	3,167	2	0	1	2
4:30 PM	0	30	99	2	0	14	229	172	0	13	69	19	0	59	60	32	798	3,193	4	0	0	2
4:45 PM	0	33	95	9	0	8	223	138	0	13	75	16	0	47	52	37	746	3,182	3	0	1	1
5:00 PM	0	37	115	5	0	14	216	156	0	12	105	20	0	59	61	37	837	3,174	2	0	2	0
5:15 PM	0	27	111	3	0	16	207	169	0	15	99	23	0	46	62	34	812		1	0	1	0
5:30 PM	0	29	112	5	0	18	219	178	0	6	82	14	0	58	36	30	787		2	0	0	0
5:45 PM	0	29	102	2	0	12	223	168	0	9	80	19	0	29	38	27	738		0	0	0	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	0	124	409	19	0	49	869	627	0	53	346	78	0	208	231	139	3,152
Mediums	0	3	10	0	0	3	6	8	0	0	2	0	0	3	4	1	40
Total	0	127	420	19	0	52	875	635	0	53	348	78	0	211	235	140	3,193

Traffic Data Service

San Jose, CA
(408) 622-4787
tdsbay@cs.com

File Name : 1AM FINAL
Site Code : 00000001
Start Date : 5/25/2017
Page No : 1

Groups Printed- Lights - Buses - Trucks

	ARGUELLO ST Southbound					WHIPPLE AVE Westbound					ARGUELLO ST Northbound					WHIPPLE AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	8	4	1	0	13	2	141	8	0	151	8	8	16	2	34	9	160	11	1	181	379
07:15 AM	5	8	3	3	19	1	145	6	4	156	11	8	25	0	44	7	189	15	4	215	434
07:30 AM	2	19	6	0	27	1	183	14	0	198	15	12	19	0	46	13	227	13	1	254	525
07:45 AM	21	21	6	3	51	5	195	15	6	221	12	16	33	0	61	10	251	16	3	280	613
Total	36	52	16	6	110	9	664	43	10	726	46	44	93	2	185	39	827	55	9	930	1951
08:00 AM	6	23	4	1	34	2	173	6	0	181	12	16	34	4	66	18	264	12	6	300	581
08:15 AM	4	22	3	1	30	1	147	21	3	172	11	11	13	1	36	16	214	20	8	258	496
08:30 AM	7	17	5	0	29	4	144	10	0	158	9	13	20	1	43	22	266	21	9	318	548
08:45 AM	8	19	1	1	29	5	166	11	0	182	12	13	17	0	42	13	239	17	3	272	525
Total	25	81	13	3	122	12	630	48	3	693	44	53	84	6	187	69	983	70	26	1148	2150
Grand Total	61	133	29	9	232	21	1294	91	13	1419	90	97	177	8	372	108	1810	125	35	2078	4101
Apprch %	26.3	57.3	12.5	3.9		1.5	91.2	6.4	0.9		24.2	26.1	47.6	2.2		5.2	87.1	6	1.7		
Total %	1.5	3.2	0.7	0.2	5.7	0.5	31.6	2.2	0.3	34.6	2.2	2.4	4.3	0.2	9.1	2.6	44.1	3	0.9	50.7	
Lights	60	130	29	9	228	21	1253	85	13	1372	87	97	172	8	364	106	1782	123	35	2046	4010
% Lights	98.4	97.7	100	100	98.3	100	96.8	93.4	100	96.7	96.7	100	97.2	100	97.8	98.1	98.5	98.4	100	98.5	97.8
Buses	1	0	0	0	1	0	5	0	0	5	0	0	1	0	1	0	10	0	0	10	17
% Buses	1.6	0	0	0	0.4	0	0.4	0	0	0.4	0	0	0.6	0	0.3	0	0.6	0	0	0.5	0.4
Trucks	0	3	0	0	3	0	36	6	0	42	3	0	4	0	7	2	18	2	0	22	74
% Trucks	0	2.3	0	0	1.3	0	2.8	6.6	0	3	3.3	0	2.3	0	1.9	1.9	1	1.6	0	1.1	1.8

	ARGUELLO ST Southbound				WHIPPLE AVE Westbound				ARGUELLO ST Northbound				WHIPPLE AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**21**	21	**6**	**48**	**5**	**195**	15	**215**	**12**	**16**	33	61	10	251	16	277	**601**
08:00 AM	6	**23**	4	33	2	173	6	181	12	16	**34**	**62**	18	264	12	294	570
08:15 AM	4	22	3	29	1	147	**21**	169	11	11	13	35	16	214	20	250	483
08:30 AM	7	17	5	29	4	144	10	158	9	13	20	42	**22**	**266**	**21**	**309**	538
Total Volume	38	83	18	139	12	659	52	723	44	56	100	200	66	995	69	1130	2192
% App. Total	27.3	59.7	12.9		1.7	91.1	7.2		22	28	50		5.8	88.1	6.1		
PHF	.452	.902	.750	.724	.600	.845	.619	.841	.917	.875	.735	.806	.750	.935	.821	.914	.912

Traffic Data Service

San Jose, CA

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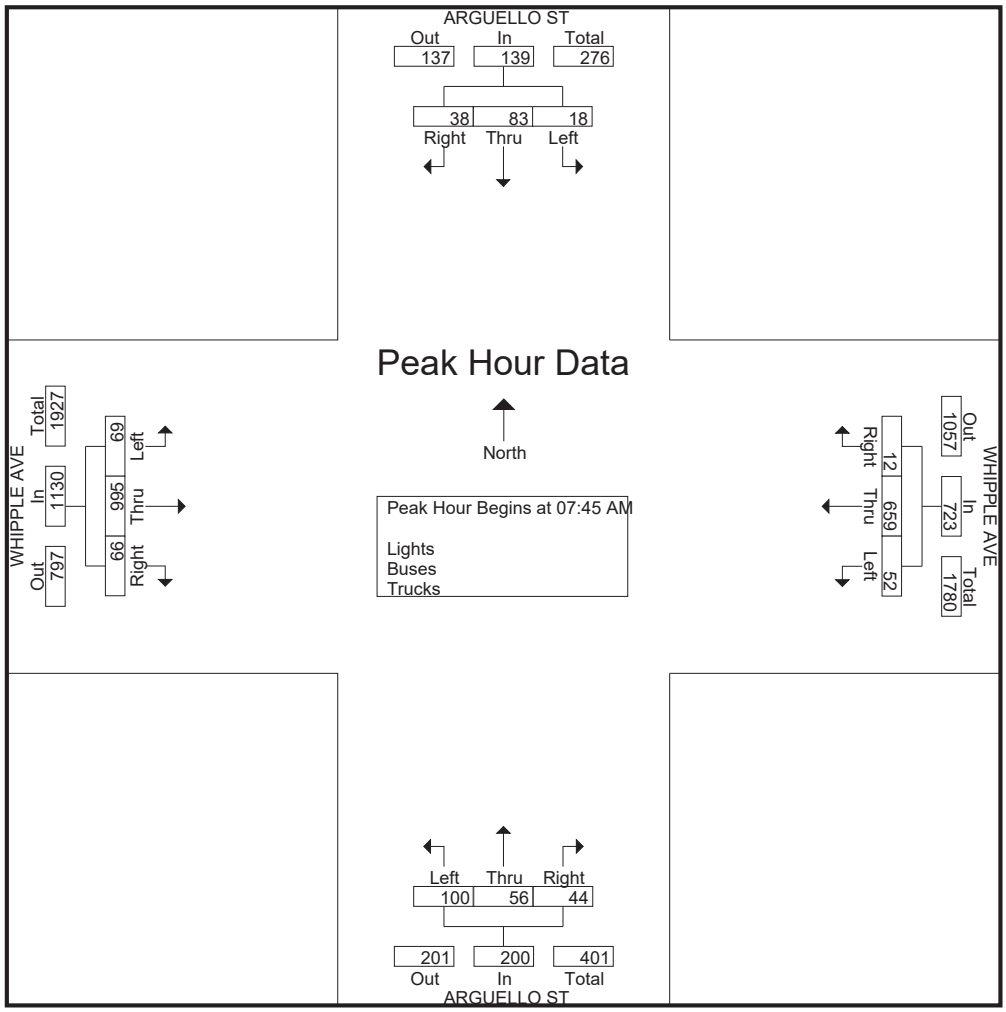

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File Name : 1PM FINAL
Site Code : 00000001
Start Date : 5/25/2017
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Groups Printed- Lights - Buses - Trucks

	ARGUELLO ST Southbound					WHIPPLE AVE Westbound					ARGUELLO ST Northbound					WHIPPLE AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	14	20	6	1	41	2	210	8	1	221	12	17	24	2	55	14	143	18	10	185	502
04:15 PM	8	21	3	0	32	3	271	11	1	286	8	15	27	1	51	14	147	17	0	178	547
04:30 PM	5	18	4	3	30	5	271	10	0	286	9	24	26	2	61	17	148	23	5	193	570
04:45 PM	5	21	2	0	28	7	273	13	1	294	11	35	18	0	64	17	141	20	0	178	564
Total	32	80	15	4	131	17	1025	42	3	1087	40	91	95	5	231	62	579	78	15	734	2183
05:00 PM	11	24	1	3	39	8	251	4	2	265	9	36	26	1	72	23	139	16	1	179	555
05:15 PM	7	20	3	3	33	11	238	7	0	256	12	38	27	4	81	15	122	13	5	155	525
05:30 PM	8	15	3	0	26	2	242	1	1	246	10	31	38	0	79	12	134	14	2	162	513
05:45 PM	5	17	6	2	30	2	273	10	3	288	16	26	21	1	64	15	112	10	5	142	524
Total	31	76	13	8	128	23	1004	22	6	1055	47	131	112	6	296	65	507	53	13	638	2117
Grand Total	63	156	28	12	259	40	2029	64	9	2142	87	222	207	11	527	127	1086	131	28	1372	4300
Apprch %	24.3	60.2	10.8	4.6		1.9	94.7	3	0.4		16.5	42.1	39.3	2.1		9.3	79.2	9.5	2		
Total %	1.5	3.6	0.7	0.3	6	0.9	47.2	1.5	0.2	49.8	2	5.2	4.8	0.3	12.3	3	25.3	3	0.7	31.9	
Lights	61	152	27	12	252	40	2006	63	9	2118	86	222	201	11	520	122	1060	129	28	1339	4229
% Lights	96.8	97.4	96.4	100	97.3	100	98.9	98.4	100	98.9	98.9	100	97.1	100	98.7	96.1	97.6	98.5	100	97.6	98.3
Buses	0	0	1	0	1	0	5	1	0	6	0	0	1	0	1	0	2	0	0	2	10
% Buses	0	0	3.6	0	0.4	0	0.2	1.6	0	0.3	0	0	0.5	0	0.2	0	0.2	0	0	0.1	0.2
Trucks	2	4	0	0	6	0	18	0	0	18	1	0	5	0	6	5	24	2	0	31	61
% Trucks	3.2	2.6	0	0	2.3	0	0.9	0	0	0.8	1.1	0	2.4	0	1.1	3.9	2.2	1.5	0	2.3	1.4

	ARGUELLO ST Southbound				WHIPPLE AVE Westbound				ARGUELLO ST Northbound				WHIPPLE AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	8	21	3	32	3	271	11	285	8	15	**27**	50	14	147	17	178	545
04:30 PM	5	18	**4**	27	5	271	10	286	9	24	26	59	17	**148**	**23**	**188**	560
04:45 PM	5	21	2	28	7	**273**	**13**	**293**	**11**	35	18	64	17	141	20	178	**563**
05:00 PM	**11**	**24**	1	**36**	**8**	251	4	263	9	**36**	26	**71**	**23**	139	16	178	548
Total Volume	29	84	10	123	23	1066	38	1127	37	110	97	244	71	575	76	722	2216
% App. Total	23.6	68.3	8.1		2	94.6	3.4		15.2	45.1	39.8		9.8	79.6	10.5		
PHF	.659	.875	.625	.854	.719	.976	.731	.962	.841	.764	.898	.859	.772	.971	.826	.960	.984

Traffic Data Service

San Jose, CA

(408) 622-4787

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File Name : 1PM FINAL
Site Code : 00000001
Start Date : 5/25/2017
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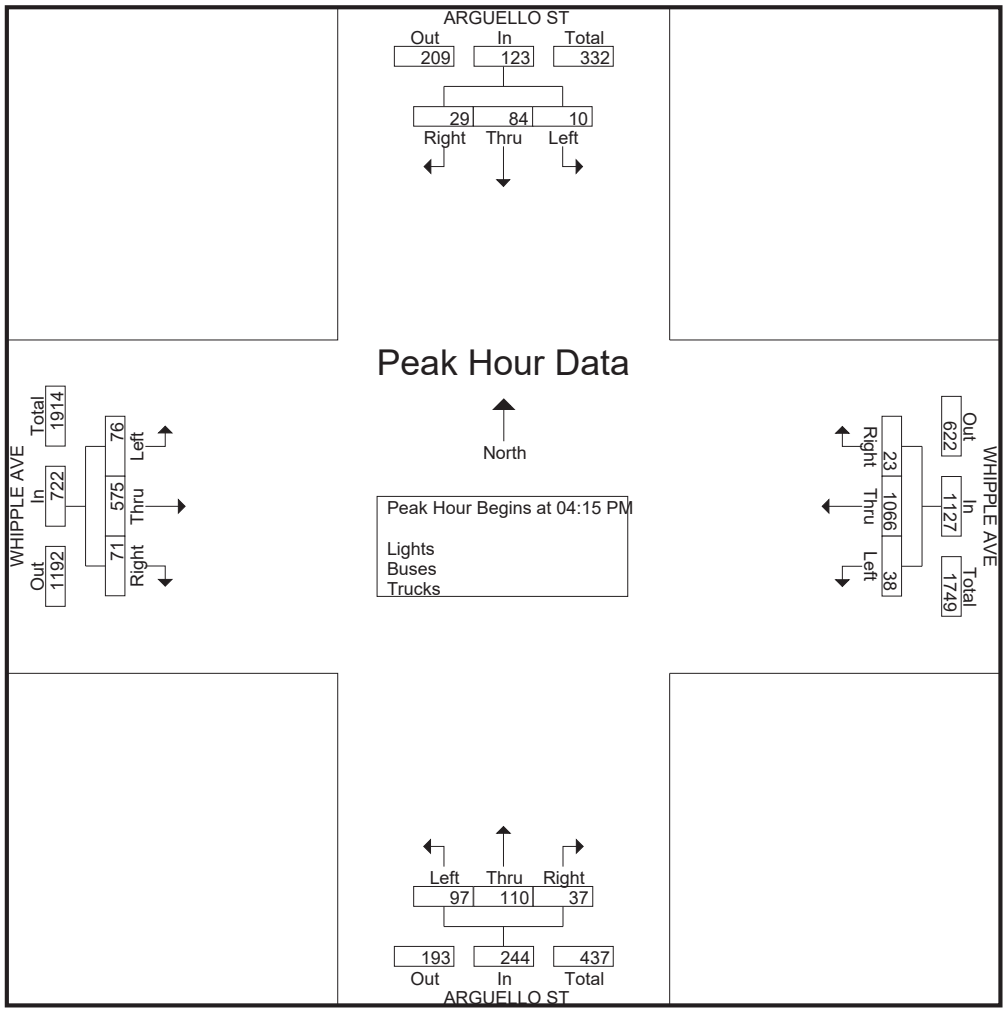
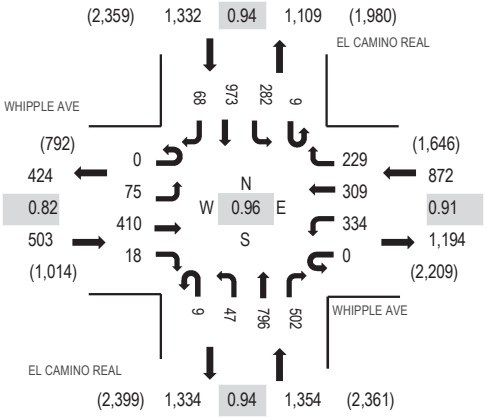


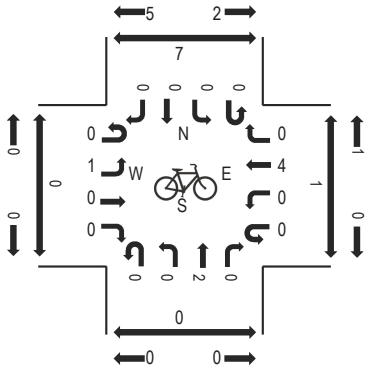
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 1 EL CAMINO REAL & WHIPPLE AVE AM
Date: Tuesday, September 10, 2019
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

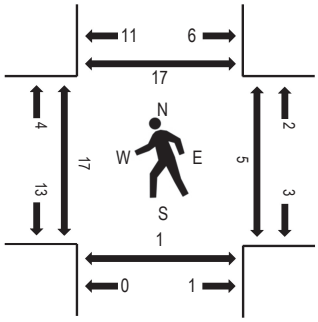
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	WHIPPLE AVE Eastbound				WHIPPLE AVE Westbound				EL CAMINO REAL Northbound				EL CAMINO REAL Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	15	80	4	0	76	58	36	1	2	106	58	3	49	125	17	630	3,379	0	1	1	5
7:15 AM	0	26	110	6	0	74	58	43	0	6	142	78	3	42	198	10	796	3,690	4	5	0	4
7:30 AM	0	12	118	5	0	99	97	56	3	9	175	100	3	56	160	22	915	3,921	4	1	0	9
7:45 AM	0	19	141	4	0	77	86	87	0	13	200	106	3	52	234	16	1,038	4,061	3	2	1	6
8:00 AM	0	16	78	6	0	80	72	47	0	17	200	119	3	65	222	16	941	4,001	3	2	0	5
8:15 AM	0	20	97	4	0	97	68	49	2	10	192	132	2	84	251	19	1,027		6	1	0	4
8:30 AM	0	20	94	4	0	80	83	46	7	7	204	145	1	81	266	17	1,055		5	0	0	2
8:45 AM	0	21	101	13	0	73	66	38	1	8	191	127	1	96	227	15	978		3	0	0	10

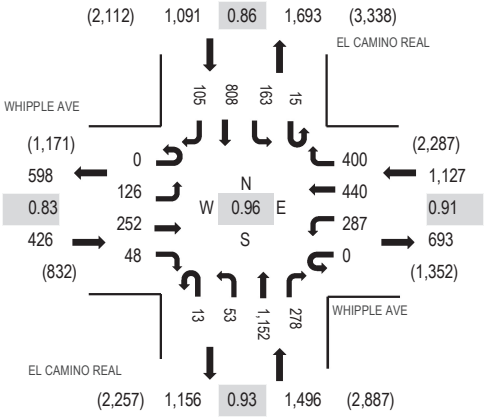
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	2	0	2	0	0	4	0	0	1	2	0	12
Lights	0	74	406	17	0	314	302	217	9	44	764	492	9	274	937	63	3,922
Mediums	0	1	3	1	0	18	7	10	0	3	28	10	0	7	34	5	127
Total	0	75	410	18	0	334	309	229	9	47	796	502	9	282	973	68	4,061

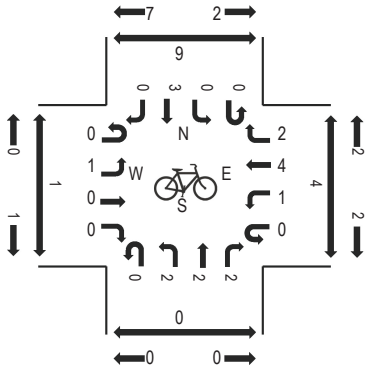
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 1 EL CAMINO REAL & WHIPPLE AVE PM
Date: Tuesday, September 10, 2019
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

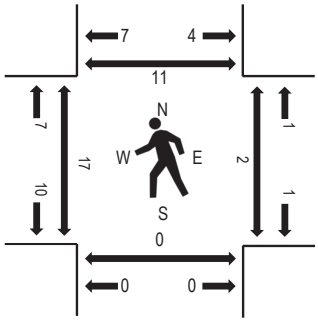
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	WHIPPLE AVE Eastbound				WHIPPLE AVE Westbound				EL CAMINO REAL Northbound				EL CAMINO REAL Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	28	58	12	0	79	105	101	1	10	242	73	7	57	162	25	960	4,038	9	0	0	7
4:15 PM	0	35	61	17	0	81	105	112	2	15	262	78	5	39	174	24	1,010	4,032	1	1	0	4
4:30 PM	0	26	53	11	0	63	100	104	4	16	287	56	15	34	196	27	992	4,067	5	0	0	2
4:45 PM	0	37	78	15	0	85	120	118	3	10	283	75	3	37	194	18	1,076	4,140	5	0	0	5
5:00 PM	0	27	53	12	0	68	99	89	4	11	257	70	7	47	191	19	954	4,080	3	1	0	4
5:15 PM	0	34	57	9	0	76	117	93	3	15	310	74	1	33	192	31	1,045		3	1	0	1
5:30 PM	0	28	64	12	0	58	104	100	3	17	302	59	4	46	231	37	1,065		6	0	0	1
5:45 PM	0	35	49	21	0	72	120	118	3	13	260	69	8	32	203	13	1,016		4	2	0	8

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Lights	0	125	247	46	0	283	439	397	13	52	1,133	273	15	162	794	104	4,083
Mediums	0	1	5	2	0	4	1	3	0	1	17	5	0	1	14	1	55
Total	0	126	252	48	0	287	440	400	13	53	1,152	278	15	163	808	105	4,140

Prepared by National Data & Surveying Services

El Camino Real & Whipple Ave

Peak Hour Turning Movement Count

ID: 21-080030-001
City: Redwood City

Day: Tuesday
Date: 3/2/2021

PEAK HOURS	COUNT PERIODS
08:15 AM - 09:15 AM	7:00 AM - 10:00 AM
NONE	NONE
04:15 PM - 05:15 PM	4:00 PM - 07:00 PM

SOUTHBOUND (El Camino Real)

AM	72	539	125	12	983	AM
NOON	0	0	0	0	0	NOON
PM	116	876	227	25	1231	PM

EASTBOUND (Whipple Ave)

AM	NOON	PM	
364	0	459	
0	0	0	0
79	0	94	0
233	0	256	2
28	0	49	0
AM	NOON	PM	

WESTBOUND (Whipple Ave)

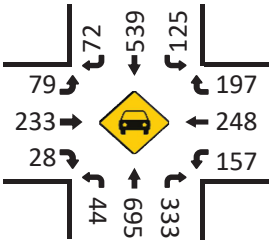
PM	NOON	AM	
245	0	197	1
293	0	248	2
307	0	157	2
0	0	0	0
845	0	691	
PM	NOON	AM	

NORTHBOUND (El Camino Real)

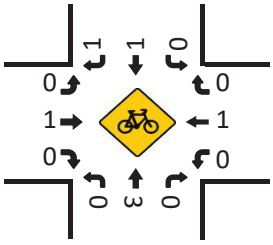
PM	1245	13	50	867	362	PM
NOON	0	0	0	0	0	NOON
AM	736	12	44	695	333	AM

CONTROL			
Signalized			
TEV	2774 AM	0 NOON	3780 PM
PHF	0.98		0.97

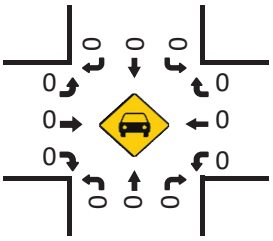
Total (AM)



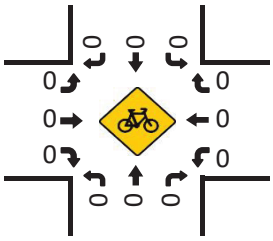
Total Bikes (AM)



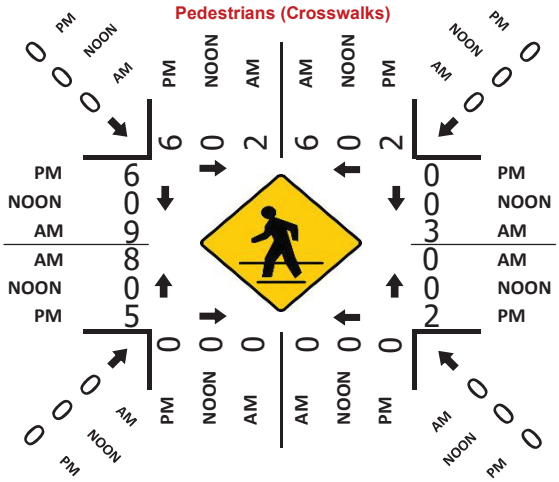
Total (NOON)



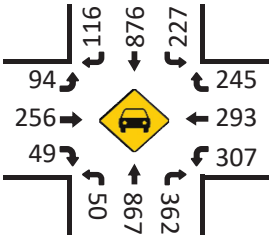
Total Bikes (NOON)



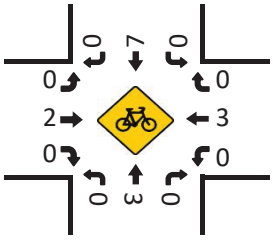
Pedestrians (Crosswalks)



Total (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: El Camino Real & Whipple Ave
City: Redwood City
Control: Signalized

Project ID: 21-080030-001
Date: 3/2/2021

Data - Totals

NS/EW Streets:	El Camino Real				El Camino Real				Whipple Ave				Whipple Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	2	0	0	0	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	87	41	0	25	82	8	1	10	43	3	0	50	47	23	0	425
7:15 AM	4	125	52	1	23	114	7	0	12	51	2	0	52	52	35	0	530
7:30 AM	5	132	61	0	24	92	7	3	17	72	5	0	39	52	47	0	556
7:45 AM	10	162	82	0	22	106	10	7	21	63	8	0	50	69	49	0	659
8:00 AM	13	149	63	0	29	117	10	4	16	72	5	0	45	68	41	0	632
8:15 AM	5	168	80	2	36	165	15	0	21	68	2	0	36	61	52	0	711
8:30 AM	9	160	87	2	39	142	23	3	22	64	14	0	42	64	40	0	711
8:45 AM	11	189	94	4	28	108	19	4	20	50	8	0	40	50	54	0	679
9:00 AM	19	178	72	4	22	124	15	5	16	51	4	0	39	73	51	0	673
9:15 AM	16	207	62	2	39	138	8	3	15	49	15	0	43	45	43	0	685
9:30 AM	12	177	57	1	40	135	13	5	18	58	7	0	44	38	49	0	654
9:45 AM	15	166	66	1	31	141	12	4	23	49	11	0	45	55	45	0	664
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	124	1900	817	17	358	1464	147	39	211	690	84	0	525	674	529	0	7579
APPROACH %'s :	4.34%	66.48%	28.59%	0.59%	17.83%	72.91%	7.32%	1.94%	21.42%	70.05%	8.53%	0.00%	30.38%	39.00%	30.61%	0.00%	
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	44	695	333	12	125	539	72	12	79	233	28	0	157	248	197	0	2774
PEAK HR FACTOR :	0.579	0.919	0.886	0.750	0.801	0.817	0.783	0.600	0.898	0.857	0.500	0.000	0.935	0.849	0.912	0.000	0.975
	0.909				0.866				0.850				0.923				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	2	0	0	0	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	14	205	84	1	52	206	20	5	23	85	14	0	65	69	53	0	896
4:15 PM	18	255	87	4	52	227	29	5	29	55	14	0	72	61	69	0	977
4:30 PM	18	180	80	5	63	175	35	11	24	55	15	0	85	79	62	0	887
4:45 PM	6	221	90	1	42	241	27	4	19	73	8	0	82	86	54	0	954
5:00 PM	8	211	105	3	70	233	25	5	22	73	12	0	68	67	60	0	962
5:15 PM	11	221	103	3	52	212	27	4	26	70	10	0	86	70	67	0	962
5:30 PM	16	170	70	2	50	180	29	5	21	51	16	0	66	78	60	0	814
5:45 PM	4	180	82	2	45	171	23	8	17	53	13	0	63	52	46	0	759
6:00 PM	16	235	76	2	31	187	25	3	17	41	16	0	61	65	46	0	821
6:15 PM	7	166	78	2	38	145	27	6	27	49	16	0	68	52	50	0	731
6:30 PM	16	157	85	1	32	157	25	5	12	32	12	0	56	52	48	0	690
6:45 PM	11	132	71	5	23	146	17	4	14	21	7	0	46	40	40	0	577
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	145	2333	1011	31	550	2280	309	65	251	658	153	0	818	771	655	0	10030
APPROACH %'s :	4.12%	66.28%	28.72%	0.88%	17.17%	71.16%	9.64%	2.03%	23.63%	61.96%	14.41%	0.00%	36.45%	34.36%	29.19%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	50	867	362	13	227	876	116	25	94	256	49	0	307	293	245	0	3780
PEAK HR FACTOR :	0.694	0.850	0.862	0.650	0.811	0.909	0.829	0.568	0.810	0.877	0.817	0.000	0.903	0.852	0.888	0.000	0.967
	0.887				0.934				0.932				0.935				

National Data & Surveying Services Intersection Turning Movement Count

Location: El Camino Real & Whipple Ave
City: Redwood City
Control: Signalized

Project ID: 21-080030-001
Date: 3/2/2021

Data - Bikes

NS/EW Streets:	El Camino Real				El Camino Real				Whipple Ave				Whipple Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	2	0	0	0	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	0	4
7:30 AM	0	1	1	0	0	2	0	0	0	0	0	0	0	0	1	0	5
7:45 AM	0	1	2	0	1	2	0	0	0	2	0	0	0	2	0	0	10
8:00 AM	0	0	1	0	0	3	0	0	0	0	0	0	0	1	0	0	5
8:15 AM	0	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	5
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
9:30 AM	0	2	1	0	0	1	0	0	0	0	0	0	0	1	0	0	5
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	9	5	0	1	11	1	0	0	4	0	0	0	5	4	0	40
APPROACH %'s :	0.00%	64.29%	35.71%	0.00%	7.69%	84.62%	7.69%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	55.56%	44.44%	0.00%	
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	0	3	0	0	0	1	1	0	0	1	0	0	0	1	0	0	7
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.350
	0.250				0.500				0.250				0.250				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	2	0	0	0	2	0	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	4
4:30 PM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
4:45 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	1	0	0	4
5:00 PM	0	0	0	0	0	3	0	1	0	0	0	0	0	1	0	0	5
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
5:30 PM	0	2	0	0	1	1	0	0	0	0	0	0	1	2	1	0	8
5:45 PM	0	2	0	0	1	1	0	0	0	0	0	0	0	0	1	0	5
6:00 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
6:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	3
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	8	0	0	2	12	0	1	0	4	1	0	4	7	2	0	41
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	13.33%	80.00%	0.00%	6.67%	0.00%	80.00%	20.00%	0.00%	30.77%	53.85%	15.38%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	3	0	0	0	7	0	1	0	2	0	0	0	3	0	0	16
PEAK HR FACTOR :	0.000	0.375	0.000	0.000	0.000	0.583	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.750	0.000	0.000	0.800
	0.375				0.500				0.500				0.750				

National Data & Surveying Services Intersection Turning Movement Count

Location: El Camino Real & Whipple Ave
City: Redwood City
Project ID: 21-080030-001
Date: 3/2/2021

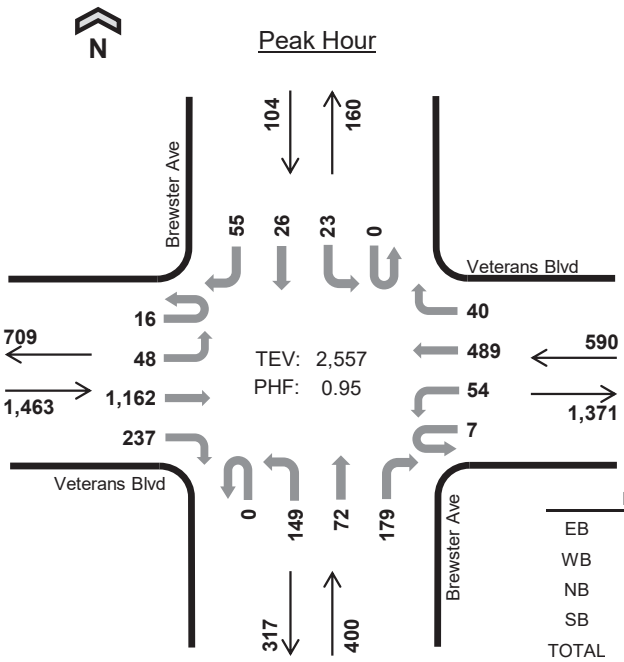
Data - Pedestrians (Crosswalks)

NS/EW Streets:	El Camino Real		El Camino Real		Whipple Ave		Whipple Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	2	2
7:15 AM	1	2	0	0	0	1	0	3	7
7:30 AM	0	1	0	0	0	0	1	2	4
7:45 AM	3	1	0	0	0	0	1	0	5
8:00 AM	1	1	0	0	1	0	1	1	5
8:15 AM	2	1	0	0	0	0	2	1	6
8:30 AM	0	2	0	0	0	1	0	2	5
8:45 AM	0	3	0	0	0	2	5	2	12
9:00 AM	0	0	0	0	0	0	1	4	5
9:15 AM	0	0	0	0	0	0	4	1	5
9:30 AM	0	1	0	0	0	1	2	1	5
9:45 AM	3	2	0	0	0	0	4	1	10
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	10	14	0	0	1	5	21	20	71
APPROACH %'s :	41.67%	58.33%			16.67%	83.33%	51.22%	48.78%	
PEAK HR :	**08:15 AM - 09:15 AM**								TOTAL
PEAK HR VOL :	2	6	0	0	0	3	8	9	28
PEAK HR FACTOR :	0.250	0.500				0.375	0.400	0.563	0.583
	0.667				0.375		0.607		

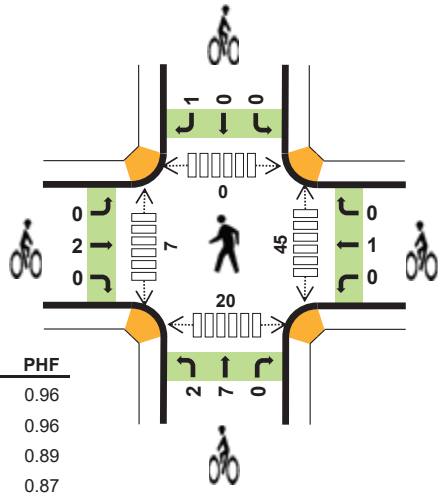
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	4	5
4:30 PM	2	1	0	0	0	0	1	0	4
4:45 PM	1	1	0	0	1	0	0	0	3
5:00 PM	3	0	0	0	1	0	3	2	9
5:15 PM	3	3	0	0	0	1	3	0	10
5:30 PM	2	5	0	0	0	0	2	2	11
5:45 PM	9	4	0	0	1	0	4	1	19
6:00 PM	2	2	0	0	0	1	1	2	8
6:15 PM	3	1	0	0	0	0	0	1	5
6:30 PM	1	4	0	0	0	0	0	3	8
6:45 PM	1	1	0	0	1	0	0	1	4
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	27	22	0	0	4	2	15	16	86
APPROACH %'s :	55.10%	44.90%			66.67%	33.33%	48.39%	51.61%	
PEAK HR :	**04:15 PM - 05:15 PM**								TOTAL
PEAK HR VOL :	6	2	0	0	2	0	5	6	21
PEAK HR FACTOR :	0.500	0.500			0.500		0.417	0.375	0.583
	0.667				0.500		0.550		

Brewster Ave
Veterans Blvd

Date: 01-31-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	1.3%	0.96
WB	3.6%	0.96
NB	0.8%	0.89
SB	2.9%	0.87
TOTAL	1.8%	0.95



Two-Hour Count Summaries

Interval Start		Veterans Blvd Eastbound				Veterans Blvd Westbound				Brewster Ave Northbound				Brewster Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		1	2	167	31	0	8	61	1	0	35	3	12	0	2	1	6	330	0
7:15 AM		0	5	230	30	0	9	79	3	0	35	7	14	0	1	1	11	425	0
7:30 AM		0	7	241	35	1	11	109	7	0	60	2	21	0	1	1	11	507	0
7:45 AM		2	10	302	48	0	11	87	6	0	43	9	28	0	1	3	10	560	1,822
8:00 AM		**5**	**12**	**313**	**51**	**2**	**20**	**113**	**7**	**0**	**28**	**16**	**38**	**0**	**4**	**5**	**17**	**631**	2,123
8:15 AM		**2**	**7**	**294**	**64**	**4**	**10**	**126**	**14**	**0**	**43**	**13**	**44**	**0**	**7**	**3**	**12**	**643**	2,341
8:30 AM		**4**	**12**	**260**	**58**	**0**	**11**	**134**	**2**	**0**	**39**	**22**	**45**	**0**	**3**	**11**	**12**	**613**	2,447
8:45 AM		**5**	**17**	**295**	**64**	**1**	**13**	**116**	**17**	**0**	**39**	**21**	**52**	**0**	**9**	**7**	**14**	**670**	**2,557**
Count Total		19	72	2,102	381	8	93	825	57	0	322	93	254	0	28	32	93	4,379	0
Peak Hour	**All**	**16**	**48**	**1,162**	**237**	**7**	**54**	**489**	**40**	**0**	**149**	**72**	**179**	**0**	**23**	**26**	**55**	**2,557**	**0**
	HV	**0**	**0**	**9**	**10**	**0**	**4**	**14**	**3**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**3**	**46**	**0**
	HV%	**0%**	**0%**	**1%**	**4%**	**0%**	**7%**	**3%**	**8%**	**-**	**1%**	**0%**	**1%**	**-**	**0%**	**0%**	**5%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	1	3	1	*8*	1	1	0	0	*2*	0	2	0	3	*5*
7:15 AM	10	2	1	0	*13*	0	1	0	0	*1*	1	1	0	5	*7*
7:30 AM	9	6	4	0	*19*	0	0	1	0	*1*	14	0	2	3	*19*
7:45 AM	7	5	7	0	*19*	1	0	0	0	*1*	3	1	0	0	*4*
8:00 AM	**6**	**6**	**1**	**2**	***15***	**0**	**0**	**3**	**0**	***3***	**8**	**2**	**0**	**6**	*16*
8:15 AM	**5**	**5**	**2**	**0**	***12***	**0**	**0**	**2**	**0**	***2***	**14**	**2**	**0**	**5**	*21*
8:30 AM	**6**	**3**	**0**	**0**	***9***	**2**	**1**	**3**	**1**	***7***	**14**	**1**	**0**	**2**	*17*
8:45 AM	**2**	**7**	**0**	**1**	***10***	**0**	**0**	**1**	**0**	***1***	**9**	**2**	**0**	**7**	***18***
Count Total	48	35	18	4	*105*	4	3	10	1	*18*	63	11	2	31	*107*
Peak Hour	**19**	**21**	**3**	**3**	***46***	**2**	**1**	**9**	**1**	***13***	**45**	**7**	**0**	**20**	***72***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Veterans Blvd Eastbound				Veterans Blvd Westbound				Brewster Ave Northbound				Brewster Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	2	0	1	0	0	0	1	0	2	0	0	0	1	8	0
7:15 AM	0	0	8	2	0	0	1	1	0	1	0	0	0	0	0	0	13	0
7:30 AM	0	0	7	2	0	0	5	1	0	3	0	1	0	0	0	0	19	0
7:45 AM	0	0	5	2	0	0	5	0	0	5	0	2	0	0	0	0	19	59
8:00 AM	**0**	**0**	**2**	**4**	**0**	**1**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**15**	66
8:15 AM	**0**	**0**	**4**	**1**	**0**	**1**	**2**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**12**	65
8:30 AM	**0**	**0**	**2**	**4**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	55
8:45 AM	**0**	**0**	**1**	**1**	**0**	**2**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	**46**
Count Total	0	0	30	18	0	5	25	5	0	11	0	7	0	0	0	4	105	0
Peak Hour	**0**	**0**	**9**	**10**	**0**	**4**	**14**	**3**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**3**	**46**	**0**

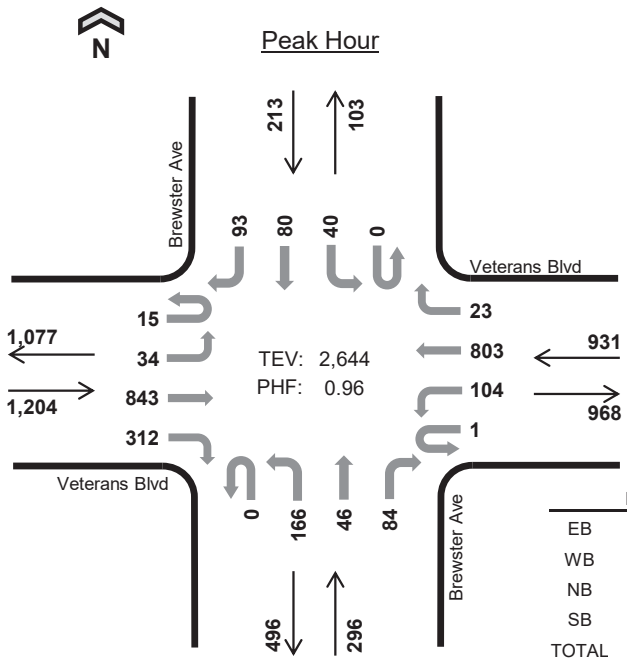
Two-Hour Count Summaries - Bikes

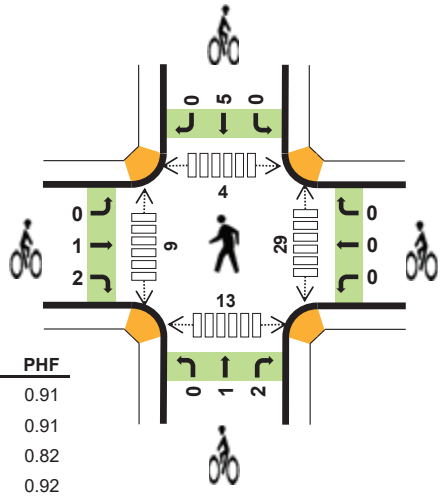
Interval Start	Veterans Blvd Eastbound			Veterans Blvd Westbound			Brewster Ave Northbound			Brewster Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	5
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	6
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	7
8:30 AM	**0**	**2**	**0**	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**7**	13
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**13**
Count Total	0	4	0	0	3	0	2	8	0	0	0	1	18	0
Peak Hour	**0**	**2**	**0**	**0**	**1**	**0**	**2**	**7**	**0**	**0**	**0**	**1**	**13**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Brewster Ave
Veterans Blvd

Date: 01-31-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	0.7%	0.91
WB	0.9%	0.91
NB	2.0%	0.82
SB	0.0%	0.92
TOTAL	0.8%	0.96

Two-Hour Count Summaries

Interval Start		Veterans Blvd Eastbound				Veterans Blvd Westbound				Brewster Ave Northbound				Brewster Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		2	7	195	54	2	19	211	5	0	56	13	27	0	16	17	13	637	0
4:15 PM		**3**	**12**	**211**	**65**	**1**	**30**	**216**	**9**	**0**	**33**	**10**	**25**	**0**	**11**	**17**	**23**	**666**	0
4:30 PM		**3**	**7**	**237**	**83**	**0**	**19**	**185**	**3**	**0**	**44**	**9**	**17**	**0**	**13**	**22**	**23**	**665**	0
4:45 PM		**7**	**9**	**192**	**74**	**0**	**28**	**191**	**7**	**0**	**38**	**11**	**19**	**0**	**10**	**17**	**20**	**623**	2,591
5:00 PM		**2**	**6**	**203**	**90**	**0**	**27**	**211**	**4**	**0**	**51**	**16**	**23**	**0**	**6**	**24**	**27**	**690**	**2,644**
5:15 PM		1	3	187	76	0	42	185	5	0	21	12	26	0	14	33	34	639	2,617
5:30 PM		3	5	193	82	0	44	190	4	0	49	10	27	0	9	30	20	666	2,618
5:45 PM		1	1	214	80	0	30	156	0	0	22	6	18	0	7	17	16	568	2,563
Count Total		22	50	1,632	604	3	239	1,545	37	0	314	87	182	0	86	177	176	5,154	0
Peak Hour	**All**	**15**	**34**	**843**	**312**	**1**	**104**	**803**	**23**	**0**	**166**	**46**	**84**	**0**	**40**	**80**	**93**	**2,644**	**0**
	HV	**0**	**1**	**4**	**3**	**0**	**1**	**7**	**0**	**0**	**3**	**2**	**1**	**0**	**0**	**0**	**0**	**22**	**0**
	HV%	**0%**	**3%**	**0%**	**1%**	**0%**	**1%**	**1%**	**0%**	**-**	**2%**	**4%**	**1%**	**-**	**0%**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	4	1	1	*8*	0	0	1	1	*2*	9	0	1	1	*11*
4:15 PM	**4**	**3**	**3**	**0**	***10***	**0**	**0**	**0**	**1**	***1***	**4**	**1**	**2**	**4**	*11*
4:30 PM	**1**	**2**	**0**	**0**	***3***	**2**	**0**	**1**	**0**	***3***	**6**	**3**	**0**	**1**	*10*
4:45 PM	**1**	**3**	**1**	**0**	***5***	**1**	**0**	**0**	**1**	***2***	**9**	**1**	**2**	**5**	*17*
5:00 PM	**2**	**0**	**2**	**0**	***4***	**0**	**0**	**2**	**3**	***5***	**10**	**4**	**0**	**3**	***17***
5:15 PM	1	2	1	1	*5*	0	0	0	4	*4*	19	3	1	9	*32*
5:30 PM	0	1	1	0	*2*	0	1	0	1	*2*	8	2	2	13	*25*
5:45 PM	3	0	1	0	*4*	1	1	2	2	*6*	9	2	0	6	*17*
Count Total	14	15	10	2	*41*	4	2	6	13	*25*	74	16	8	42	*140*
Peak Hour	**8**	**8**	**6**	**0**	***22***	**3**	**0**	**3**	**5**	***11***	**29**	**9**	**4**	**13**	***55***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Veterans Blvd Eastbound				Veterans Blvd Westbound				Brewster Ave Northbound				Brewster Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	4	0	0	0	0	1	0	1	0	0	8	0
4:15 PM	**0**	**0**	**1**	**3**	**0**	**0**	**3**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**10**	0
4:30 PM	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	26
5:00 PM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**4**	**22**
5:15 PM	0	0	0	1	0	0	2	0	0	0	0	1	0	0	0	1	5	17
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2	16
5:45 PM	0	0	1	2	0	0	0	0	0	1	0	0	0	0	0	0	4	15
Count Total	0	1	7	6	0	1	14	0	0	4	2	4	0	1	0	1	41	0
Peak Hour	**0**	**1**	**4**	**3**	**0**	**1**	**7**	**0**	**0**	**3**	**2**	**1**	**0**	**0**	**0**	**0**	**22**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Veterans Blvd Eastbound			Veterans Blvd Westbound			Brewster Ave Northbound			Brewster Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	1	0	1	0	2	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
4:30 PM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	8
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**5**	**11**
5:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	4	14
5:30 PM	0	0	0	0	1	0	0	0	0	0	1	0	2	13
5:45 PM	0	0	1	0	1	0	1	0	1	0	2	0	6	17
Count Total	0	1	3	0	2	0	1	1	4	0	13	0	25	0
Peak Hour	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**5**	**0**	**11**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Traffic Data Service

San Jose, CA
(408) 622-4787
tdsbay@cs.com

File Name : 7AM FINAL
Site Code : 00000007
Start Date : 5/25/2017
Page No : 1

Groups Printed- Lights - Buses - Trucks

	BROADWAY Southbound					BREWSTER AVE Westbound					BROADWAY Northbound					BREWSTER AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	40	3	0	43	7	13	0	4	24	0	16	3	2	21	14	31	0	4	49	137
07:15 AM	0	57	12	0	69	5	40	0	4	49	0	26	7	1	34	18	48	1	9	76	228
07:30 AM	0	81	13	0	94	7	57	2	4	70	0	19	4	0	23	22	57	0	4	83	270
07:45 AM	1	65	21	1	88	5	71	0	7	83	0	37	16	10	63	21	84	1	6	112	346
Total	1	243	49	1	294	24	181	2	19	226	0	98	30	13	141	75	220	2	23	320	981
08:00 AM	0	70	36	8	114	15	67	0	6	88	2	41	18	10	71	33	85	4	6	128	401
08:15 AM	1	83	27	4	115	18	73	0	22	113	3	34	29	27	93	41	65	5	0	111	432
08:30 AM	0	68	21	4	93	10	35	0	8	53	1	19	23	18	61	34	61	2	0	97	304
08:45 AM	0	73	30	2	105	12	26	0	7	45	0	34	11	3	48	24	70	1	1	96	294
Total	1	294	114	18	427	55	201	0	43	299	6	128	81	58	273	132	281	12	7	432	1431
Grand Total	2	537	163	19	721	79	382	2	62	525	6	226	111	71	414	207	501	14	30	752	2412
Apprch %	0.3	74.5	22.6	2.6		15	72.8	0.4	11.8		1.4	54.6	26.8	17.1		27.5	66.6	1.9	4		
Total %	0.1	22.3	6.8	0.8	29.9	3.3	15.8	0.1	2.6	21.8	0.2	9.4	4.6	2.9	17.2	8.6	20.8	0.6	1.2	31.2	
Lights	2	537	161	19	719	77	377	2	62	518	6	215	110	71	402	203	498	14	30	745	2384
% Lights	100	100	98.8	100	99.7	97.5	98.7	100	100	98.7	100	95.1	99.1	100	97.1	98.1	99.4	100	100	99.1	98.8
Buses	0	0	0	0	0	0	3	0	0	3	0	1	1	0	2	0	0	0	0	0	5
% Buses	0	0	0	0	0	0	0.8	0	0	0.6	0	0.4	0.9	0	0.5	0	0	0	0	0	0.2
Trucks	0	0	2	0	2	2	2	0	0	4	0	10	0	0	10	4	3	0	0	7	23
% Trucks	0	0	1.2	0	0.3	2.5	0.5	0	0	0.8	0	4.4	0	0	2.4	1.9	0.6	0	0	0.9	1

	BROADWAY Southbound				BREWSTER AVE Westbound				BROADWAY Northbound				BREWSTER AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**1**	65	21	87	5	71	0	76	0	37	16	53	21	84	1	106	322
08:00 AM	0	70	**36**	106	15	67	0	82	2	**41**	18	61	33	**85**	4	**122**	371
08:15 AM	1	**83**	27	**111**	**18**	**73**	0	**91**	**3**	34	**29**	**66**	**41**	65	**5**	111	**379**
08:30 AM	0	68	21	89	10	35	0	45	1	19	23	43	34	61	2	97	274
Total Volume	2	286	105	393	48	246	0	294	6	131	86	223	129	295	12	436	1346
% App. Total	0.5	72.8	26.7		16.3	83.7	0		2.7	58.7	38.6		29.6	67.7	2.8		
PHF	.500	.861	.729	.885	.667	.842	.000	.808	.500	.799	.741	.845	.787	.868	.600	.893	.888

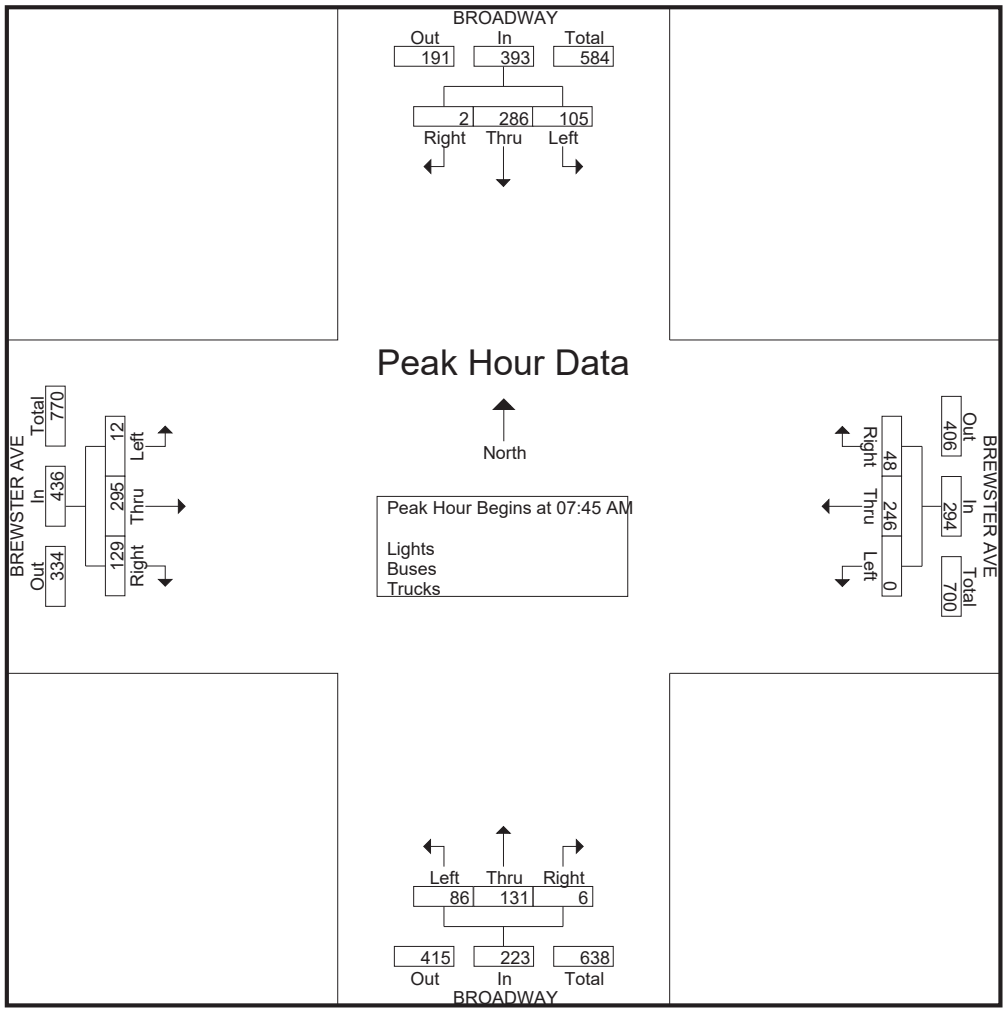
Traffic Data Service

San Jose, CA

(408) 622-4787

tdsbay@cs.com

File Name : 7AM FINAL
Site Code : 00000007
Start Date : 5/25/2017
Page No : 2



Traffic Data Service

San Jose, CA
(408) 622-4787
tdsbay@cs.com

File Name : 7PM FINAL
Site Code : 00000007
Start Date : 5/25/2017
Page No : 1

Groups Printed- Lights - Buses - Trucks

	BROADWAY Southbound					BREWSTER AVE Westbound					BROADWAY Northbound					BREWSTER AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	33	8	1	42	18	39	1	4	62	1	60	13	6	80	24	37	3	0	64	248
04:15 PM	0	38	4	3	45	27	55	1	6	89	0	47	17	2	66	17	30	2	2	51	251
04:30 PM	0	32	8	4	44	26	56	3	6	91	0	61	14	2	77	16	34	2	4	56	268
04:45 PM	0	44	6	4	54	27	65	0	10	102	2	67	14	3	86	16	28	2	2	48	290
Total	0	147	26	12	185	98	215	5	26	344	3	235	58	13	309	73	129	9	8	219	1057
05:00 PM	2	40	13	0	55	47	69	0	7	123	0	80	20	4	104	25	28	0	4	57	339
05:15 PM	1	43	11	1	56	30	77	3	5	115	0	70	29	2	101	13	29	0	1	43	315
05:30 PM	3	42	14	1	60	31	79	0	6	116	1	59	32	3	95	15	20	0	3	38	309
05:45 PM	2	39	5	6	52	39	69	0	2	110	1	72	14	4	91	18	43	2	7	70	323
Total	8	164	43	8	223	147	294	3	20	464	2	281	95	13	391	71	120	2	15	208	1286
Grand Total	8	311	69	20	408	245	509	8	46	808	5	516	153	26	700	144	249	11	23	427	2343
Apprch %	2	76.2	16.9	4.9		30.3	63	1	5.7		0.7	73.7	21.9	3.7		33.7	58.3	2.6	5.4		
Total %	0.3	13.3	2.9	0.9	17.4	10.5	21.7	0.3	2	34.5	0.2	22	6.5	1.1	29.9	6.1	10.6	0.5	1	18.2	
Lights	8	307	69	20	404	244	507	8	46	805	5	516	152	26	699	142	249	11	23	425	2333
% Lights	100	98.7	100	100	99	99.6	99.6	100	100	99.6	100	100	99.3	100	99.9	98.6	100	100	100	99.5	99.6
Buses	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
% Buses	0	0.6	0	0	0.5	0.4	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1
Trucks	0	2	0	0	2	0	2	0	0	2	0	0	1	0	1	2	0	0	0	2	7
% Trucks	0	0.6	0	0	0.5	0	0.4	0	0	0.2	0	0	0.7	0	0.1	1.4	0	0	0	0.5	0.3

	BROADWAY Southbound				BREWSTER AVE Westbound				BROADWAY Northbound				BREWSTER AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	2	40	13	55	**47**	69	0	**116**	0	**80**	20	**100**	**25**	28	0	53	**324**
05:15 PM	1	**43**	11	55	30	77	**3**	110	0	70	29	99	13	29	0	42	306
05:30 PM	**3**	42	**14**	**59**	31	**79**	0	110	**1**	59	**32**	92	15	20	0	35	296
05:45 PM	2	39	5	46	39	69	0	108	1	72	14	87	18	**43**	**2**	**63**	304
Total Volume	8	164	43	215	147	294	3	444	2	281	95	378	71	120	2	193	1230
% App. Total	3.7	76.3	20		33.1	66.2	0.7		0.5	74.3	25.1		36.8	62.2	1		
PHF	.667	.953	.768	.911	.782	.930	.250	.957	.500	.878	.742	.945	.710	.698	.250	.766	.949

Traffic Data Service

San Jose, CA

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File Name : 7PM FINAL
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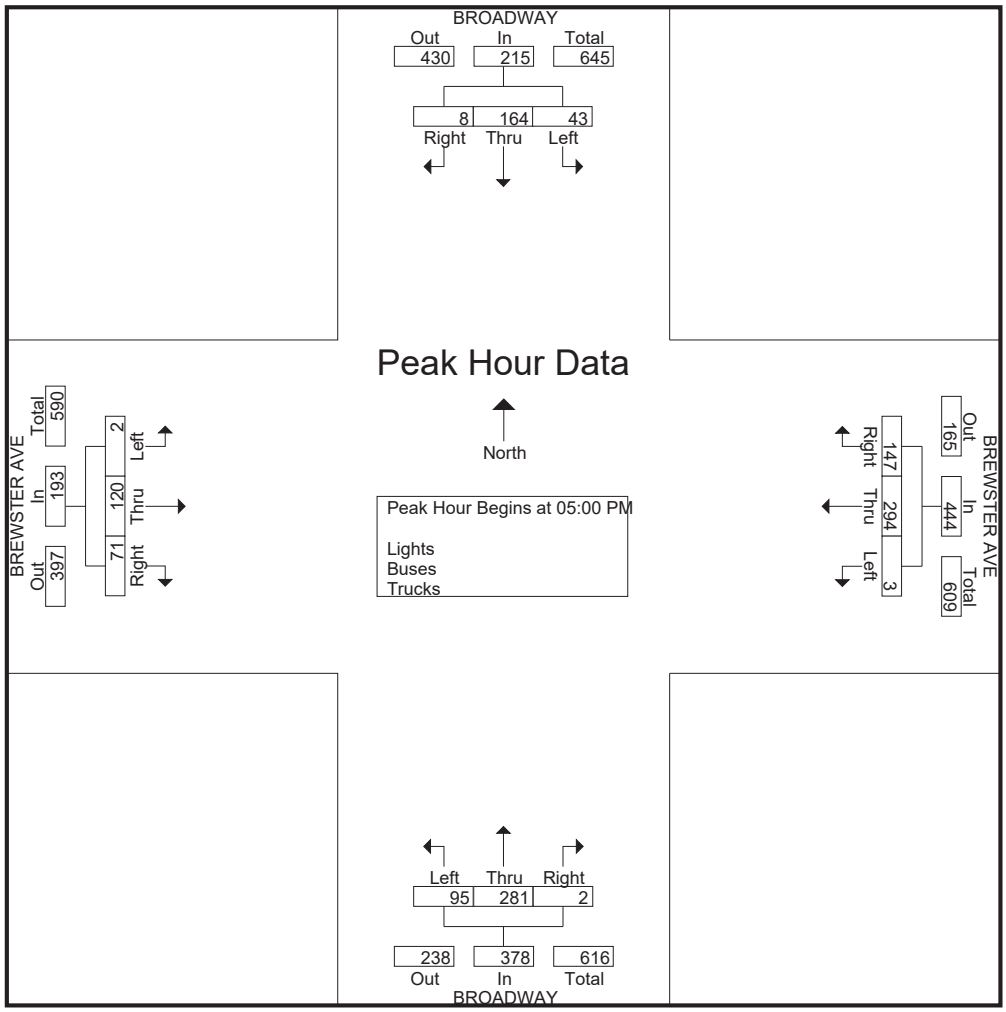


Prepared by National Data & Surveying Services

Arguello St & Brewster Ave

Peak Hour Turning Movement Count

ID: 21-080030-002
City: Redwood City

Day: Tuesday
Date: 3/2/2021

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	7:00 AM - 10:00 AM
NONE	NONE
04:00 PM - 05:00 PM	4:00 PM - 07:00 PM

SOUTHBOUND (Arguello St)

AM	149	41	8	0	103	AM
NOON	0	0	0	0	0	NOON
PM	54	71	15	0	150	PM

EASTBOUND (Brewster Ave)

AM	NOON	PM		
311	0	252		
0	0	0	0	
47	0	71	0	
167	0	132	2	
11	0	22	0	
AM	NOON	PM		

WESTBOUND (Brewster Ave)

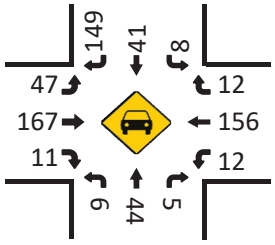
PM	NOON	AM	
16	0	12	0
191	0	156	2
18	0	12	0
0	0	0	0
163	0	180	
PM	NOON	AM	

NORTHBOUND (Arguello St)

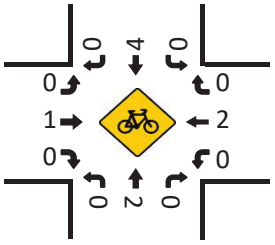
PM	111	0	7	63	16	PM
NOON	0	0	0	0	0	NOON
AM	64	0	6	44	5	AM

CONTROL			
Signalized			
TEV	658 AM	0 NOON	676 PM
PHF	0.89		0.95

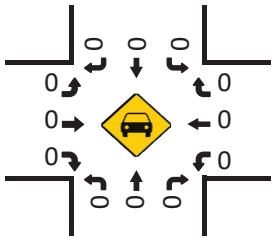
Total (AM)



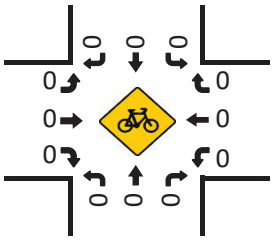
Total Bikes (AM)



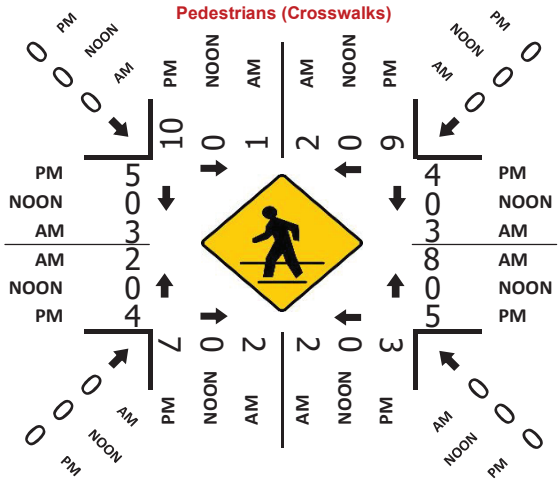
Total (NOON)



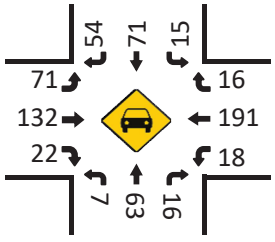
Total Bikes (NOON)



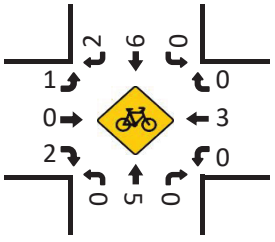
Pedestrians (Crosswalks)



Total (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Arguello St & Brewster Ave
City: Redwood City
Control: Signalized

Project ID: 21-080030-002
Date: 3/2/2021

Data - Totals

NS/EW Streets:	Arguello St				Arguello St				Brewster Ave				Brewster Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	0	0	0	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	9	1	0	1	5	3	0	10	13	1	0	3	7	1	0	54
7:15 AM	0	6	0	0	0	9	9	0	11	21	2	0	2	11	0	0	71
7:30 AM	0	10	0	0	0	13	22	0	9	30	1	0	1	18	1	0	105
7:45 AM	1	16	2	0	2	9	41	0	11	32	1	0	2	37	5	0	159
8:00 AM	1	9	1	0	2	11	48	0	15	28	1	0	5	39	1	0	161
8:15 AM	1	9	1	0	3	15	30	0	13	62	3	0	3	41	3	0	184
8:30 AM	3	10	1	0	1	6	30	0	8	45	6	0	2	39	3	0	154
8:45 AM	1	9	2	0	2	9	18	0	15	34	4	0	3	34	1	0	132
9:00 AM	2	13	1	0	4	6	21	0	8	29	4	0	4	32	3	0	127
9:15 AM	4	8	2	0	2	13	10	0	7	33	5	0	3	28	3	0	118
9:30 AM	3	9	3	0	3	17	11	0	11	27	4	0	2	26	3	0	119
9:45 AM	3	11	2	0	5	12	16	0	7	38	2	0	4	32	5	0	137
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	19	119	16	0	25	125	259	0	125	392	34	0	34	344	29	0	1521
APPROACH %'s :	12.34%	77.27%	10.39%	0.00%	6.11%	30.56%	63.33%	0.00%	22.69%	71.14%	6.17%	0.00%	8.35%	84.52%	7.13%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	6	44	5	0	8	41	149	0	47	167	11	0	12	156	12	0	658
PEAK HR FACTOR :	0.500	0.688	0.625	0.000	0.667	0.683	0.776	0.000	0.783	0.673	0.458	0.000	0.600	0.951	0.600	0.000	0.894
	0.724				0.811				0.721				0.957				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	0	0	0	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	13	5	0	4	16	16	0	16	32	6	0	4	52	1	0	167
4:15 PM	2	19	4	0	3	26	8	0	15	29	6	0	4	50	4	0	170
4:30 PM	2	16	6	0	2	16	11	0	19	35	5	0	6	39	4	0	161
4:45 PM	1	15	1	0	6	13	19	0	21	36	5	0	4	50	7	0	178
5:00 PM	0	18	3	0	1	19	13	0	15	33	3	0	2	53	6	0	166
5:15 PM	3	14	3	0	5	16	19	0	17	30	2	0	10	49	1	0	169
5:30 PM	4	14	1	0	5	16	9	0	14	24	5	0	0	40	6	0	138
5:45 PM	5	10	1	0	2	9	12	0	24	35	4	0	3	47	3	0	155
6:00 PM	5	15	2	0	1	10	11	0	8	21	5	0	1	32	7	0	118
6:15 PM	6	11	1	0	5	19	6	0	9	20	6	0	6	30	1	0	120
6:30 PM	2	15	2	0	1	7	12	0	10	28	6	0	2	29	5	0	119
6:45 PM	2	12	2	0	4	12	11	0	13	20	5	0	2	20	1	0	104
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	34	172	31	0	39	179	147	0	181	343	58	0	44	491	46	0	1765
APPROACH %'s :	14.35%	72.57%	13.08%	0.00%	10.68%	49.04%	40.27%	0.00%	31.10%	58.93%	9.97%	0.00%	7.57%	84.51%	7.92%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	7	63	16	0	15	71	54	0	71	132	22	0	18	191	16	0	676
PEAK HR FACTOR :	0.875	0.829	0.667	0.000	0.625	0.683	0.711	0.000	0.845	0.917	0.917	0.000	0.750	0.918	0.571	0.000	0.949
	0.860				0.921				0.907				0.922				

National Data & Surveying Services Intersection Turning Movement Count

Location: Arguello St & Brewster Ave
City: Redwood City
Control: Signalized

Project ID: 21-080030-002
Date: 3/2/2021

Data - Bikes

NS/EW Streets:	Arguello St				Arguello St				Brewster Ave				Brewster Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	0	0	0	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
7:15 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	4
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
8:45 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	10	0	0	1	7	0	0	1	2	0	0	0	2	0	0	23
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	12.50%	87.50%	0.00%	0.00%	33.33%	66.67%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	4	0	0	0	1	0	0	0	2	0	0	9
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.563
	0.500				0.333				0.250				0.500				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	0	0	0	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	2	0	0	0	0	2	0	0	1	0	0	5
4:15 PM	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	3
4:30 PM	0	4	0	0	0	3	1	0	0	0	0	0	0	1	0	0	9
4:45 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	0	4
5:15 PM	0	1	0	0	1	1	0	0	0	0	0	0	0	2	0	0	5
5:30 PM	0	1	0	0	0	2	0	0	1	2	0	0	0	0	0	0	6
5:45 PM	0	2	1	0	0	1	0	0	1	1	0	0	0	0	0	0	6
6:00 PM	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	4
6:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
6:45 PM	0	1	0	0	0	1	0	0	0	2	0	0	0	0	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	13	2	0	1	14	4	0	3	5	2	0	0	5	2	0	51
APPROACH %'s :	0.00%	86.67%	13.33%	0.00%	5.26%	73.68%	21.05%	0.00%	30.00%	50.00%	20.00%	0.00%	0.00%	71.43%	28.57%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	5	0	0	0	6	2	0	1	0	2	0	0	3	0	0	19
PEAK HR FACTOR :	0.000	0.313	0.000	0.000	0.000	0.500	0.500	0.000	0.250	0.000	0.250	0.000	0.000	0.750	0.000	0.000	0.528
	0.313				0.500				0.375				0.750				

National Data & Surveying Services Intersection Turning Movement Count

Location: Arguello St & Brewster Ave
City: Redwood City
Project ID: 21-080030-002
Date: 3/2/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Arguello St		Arguello St		Brewster Ave		Brewster Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	2	0	1	1	1	1	0	7
7:15 AM	0	1	1	2	3	0	0	1	8
7:30 AM	1	0	2	1	1	3	0	0	8
7:45 AM	0	2	1	0	1	2	0	2	8
8:00 AM	0	0	1	2	1	0	1	0	5
8:15 AM	1	0	0	0	2	1	1	1	6
8:30 AM	0	0	0	0	4	0	0	0	4
8:45 AM	0	1	2	0	1	0	1	0	5
9:00 AM	2	0	0	0	0	2	0	0	4
9:15 AM	1	2	0	1	2	0	0	0	6
9:30 AM	3	2	1	0	2	0	0	0	8
9:45 AM	0	1	2	4	3	0	0	3	13
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	9	11	10	11	21	9	4	7	82
APPROACH %'s :	45.00%	55.00%	47.62%	52.38%	70.00%	30.00%	36.36%	63.64%	
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	1	2	2	2	8	3	2	3	23
PEAK HR FACTOR :	0.250	0.250	0.500	0.250	0.500	0.375	0.500	0.375	0.719
	0.375		0.333		0.688		0.625		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	3	2	0	2	0	1	2	11
4:15 PM	3	2	1	2	1	0	0	1	10
4:30 PM	1	2	2	0	1	3	0	1	10
4:45 PM	5	2	2	1	1	1	3	1	16
5:00 PM	1	2	2	0	0	4	1	2	12
5:15 PM	0	3	1	0	1	2	1	1	9
5:30 PM	2	2	2	1	2	0	1	5	15
5:45 PM	1	1	6	3	2	2	0	1	16
6:00 PM	2	1	0	1	3	3	0	1	11
6:15 PM	0	0	0	2	1	1	0	0	4
6:30 PM	1	1	0	0	0	2	0	0	4
6:45 PM	2	0	2	0	1	0	2	0	7
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	19	19	20	10	15	18	9	15	125
APPROACH %'s :	50.00%	50.00%	66.67%	33.33%	45.45%	54.55%	37.50%	62.50%	
PEAK HR :	04:00 PM - 05:00 PM								TOTAL
PEAK HR VOL :	10	9	7	3	5	4	4	5	47
PEAK HR FACTOR :	0.500	0.750	0.875	0.375	0.625	0.333	0.333	0.625	0.734
	0.679		0.833		0.563		0.563		

Study Name 02 RCW
Start Date 05/26/2016
Start Time 7:00 AM
Site Code ALL VEHICLES

AM

	El Camino Real Southbound						Brewster Ave Westbound						El Camino Real Northbound						Whipple Ave Eastbound						Total
Start Time	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	
7:00 AM	7	164	5	0	1	177	9	13	9	1	0	32	0	161	14	0	0	175	10	24	1	0	0	35	419
7:15 AM	14	229	20	4	4	271	15	17	13	0	0	45	0	215	14	4	0	233	17	45	0	0	0	62	611
7:30 AM	24	253	18	2	4	301	25	19	7	0	0	51	0	251	17	4	0	272	20	56	2	1	0	79	703
7:45 AM	21	240	26	2	7	296	14	36	4	2	0	56	1	291	30	3	0	325	23	76	1	0	0	100	777
8:00 AM	25	245	21	8	4	303	21	68	7	4	0	100	0	241	33	3	0	277	20	88	5	0	0	113	793
8:15 AM	27	244	29	7	3	310	17	55	11	2	0	85	0	256	29	4	0	289	22	81	1	0	0	104	788
8:30 AM	26	278	11	1	2	318	14	31	7	0	0	52	0	237	28	2	0	267	24	97	2	1	0	124	761
8:45 AM	25	271	12	6	10	324	14	15	1	0	0	30	0	253	25	4	0	282	23	69	0	0	0	92	728
total	169	1924	142	30	35	2300	129	254	59	9	0	451	1	1905	190	24	0	2120	159	536	12	2	0	709	5580

Peak Hour 745-845

	El Camino Real Southbound						Brewster Ave Westbound						El Camino Real Northbound						Whipple Ave Eastbound						Total
Start Time	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	
7:45 AM	21	240	26	2	7	296	14	36	4	2	0	56	1	291	30	3	0	325	23	76	1	0	0	100	**777**
8:00 AM	25	245	21	8	4	303	21	68	7	4	0	100	0	241	33	3	0	277	20	88	5	0	0	113	**793**
8:15 AM	27	244	29	7	3	310	17	55	11	2	0	85	0	256	29	4	0	289	22	81	1	0	0	104	**788**
8:30 AM	26	278	11	1	2	318	14	31	7	0	0	52	0	237	28	2	0	267	24	97	2	1	0	124	**761**
total	99	1007	87	18	16	1227	66	190	29	8	0	293	1	1025	120	12	0	1158	89	342	9	1	0	441	3119
% Heavy Veh	2%	4%	0%				9%	2%	0%				0%	6%	2%				0%	1%	0%				
phf																									**0.98**

PM

	El Camino Real Southbound						Brewster Ave Westbound						El Camino Real Northbound						Whipple Ave Eastbound						Total
Start Time	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	
4:00 PM	19	276	16	6	5	322	34	54	23	2	0	113	2	326	32	2	0	362	24	32	5	1	0	62	859
4:15 PM	16	298	19	0	6	339	14	38	8	4	0	64	1	348	21	3	0	373	10	28	5	1	0	44	820
4:30 PM	14	243	16	3	3	279	27	76	23	4	0	130	1	352	29	0	0	382	15	48	3	0	0	66	857
4:45 PM	18	267	16	3	2	306	35	73	30	2	0	140	0	337	25	4	0	366	17	34	4	5	0	60	872
5:00 PM	14	308	17	4	3	346	43	85	45	3	0	176	1	330	15	2	0	348	12	22	2	5	0	41	911
5:15 PM	23	295	27	1	6	352	39	94	27	1	0	161	0	334	17	4	0	355	11	22	5	1	0	39	907
5:30 PM	15	274	18	6	8	321	30	87	34	2	0	153	0	374	26	3	0	403	7	19	2	1	0	29	906
5:45 PM	10	246	14	5	4	279	35	65	23	4	0	127	0	349	30	7	0	386	12	29	7	1	0	49	841
total	129	2207	143	28	37	2544	257	572	213	22	0	1064	5	2750	195	25	0	2975	108	234	33	15	0	390	6973

Peak Hour 445-545

	El Camino Real Southbound						Brewster Ave Westbound						El Camino Real Northbound						Whipple Ave Eastbound						Total
Start Time	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	Left	Thru	Right	RTOR	U-Turn	Total	
4:45 PM	18	267	16	3	2	306	35	73	30	2	0	140	0	337	25	4	0	366	17	34	4	5	0	60	872
5:00 PM	14	308	17	4	3	346	43	85	45	3	0	176	1	330	15	2	0	348	12	22	2	5	0	41	911
5:15 PM	23	295	27	1	6	352	39	94	27	1	0	161	0	334	17	4	0	355	11	22	5	1	0	39	907
5:30 PM	15	274	18	6	8	321	30	87	34	2	0	153	0	374	26	3	0	403	7	19	2	1	0	29	906
total	70	1144	78	14	19	1325	147	339	136	8	0	630	1	1375	83	13	0	1472	47	97	13	12	0	169	3596
% Heavy Veh	1%	1%	0%				3%	1%	1%				0%	2%	6%				0%	1%	0%				
phf																									**0.99**

Study Name 02 RCW
Start Date 05/26/2016
Start Time 7:00 AM
Site Code BICYCLES ON ROAD

	El Camino Real Southbound					Brewster Ave Westbound					El Camino Real Northbound					Brewster Ave Eastbound				
Start Time	Left	Thru	Right	Right on Re	U-Turn	Left	Thru	Right	Right on Re	U-Turn	Left	Thru	Right	Right on Re	U-Turn	Left	Thru	Right	Right on Re	U-Turn
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0
7:45 AM	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2	0	0	0
8:00 AM	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0
			0					2					0					6		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:45 PM	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
5:30 PM	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
			0																	

Study Name 02 RCW
Start Date 05/26/2016
Start Time 7:00 AM
Site Code BICYCLES ON CROSSWALK

	El Camino Real Southbound		Brewster Ave Westbound		El Camino Real Northbound		Brewster Ave Eastbound	
Start Time	Peds CCW	Peds CW	Peds CCW	Peds CW	Peds CCW	Peds CW	Peds CCW	Peds CW
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	1
8:15 AM	1	0	0	0	0	0	1	0
8:30 AM	1	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
	3		0		0		2	
4:00 PM	1	0	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	0	2	0
5:45 PM	0	0	0	0	1	0	0	0
	1		0		0		2	

Study Name 02 RCW
Start Date 05/26/2016
Start Time 7:00 AM
Site Code PEDESTRIANS

	El Camino Real Southbound		Brewster Ave Westbound		El Camino Real Northbound		Brewster Ave Eastbound	
Start Time	Peds CCW	Peds CW	Peds CCW	Peds CW	Peds CCW	Peds CW	Peds CCW	Peds CW
7:00 AM	0	0	2	0	0	0	1	1
7:15 AM	0	0	2	0	1	1	3	0
7:30 AM	0	1	0	1	2	3	2	0
7:45 AM	1	7	4	1	0	1	0	0
8:00 AM	5	2	1	0	0	1	4	1
8:15 AM	4	0	2	0	2	1	1	0
8:30 AM	5	1	4	5	2	4	2	1
8:45 AM	1	1	2	2	0	1	3	1
	25		17		11		9	
4:00 PM	0	1	4	10	3	0	1	0
4:15 PM	0	1	0	3	1	3	4	3
4:30 PM	2	2	4	4	1	0	0	1
4:45 PM	8	7	9	4	3	4	2	0
5:00 PM	0	3	0	3	1	1	2	1
5:15 PM	2	4	3	5	0	2	0	0
5:30 PM	3	0	6	3	2	1	0	1
5:45 PM	0	1	3	3	0	0	2	2
	27		33		14		6	

Date: Tue, Mar 12, 2019
Count Period: 12:00 AM to 12:00 PM

Twelve-Hour Count Summaries

Interval Start	Jefferson Ave Eastbound				Jefferson Ave Westbound				Middlefield Rd Northbound				Middlefield Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
12:00 AM	0	0	7	8	0	2	14	1	0	7	0	0	0	4	1	4	48	0
12:15 AM	0	1	2	7	0	0	9	0	0	5	1	2	0	2	1	2	32	0
12:30 AM	0	1	1	1	0	1	8	1	0	3	2	1	0	0	0	2	21	0
12:45 AM	0	0	6	2	0	1	4	0	0	2	3	0	0	0	3	0	21	122
1:00 AM	0	0	2	3	0	1	3	0	0	2	0	0	0	0	0	2	13	87
1:15 AM	0	1	0	1	0	0	5	0	0	2	0	0	0	0	0	0	9	64
1:30 AM	0	0	4	2	0	0	1	1	0	2	0	0	0	0	0	0	10	53
1:45 AM	0	0	0	0	0	1	0	0	0	0	3	0	0	1	0	1	6	38
2:00 AM	0	1	3	2	0	0	1	0	0	1	2	0	0	0	1	1	12	37
2:15 AM	0	0	0	2	0	0	2	0	0	3	0	0	0	0	2	1	10	38
2:30 AM	0	1	0	1	0	1	5	0	0	1	0	0	0	0	0	0	9	37
2:45 AM	0	0	1	2	0	0	3	0	0	0	2	0	0	0	1	0	9	40
3:00 AM	0	1	1	2	0	0	1	0	0	2	0	0	0	0	0	1	8	36
3:15 AM	0	0	1	1	0	0	1	0	0	3	1	0	0	0	0	1	8	34
3:30 AM	0	0	1	0	0	1	1	0	0	1	1	0	0	0	4	0	9	34
3:45 AM	0	0	1	2	0	0	2	0	0	3	0	0	0	1	1	0	10	35
4:00 AM	0	1	1	0	0	0	5	1	0	1	0	0	0	0	0	1	10	37
4:15 AM	0	0	4	0	0	0	4	0	0	3	2	0	0	1	0	1	15	44
4:30 AM	0	1	10	3	0	1	3	1	0	3	3	3	0	1	1	0	30	65
4:45 AM	0	1	12	5	0	3	5	1	0	2	10	1	0	0	0	0	40	95
5:00 AM	0	2	17	3	0	1	8	1	0	5	5	0	0	2	1	5	50	135
5:15 AM	0	2	9	7	0	1	4	1	0	3	2	0	0	1	2	1	33	153
5:30 AM	0	0	15	6	0	0	13	1	0	8	6	2	0	0	3	3	57	180
5:45 AM	0	5	25	18	0	1	10	2	0	11	11	0	0	0	5	2	90	230
6:00 AM	0	2	21	9	1	5	19	2	0	8	8	4	0	0	7	3	89	269
6:15 AM	0	1	26	12	0	0	28	1	0	9	11	4	0	1	9	5	107	343
6:30 AM	0	14	39	30	0	4	19	1	0	12	19	8	0	2	4	4	156	442
6:45 AM	0	10	37	18	0	6	32	1	0	17	11	4	0	2	13	5	156	508
7:00 AM	0	10	45	28	0	3	32	6	0	15	12	2	0	1	4	3	161	580
7:15 AM	0	13	43	38	0	3	35	4	0	42	19	8	0	2	6	12	225	698
7:30 AM	0	21	60	40	0	3	58	4	0	53	21	4	0	4	23	18	309	851
7:45 AM	**0**	**39**	**90**	**89**	**0**	**5**	**75**	**4**	**0**	**63**	**25**	**6**	**0**	**6**	**18**	**19**	**439**	1,134
8:00 AM	**0**	**33**	**99**	**88**	**0**	**8**	**70**	**6**	**0**	**83**	**22**	**8**	**0**	**4**	**27**	**28**	**476**	1,449
8:15 AM	**0**	**33**	**113**	**107**	**0**	**7**	**68**	**8**	**0**	**78**	**35**	**11**	**0**	**4**	**21**	**18**	**503**	1,727
8:30 AM	**0**	**56**	**137**	**120**	**0**	**6**	**46**	**7**	**0**	**39**	**28**	**9**	**0**	**3**	**25**	**13**	**489**	**1,907**
8:45 AM	0	40	103	73	0	7	44	8	0	32	50	12	0	9	20	15	413	1,881
9:00 AM	0	29	81	90	0	10	57	11	0	32	25	13	0	8	12	10	378	1,783
9:15 AM	0	37	72	54	0	8	41	9	0	32	24	8	0	10	18	14	327	1,607
9:30 AM	0	29	88	64	0	14	62	10	0	33	34	9	0	6	24	14	387	1,505
9:45 AM	0	18	57	60	0	15	61	3	0	50	25	7	0	2	16	10	324	1,416
10:00 AM	0	18	69	57	0	14	51	11	0	40	21	16	0	4	13	15	329	1,367
10:15 AM	0	15	65	49	0	7	48	9	0	35	28	14	0	4	8	16	298	1,338
10:30 AM	0	20	86	42	0	12	57	10	0	44	31	20	0	4	20	16	362	1,313
10:45 AM	0	11	59	58	0	9	58	15	0	52	37	17	0	9	15	11	351	1,340
11:00 AM	0	30	65	57	0	10	69	17	0	36	18	13	0	6	11	14	346	1,357
11:15 AM	0	21	64	54	0	16	68	11	0	41	27	13	0	5	18	19	357	1,416
11:30 AM	0	11	73	44	0	10	87	1	0	52	24	14	0	3	21	17	357	1,411
11:45 AM	0	13	57	65	0	15	73	13	0	69	28	12	0	9	13	19	386	1,446
Count Total	0	542	1,772	1,424	1	212	1,370	183	0	1,040	637	245	0	121	392	346	8,285	0
AM Total (0:00 - 12:00)	**0**	**542**	**1,772**	**1,424**	**1**	**212**	**1,370**	**183**	**0**	**1,040**	**637**	**245**	**0**	**121**	**392**	**346**	**8,285**	**0**
AM Peak (7:45 - 8:45)	**0**	**161**	**439**	**404**	**0**	**26**	**259**	**25**	**0**	**263**	**110**	**34**	**0**	**17**	**91**	**78**	**1,907**	**0**

Note: Twelve-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
12:00 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
12:15 AM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
12:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	1	0	*2*
12:45 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	2	0	*2*
1:00 AM	1	0	0	0	*1*	0	1	0	0	*1*	0	0	0	0	*0*
1:15 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
1:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
1:45 AM	0	0	1	0	*1*	0	0	0	0	*0*	1	0	0	0	*1*
2:00 AM	1	0	1	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
2:15 AM	0	0	1	0	*1*	0	0	0	0	*0*	1	0	0	0	*1*
2:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
2:45 AM	1	0	1	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
3:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	2	0	2	0	*4*
3:15 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
3:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
3:45 AM	1	0	1	0	*2*	0	0	0	0	*0*	1	0	0	0	*1*
4:00 AM	0	0	0	0	*0*	0	0	1	0	*1*	0	1	0	0	*1*
4:15 AM	0	1	1	0	*2*	0	0	0	0	*0*	2	0	2	0	*4*
4:30 AM	0	1	1	1	*3*	0	0	0	0	*0*	2	0	1	0	*3*
4:45 AM	1	1	2	0	*4*	0	0	1	0	*1*	0	0	1	0	*1*
5:00 AM	2	2	2	1	*7*	0	0	0	0	*0*	1	0	1	0	*2*

5:15 AM	0	0	2	1	*3*	0	0	1	0	*1*	1	0	0	0	*1*
5:30 AM	1	0	0	1	*2*	0	0	1	0	*1*	1	0	0	0	*1*
5:45 AM	2	1	1	0	*4*	0	0	0	0	*0*	7	0	1	0	*8*
6:00 AM	2	0	1	1	*4*	0	0	1	0	*1*	1	2	3	0	*6*
6:15 AM	2	1	1	1	*5*	1	0	0	1	*2*	3	0	1	1	*5*
6:30 AM	3	1	1	2	*7*	0	1	1	2	*4*	8	0	0	0	*8*
6:45 AM	3	1	1	3	*8*	0	0	2	1	*3*	8	0	1	1	*10*
7:00 AM	2	6	1	2	*11*	0	0	1	1	*2*	3	0	2	1	*6*
7:15 AM	2	0	2	2	*6*	2	0	5	0	*7*	10	0	0	1	*11*
7:30 AM	4	2	0	5	*11*	0	0	4	1	*5*	16	0	5	2	*23*
7:45 AM	**0**	**0**	**3**	**1**	***4***	**2**	**0**	**0**	**1**	***3***	**11**	**0**	**6**	**2**	*19*
8:00 AM	**5**	**1**	**1**	**4**	***11***	**1**	**0**	**2**	**1**	***4***	**21**	**0**	**2**	**2**	*25*
8:15 AM	**7**	**3**	**1**	**4**	***15***	**2**	**0**	**1**	**2**	***5***	**20**	**0**	**7**	**4**	*31*
8:30 AM	**8**	**1**	**2**	**7**	***18***	**0**	**0**	**3**	**2**	***5***	**13**	**0**	**6**	**3**	**22**
8:45 AM	3	3	4	1	*11*	0	0	5	3	*8*	11	0	4	0	*15*
9:00 AM	8	0	3	4	*15*	2	0	2	0	*4*	19	0	6	6	*31*
9:15 AM	7	3	3	8	*21*	1	0	1	5	*7*	16	1	9	6	*32*
9:30 AM	4	2	2	3	*11*	0	0	7	0	*7*	13	0	14	5	*32*
9:45 AM	0	3	2	1	*6*	1	0	1	2	*4*	10	0	7	5	*22*
10:00 AM	9	2	1	3	*15*	1	0	4	0	*5*	10	0	7	6	*23*
10:15 AM	3	1	10	0	*14*	0	1	3	2	*6*	15	0	13	8	*36*
10:30 AM	3	1	3	3	*10*	0	0	1	0	*1*	14	0	9	5	*28*
10:45 AM	4	2	4	1	*11*	0	0	1	1	*2*	15	0	11	3	*29*
11:00 AM	5	4	1	2	*12*	0	0	1	1	*2*	19	0	10	12	*41*
11:15 AM	6	0	2	0	*8*	1	0	0	0	*1*	11	0	10	10	*31*
11:30 AM	4	4	4	0	*12*	0	0	1	0	*1*	17	0	8	9	*34*
11:45 AM	4	2	6	0	*12*	0	0	2	0	*2*	41	0	12	11	*64*
Count Total	110	49	76	63	*298*	14	3	53	26	*96*	345	4	165	103	*617*
AM Total (0:00 - 12:00)	**110**	**49**	**76**	**63**	***298***	**14**	**3**	**53**	**26**	***96***	**345**	**4**	**165**	**103**	***617***
AM Peak (7:45 - 8:45)	**20**	**5**	**7**	**16**	***48***	**5**	**0**	**6**	**6**	***17***	**65**	**0**	**21**	**11**	***97***

Twelve-Hour Count Summaries - Heavy Vehicles

Interval Start	Jefferson Ave Eastbound				Jefferson Ave Westbound				Middlefield Rd Northbound				Middlefield Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
12:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
1:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4
1:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3
2:00 AM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	4
2:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2:45 AM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	5
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:45 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2	3
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	4
4:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	3	7
4:45 AM	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	0	4	9
5:00 AM	0	0	1	1	0	0	2	0	0	1	1	0	0	1	0	0	7	16
5:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	3	17
5:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	16
5:45 AM	0	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	4	16
6:00 AM	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	1	4	13
6:15 AM	0	0	0	2	0	0	1	0	0	0	0	1	0	0	1	0	5	15
6:30 AM	0	0	1	2	0	0	1	0	0	1	0	0	0	1	1	0	7	20
6:45 AM	0	0	0	3	0	0	1	0	0	1	0	0	0	1	1	1	8	24
7:00 AM	0	0	1	1	0	0	6	0	0	1	0	0	0	1	1	0	11	31
7:15 AM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	2	0	6	32
7:30 AM	0	0	3	1	0	0	2	0	0	0	0	0	0	2	3	0	11	36
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	32
8:00 AM	**0**	**0**	**2**	**3**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**2**	**11**	32
8:15 AM	**0**	**1**	**0**	**6**	**0**	**1**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**1**	**15**	41
8:30 AM	**0**	**2**	**4**	**2**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**7**	**0**	**18**	**48**
8:45 AM	0	0	1	2	0	0	3	0	0	2	2	0	0	1	0	0	11	55
9:00 AM	0	2	2	4	0	0	0	0	0	3	0	0	0	0	4	0	15	59
9:15 AM	0	0	2	5	0	0	3	0	0	1	2	0	0	2	4	2	21	65
9:30 AM	0	1	1	2	0	0	1	1	0	2	0	0	0	1	2	0	11	58
9:45 AM	0	0	0	0	0	1	2	0	0	1	1	0	0	0	1	0	6	53
10:00 AM	0	1	4	4	0	0	0	2	0	1	0	0	0	2	1	0	15	53
10:15 AM	0	1	0	2	0	0	1	0	0	6	1	3	0	0	0	0	14	46
10:30 AM	0	0	2	1	0	0	1	0	0	3	0	0	0	0	2	1	10	45
10:45 AM	0	0	1	3	0	0	2	0	0	2	1	1	0	0	1	0	11	50
11:00 AM	0	2	1	2	0	0	4	0	0	1	0	0	0	2	0	0	12	47
11:15 AM	0	0	1	5	0	0	0	0	0	2	0	0	0	0	0	0	8	41
11:30 AM	0	0	2	2	0	0	4	0	0	4	0	0	0	0	0	0	12	43
11:45 AM	0	0	3	1	0	0	1	1	0	3	2	1	0	0	0	0	12	44
Count Total	0	10	36	64	0	2	42	5	0	55	14	7	0	15	39	9	298	0

AM Total (0:00 - 12:00)	**0**	**10**	**36**	**64**	**0**	**2**	**42**	**5**	**0**	**55**	**14**	**7**	**0**	**15**	**39**	**9**	**298**	**0**
AM Peak (7:45 - 8:45)	**0**	**3**	**6**	**11**	**0**	**1**	**4**	**0**	**0**	**7**	**0**	**0**	**0**	**1**	**12**	**3**	**48**	**0**

Twelve-Hour Count Summaries - Bikes

Interval Start	Jefferson Ave Eastbound				Jefferson Ave Westbound				Middlefield Rd Northbound				Middlefield Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3
6:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	4
6:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	4	7
6:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	3	10
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	11
7:15 AM	0	1	0	1	0	0	0	0	0	0	5	0	0	0	0	0	7	16
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	5	17
7:45 AM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	17
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**4**	19
8:15 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**5**	17
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**5**	**17**
8:45 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	1	2	0	8	22
9:00 AM	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4	22
9:15 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	5	0	7	24
9:30 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7	26
9:45 AM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	1	4	22
10:00 AM	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	5	23
10:15 AM	0	0	0	0	0	0	1	0	0	0	2	1	0	0	2	0	6	22
10:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	16
10:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	14
11:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	11
11:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	6
11:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	6
Count Total	0	5	4	5	0	0	2	1	1	0	47	5	0	1	23	2	96	0
AM Total (0:00 - 12:00)	**0**	**5**	**4**	**5**	**0**	**0**	**2**	**1**	**1**	**0**	**47**	**5**	**0**	**1**	**23**	**2**	**96**	**0**
AM Peak (7:45 - 8:45)	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**1**	**0**	**0**	**6**	**0**	**17**	**0**

Date: Tue, Mar 12, 2019
Count Period: 12:00 PM to 0:00 AM

Twelve-Hour Count Summaries

Interval Start	Jefferson Ave Eastbound				Jefferson Ave Westbound				Middlefield Rd Northbound				Middlefield Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
12:00 PM	0	18	67	63	0	12	68	6	0	71	36	20	0	9	29	14	413	0
12:15 PM	0	14	73	65	0	7	79	7	0	44	26	18	0	4	20	12	369	0
12:30 PM	0	17	68	53	0	9	66	6	0	64	29	15	0	4	19	16	366	0
12:45 PM	0	22	55	65	0	14	77	5	0	59	24	22	0	5	22	21	391	1,539
1:00 PM	0	14	70	54	0	12	67	4	0	48	30	13	0	3	22	14	351	1,477
1:15 PM	0	16	60	57	0	13	73	10	0	61	31	11	0	6	18	21	377	1,485
1:30 PM	0	13	52	65	0	13	71	2	0	41	28	23	0	4	28	19	359	1,478
1:45 PM	0	14	67	82	0	9	75	5	0	58	16	20	0	4	22	12	384	1,471
2:00 PM	0	21	75	72	0	15	79	4	0	48	16	17	0	6	27	16	396	1,516
2:15 PM	0	12	64	69	0	12	73	0	0	48	23	15	0	5	20	25	366	1,505
2:30 PM	0	5	60	61	0	17	73	3	0	58	21	10	0	2	24	30	364	1,510
2:45 PM	0	15	67	62	0	14	69	1	0	61	21	8	0	9	19	25	371	1,497
3:00 PM	0	13	82	67	0	13	74	2	0	52	19	8	0	2	20	21	373	1,474
3:15 PM	0	25	66	69	0	9	75	7	0	57	21	14	0	3	24	23	393	1,501
3:30 PM	0	15	62	64	0	8	91	3	0	79	29	20	0	4	31	21	427	1,564
3:45 PM	0	34	82	103	0	15	94	4	0	66	26	13	0	5	28	23	493	1,686
4:00 PM	0	22	66	82	0	13	106	4	0	83	41	11	0	7	33	33	501	1,814
4:15 PM	0	25	59	80	0	12	103	1	0	65	36	13	0	8	33	34	469	1,890
4:30 PM	0	21	58	61	0	11	95	5	0	95	26	18	0	5	36	49	480	1,943
4:45 PM	**0**	**23**	**63**	**72**	**0**	**10**	**114**	**0**	**0**	**84**	**38**	**15**	**0**	**8**	**32**	**58**	**517**	1,967
5:00 PM	**0**	**24**	**61**	**61**	**0**	**21**	**105**	**4**	**0**	**78**	**30**	**10**	**0**	**5**	**43**	**46**	**488**	1,954
5:15 PM	**0**	**33**	**69**	**73**	**0**	**10**	**105**	**4**	**0**	**86**	**31**	**8**	**0**	**9**	**30**	**52**	**510**	1,995
5:30 PM	**0**	**25**	**68**	**57**	**0**	**15**	**102**	**2**	**0**	**82**	**35**	**12**	**0**	**6**	**38**	**54**	**496**	**2,011**
5:45 PM	0	20	57	66	0	13	106	10	0	71	33	21	0	6	32	42	477	1,971
6:00 PM	0	21	45	58	0	11	86	8	0	63	33	26	0	10	33	46	440	1,923
6:15 PM	0	17	63	81	0	15	88	6	0	68	35	16	0	6	27	43	465	1,878
6:30 PM	0	20	49	52	0	16	93	5	0	53	31	15	0	5	37	26	402	1,784
6:45 PM	0	22	60	58	0	16	82	2	0	38	27	21	0	8	32	25	391	1,698
7:00 PM	0	20	69	52	0	16	84	5	0	66	33	19	0	4	30	28	426	1,684
7:15 PM	0	18	55	44	0	25	91	2	0	44	32	18	0	10	23	31	393	1,612
7:30 PM	0	16	46	36	0	8	87	4	0	54	27	16	0	3	27	30	354	1,564
7:45 PM	0	14	55	30	0	15	68	3	0	51	19	10	0	4	24	16	309	1,482
8:00 PM	0	10	55	47	0	18	59	2	0	48	11	25	0	4	20	17	316	1,372
8:15 PM	0	14	35	29	0	14	56	4	0	31	14	20	0	5	15	28	265	1,244
8:30 PM	0	11	38	26	0	11	63	6	0	35	15	13	0	3	13	10	244	1,134
8:45 PM	0	9	36	30	0	8	64	4	0	31	21	15	0	5	11	15	249	1,074
9:00 PM	0	8	38	29	0	13	65	5	0	37	17	4	0	3	22	12	253	1,011
9:15 PM	0	5	28	23	0	10	47	4	0	38	11	7	0	1	13	17	204	950
9:30 PM	0	6	14	15	0	10	48	1	0	17	8	6	0	3	17	3	148	854
9:45 PM	0	7	25	10	0	4	33	2	0	23	12	7	0	5	5	12	145	750
10:00 PM	0	5	30	25	0	4	29	1	0	16	5	7	0	3	10	10	145	642
10:15 PM	0	6	17	6	0	10	35	3	0	6	4	5	0	1	9	8	110	548
10:30 PM	1	3	17	15	0	3	15	1	0	11	2	8	0	1	2	1	80	480
10:45 PM	0	2	7	9	0	3	22	0	0	3	4	2	0	1	5	5	63	398
11:00 PM	0	2	8	7	0	8	28	1	0	8	2	3	0	3	4	11	85	338
11:15 PM	0	1	16	3	0	4	21	0	0	4	0	2	0	0	3	3	57	285
11:30 PM	0	0	9	6	0	3	16	0	0	8	1	2	0	0	3	4	52	257
11:45 PM	0	0	9	6	0	1	25	1	0	4	2	1	0	0	1	3	53	247
Count Total	1	698	2,395	2,320	0	543	3,345	169	0	2,316	1,032	623	0	217	1,036	1,085	15,780	0
PM Total (12:00 - 0:00)	**1**	**698**	**2,395**	**2,320**	**0**	**543**	**3,345**	**169**	**0**	**2,316**	**1,032**	**623**	**0**	**217**	**1,036**	**1,085**	**15,780**	**0**
PM Peak (4:45 - 5:45)	**0**	**105**	**261**	**263**	**0**	**56**	**426**	**10**	**0**	**330**	**134**	**45**	**0**	**28**	**143**	**210**	**2,011**	**0**

Note: Twelve-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
12:00 PM	7	2	1	4	*14*	0	1	1	0	*2*	36	0	31	15	*82*
12:15 PM	5	1	1	1	*8*	0	0	1	0	*1*	27	0	20	19	*66*
12:30 PM	6	0	4	1	*11*	0	0	1	0	*1*	23	0	20	18	*61*
12:45 PM	7	4	1	0	*12*	0	0	1	0	*1*	23	0	19	14	*56*
1:00 PM	4	0	2	1	*7*	0	0	1	1	*2*	26	0	15	13	*54*
1:15 PM	4	1	3	0	*8*	0	0	1	2	*3*	19	0	18	12	*49*
1:30 PM	5	2	3	0	*10*	0	0	1	0	*1*	21	0	13	1	*35*
1:45 PM	3	1	1	1	*6*	0	0	0	0	*0*	21	0	13	18	*52*
2:00 PM	4	0	1	0	*5*	0	0	0	0	*0*	16	0	13	3	*32*
2:15 PM	2	2	2	2	*8*	0	0	1	0	*1*	13	0	7	19	*39*
2:30 PM	4	0	1	0	*5*	0	0	1	1	*2*	22	0	8	16	*46*
2:45 PM	0	2	3	1	*6*	1	0	2	0	*3*	21	0	11	7	*39*
3:00 PM	4	1	1	0	*6*	0	0	1	0	*1*	18	1	9	3	*31*
3:15 PM	1	3	3	1	*8*	0	1	0	1	*2*	14	0	2	10	*26*
3:30 PM	2	0	1	1	*4*	0	0	3	0	*3*	15	0	4	5	*24*
3:45 PM	4	1	2	1	*8*	0	0	0	0	*0*	15	0	2	3	*20*
4:00 PM	6	0	2	3	*11*	2	0	3	0	*5*	13	0	2	13	*28*
4:15 PM	2	2	1	2	*7*	0	0	1	0	*1*	11	0	3	6	*20*
4:30 PM	2	0	2	2	*6*	0	0	0	1	*1*	16	0	6	4	*26*
4:45 PM	**3**	**2**	**2**	**4**	***11***	**0**	**1**	**4**	**0**	***5***	**19**	**0**	**11**	**18**	*48*
5:00 PM	**2**	**0**	**0**	**0**	***2***	**0**	**2**	**0**	**3**	***5***	**20**	**0**	**5**	**8**	*33*

5:15 PM	**2**	**1**	**0**	**5**	***8***	**0**	**0**	**1**	**2**	***3***	**25**	**0**	**18**	**9**	*52*
5:30 PM	**3**	**1**	**1**	**3**	***8***	**0**	**0**	**3**	**8**	***11***	**30**	**0**	**12**	**6**	***48***
5:45 PM	0	1	1	3	*5*	0	0	1	3	*4*	20	0	11	5	*36*
6:00 PM	3	1	0	3	*7*	1	2	2	2	*7*	23	0	22	9	*54*
6:15 PM	1	0	0	5	*6*	0	0	4	5	*9*	19	0	11	6	*36*
6:30 PM	2	1	3	3	*9*	0	0	0	3	*3*	27	0	15	11	*53*
6:45 PM	3	0	2	1	*6*	0	0	0	3	*3*	30	0	14	13	*57*
7:00 PM	2	1	1	3	*7*	2	0	2	1	*5*	13	0	9	12	*34*
7:15 PM	1	0	0	1	*2*	0	0	1	2	*3*	16	0	13	4	*33*
7:30 PM	0	1	1	1	*3*	0	0	1	4	*5*	10	0	14	1	*25*
7:45 PM	2	1	0	1	*4*	0	0	1	1	*2*	15	0	8	8	*31*
8:00 PM	1	0	2	1	*4*	0	0	0	0	*0*	10	0	7	1	*18*
8:15 PM	1	0	0	2	*3*	0	1	0	0	*1*	13	0	6	1	*20*
8:30 PM	0	0	1	0	*1*	0	1	1	1	*3*	9	0	9	4	*22*
8:45 PM	1	1	1	0	*3*	0	0	0	1	*1*	18	0	7	8	*33*
9:00 PM	1	1	1	0	*3*	0	0	0	0	*0*	9	0	5	8	*22*
9:15 PM	0	0	1	0	*1*	0	1	1	1	*3*	6	0	6	2	*14*
9:30 PM	1	1	0	0	*2*	0	0	1	2	*3*	2	0	2	2	*6*
9:45 PM	1	0	2	0	*3*	0	0	0	0	*0*	1	0	6	5	*12*
10:00 PM	2	0	0	0	*2*	0	0	0	1	*1*	3	0	2	1	*6*
10:15 PM	0	0	0	1	*1*	0	0	1	3	*4*	0	0	3	2	*5*
10:30 PM	1	0	1	0	*2*	0	0	0	2	*2*	1	0	7	0	*8*
10:45 PM	0	0	0	0	*0*	0	0	0	1	*1*	1	0	1	0	*2*
11:00 PM	1	0	0	0	*1*	0	0	0	1	*1*	1	0	2	0	*3*
11:15 PM	0	0	1	0	*1*	0	0	0	0	*0*	4	0	2	0	*6*
11:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
11:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
Count Total	106	35	56	58	*255*	6	10	43	56	*115*	715	1	445	343	*1,504*
PM Total (12:00 - 0:00)	**106**	**35**	**56**	**58**	***255***	**6**	**10**	**43**	**56**	***115***	**715**	**1**	**445**	**343**	***1,504***
PM Peak (4:45 - 5:45)	**10**	**4**	**3**	**12**	***29***	**0**	**3**	**8**	**13**	***24***	**94**	**0**	**46**	**41**	***181***

Twelve-Hour Count Summaries - Heavy Vehicles

Interval Start	Jefferson Ave				Jefferson Ave				Middlefield Rd				Middlefield Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
12:00 PM	0	0	4	3	0	0	2	0	0	1	0	0	0	0	4	0	14	0
12:15 PM	0	1	0	4	0	0	1	0	0	1	0	0	0	0	0	1	8	0
12:30 PM	0	1	2	3	0	0	0	0	0	3	1	0	0	0	1	0	11	0
12:45 PM	0	1	2	4	0	1	2	1	0	1	0	0	0	0	0	0	12	45
1:00 PM	0	0	2	2	0	0	0	0	0	1	1	0	0	0	1	0	7	38
1:15 PM	0	0	1	3	0	0	1	0	0	3	0	0	0	0	0	0	8	38
1:30 PM	0	1	1	3	0	0	1	1	0	3	0	0	0	0	0	0	10	37
1:45 PM	0	0	0	3	0	0	1	0	0	1	0	0	0	0	0	1	6	31
2:00 PM	0	0	1	3	0	0	0	0	0	0	0	1	0	0	0	0	5	29
2:15 PM	0	0	0	2	0	0	2	0	0	1	0	1	0	0	2	0	8	29
2:30 PM	0	1	2	1	0	0	0	0	0	1	0	0	0	0	0	0	5	24
2:45 PM	0	0	0	0	0	0	2	0	0	3	0	0	0	0	1	0	6	24
3:00 PM	0	1	1	2	0	0	1	0	0	1	0	0	0	0	0	0	6	25
3:15 PM	0	0	0	1	0	0	3	0	0	2	1	0	0	0	0	1	8	25
3:30 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	4	24
3:45 PM	0	0	1	3	0	0	1	0	0	1	0	1	0	1	0	0	8	26
4:00 PM	0	1	2	3	0	0	0	0	0	1	1	0	0	1	2	0	11	31
4:15 PM	0	0	0	2	0	0	2	0	0	1	0	0	0	1	1	0	7	30
4:30 PM	0	0	1	1	0	0	0	0	0	2	0	0	0	1	1	0	6	32
4:45 PM	**0**	**0**	**1**	**2**	**0**	**0**	**2**	**0**	**0**	**1**	**1**	**0**	**0**	**3**	**1**	**0**	**11**	35
5:00 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	26
5:15 PM	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**1**	**8**	27
5:30 PM	**0**	**0**	**1**	**2**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**0**	**8**	**29**
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	2	1	0	5	23
6:00 PM	0	0	1	2	0	0	1	0	0	0	0	0	0	1	2	0	7	28
6:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	2	2	1	6	26
6:30 PM	0	0	1	1	0	0	1	0	0	3	0	0	0	1	2	0	9	27
6:45 PM	0	0	0	3	0	0	0	0	0	2	0	0	0	0	1	0	6	28
7:00 PM	0	0	0	2	0	0	1	0	0	1	0	0	0	1	2	0	7	28
7:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2	24
7:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	3	18
7:45 PM	0	0	1	1	0	0	1	0	0	0	0	0	0	0	1	0	4	16
8:00 PM	0	0	0	1	0	0	0	0	0	2	0	0	0	1	0	0	4	13
8:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	3	14
8:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	12
8:45 PM	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	3	11
9:00 PM	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	3	10
9:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	8
9:30 PM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	9
9:45 PM	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	3	9
10:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	8
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8
10:30 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2	8
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
11:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4
11:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	7	31	68	0	2	31	2	0	48	5	3	0	18	34	6	255	0

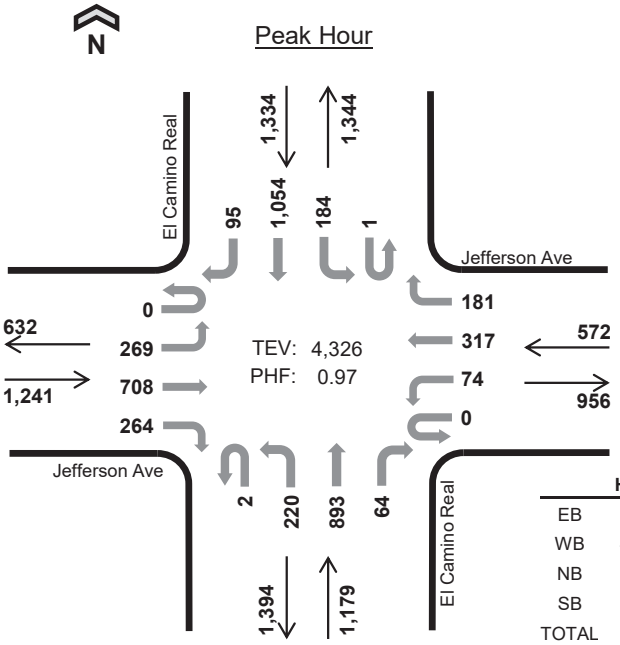
PM Total (12:00 - 0:00)	**0**	**7**	**31**	**68**	**0**	**2**	**31**	**2**	**0**	**48**	**5**	**3**	**0**	**18**	**34**	**6**	**255**	**0**
PM Peak (4:45 - 5:45)	**0**	**0**	**5**	**5**	**0**	**0**	**4**	**0**	**0**	**2**	**1**	**0**	**0**	**5**	**6**	**1**	**29**	**0**

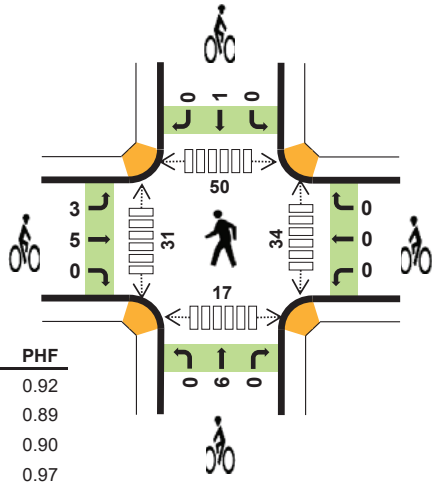
Twelve-Hour Count Summaries - Bikes

Interval Start	Jefferson Ave Eastbound				Jefferson Ave Westbound				Middlefield Rd Northbound				Middlefield Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
12:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	5
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	5
1:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	3	7
1:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	7
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
2:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	3
2:45 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	3	6
3:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	7
3:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	8
3:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	9
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
4:00 PM	0	0	1	1	0	0	0	0	0	0	3	0	0	0	0	0	5	10
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**5**	12
5:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**5**	12
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**3**	14
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**6**	**2**	**11**	**24**
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	1	4	23
6:00 PM	0	0	0	1	0	1	1	0	0	0	2	0	0	0	2	0	7	25
6:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	3	9	31
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	23
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	22
7:00 PM	0	0	1	1	0	0	0	0	0	0	2	0	0	0	1	0	5	20
7:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	3	14
7:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	1	5	16
7:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	15
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
8:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	8
8:30 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	3	6
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
9:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	3	7
9:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	7
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7
10:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	8
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	7
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	8
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	2	4	0	3	5	2	0	6	35	2	0	3	42	11	115	0
PM Total (12:00 - 0:00)	**0**	**0**	**2**	**4**	**0**	**3**	**5**	**2**	**0**	**6**	**35**	**2**	**0**	**3**	**42**	**11**	**115**	**0**
PM Peak (4:45 - 5:45)	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**3**	**4**	**1**	**0**	**0**	**10**	**3**	**24**	**0**

El Camino Real
Jefferson Ave

Date: 03/22/2016
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV %:	PHF
EB	1.5%	0.92
WB	4.7%	0.89
NB	3.3%	0.90
SB	3.1%	0.97
TOTAL	2.9%	0.97

Two-Hour Count Summaries

Interval Start	Jefferson Ave Eastbound				Jefferson Ave Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	33	64	32	0	15	31	16	0	13	112	2	0	17	152	13	500	0
7:15 AM	0	73	114	41	0	16	54	31	0	23	172	7	0	18	213	19	781	0
7:30 AM	0	71	133	51	0	11	85	30	0	29	205	9	0	33	247	27	931	0
7:45 AM	**0**	**64**	**154**	**51**	**0**	**7**	**113**	**41**	**0**	**68**	**245**	**16**	**0**	**45**	**257**	**24**	**1,085**	3,297
8:00 AM	**0**	**64**	**180**	**65**	**0**	**16**	**85**	**47**	**0**	**59**	**227**	**15**	**0**	**38**	**272**	**22**	**1,090**	3,887
8:15 AM	**0**	**70**	**189**	**65**	**0**	**27**	**62**	**64**	**1**	**64**	**223**	**20**	**0**	**45**	**254**	**32**	**1,116**	4,222
8:30 AM	**0**	**71**	**185**	**83**	**0**	**24**	**57**	**29**	**1**	**29**	**198**	**13**	**1**	**56**	**271**	**17**	**1,035**	**4,326**
8:45 AM	0	66	153	49	0	26	43	30	2	30	226	20	1	36	226	25	933	4,174
Count Total	0	512	1,172	437	0	142	530	288	4	315	1,608	102	2	288	1,892	179	7,471	0
Peak Hour All	**0**	**269**	**708**	**264**	**0**	**74**	**317**	**181**	**2**	**220**	**893**	**64**	**1**	**184**	**1,054**	**95**	**4,326**	**0**
Peak Hour HV	**0**	**8**	**7**	**3**	**0**	**5**	**12**	**10**	**0**	**7**	**32**	**0**	**0**	**12**	**28**	**1**	**125**	**0**
Peak Hour HV%	**-**	**3%**	**1%**	**1%**	**-**	**7%**	**4%**	**6%**	**0%**	**3%**	**4%**	**0%**	**0%**	**7%**	**3%**	**1%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	5	9	10	*25*	1	1	2	1	*5*	5	5	7	2	*19*
7:15 AM	3	3	8	7	*21*	4	0	3	0	7	3	2	15	3	*23*
7:30 AM	6	3	10	16	*35*	2	0	5	0	7	5	9	27	2	*43*
7:45 AM	**1**	**6**	**10**	**10**	***27***	**0**	**0**	**2**	**0**	***2***	**4**	**6**	**9**	**1**	*20*
8:00 AM	**2**	**7**	**16**	**10**	***35***	**1**	**0**	**2**	**1**	***4***	**10**	**9**	**12**	**5**	*36*
8:15 AM	**5**	**5**	**5**	**10**	***25***	**5**	**0**	**1**	**0**	***6***	**9**	**9**	**20**	**4**	*42*
8:30 AM	**10**	**9**	**8**	**11**	***38***	**2**	**0**	**1**	**0**	***3***	**11**	**7**	**9**	**7**	***34***
8:45 AM	2	7	10	18	*37*	1	0	3	0	*4*	5	11	18	1	*35*
Count Total	30	45	76	92	*243*	16	1	19	2	*38*	52	58	117	25	*252*
Peak Hour	**18**	**27**	**39**	**41**	***125***	**8**	**0**	**6**	**1**	***15***	**34**	**31**	**50**	**17**	***132***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Jefferson Ave Eastbound				Jefferson Ave Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	1	0	2	1	2	0	0	9	0	0	2	8	0	25	0
7:15 AM	0	1	2	0	0	1	1	1	0	1	7	0	0	1	6	0	21	0
7:30 AM	0	1	2	3	0	1	0	2	0	2	6	2	0	2	12	2	35	0
7:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**2**	**0**	**1**	**9**	**0**	**0**	**3**	**7**	**0**	**27**	108
8:00 AM	**0**	**2**	**0**	**0**	**0**	**0**	**5**	**2**	**0**	**1**	**15**	**0**	**0**	**3**	**7**	**0**	**35**	118
8:15 AM	**0**	**1**	**3**	**1**	**0**	**2**	**1**	**2**	**0**	**1**	**4**	**0**	**0**	**3**	**6**	**1**	**25**	122
8:30 AM	**0**	**4**	**4**	**2**	**0**	**3**	**2**	**4**	**0**	**4**	**4**	**0**	**0**	**3**	**8**	**0**	**38**	**125**
8:45 AM	0	1	0	1	0	0	2	5	0	0	9	1	0	3	14	1	37	135
Count Total	0	11	11	8	0	9	16	20	0	10	63	3	0	20	68	4	243	0
Peak Hour	**0**	**8**	**7**	**3**	**0**	**5**	**12**	**10**	**0**	**7**	**32**	**0**	**0**	**12**	**28**	**1**	**125**	**0**

Two-Hour Count Summaries - Bikes

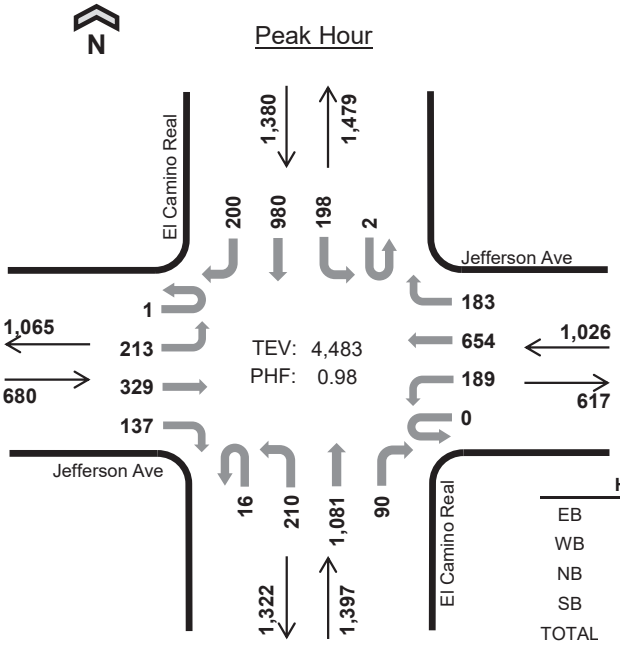
Interval Start	Jefferson Ave Eastbound			Jefferson Ave Westbound			El Camino Real Northbound			El Camino Real Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	1	0	0	0	1	0	0	2	0	0	1	0	5	0
7:15 AM	1	3	0	0	0	0	0	3	0	0	0	0	7	0
7:30 AM	1	1	0	0	0	0	0	5	0	0	0	0	7	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	21
8:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**4**	20
8:15 AM	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	19
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**15**
8:45 AM	0	1	0	0	0	0	0	3	0	0	0	0	4	17
Count Total	6	10	0	0	1	0	0	19	0	0	2	0	38	0
Peak Hour	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**0**	**15**	**0**

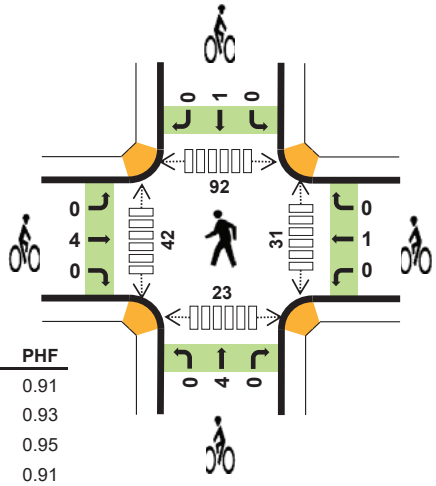
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

El Camino Real
Jefferson Ave

Date: 03/22/2016
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	0.7%	0.91
WB	1.0%	0.93
NB	1.4%	0.95
SB	1.4%	0.91
TOTAL	1.2%	0.98

Two-Hour Count Summaries

Interval Start		Jefferson Ave Eastbound				Jefferson Ave Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	57	97	52	0	47	113	40	2	59	265	26	0	46	258	46	1,108	0
4:15 PM		0	50	98	31	0	49	119	46	6	55	287	24	0	40	229	57	1,091	0
4:30 PM		0	58	92	31	0	55	125	45	5	47	273	40	0	40	253	46	1,110	0
4:45 PM		**1**	**45**	**83**	**32**	**0**	**59**	**148**	**38**	**6**	**45**	**260**	**29**	**1**	**52**	**277**	**49**	**1,125**	4,434
5:00 PM		**0**	**55**	**78**	**33**	**0**	**50**	**158**	**53**	**2**	**55**	**265**	**24**	**1**	**35**	**230**	**54**	**1,093**	4,419
5:15 PM		**0**	**58**	**88**	**41**	**0**	**49**	**185**	**43**	**4**	**49**	**268**	**21**	**0**	**49**	**246**	**46**	**1,147**	4,475
5:30 PM		**0**	**55**	**80**	**31**	**0**	**31**	**163**	**49**	**4**	**61**	**288**	**16**	**0**	**62**	**227**	**51**	**1,118**	**4,483**
5:45 PM		0	56	81	28	0	39	132	49	0	57	278	24	0	52	275	51	1,122	4,480
Count Total		1	434	697	279	0	379	1,143	363	29	428	2,184	204	2	376	1,995	400	8,914	0
Peak Hour	**All**	**1**	**213**	**329**	**137**	**0**	**189**	**654**	**183**	**16**	**210**	**1,081**	**90**	**2**	**198**	**980**	**200**	**4,483**	**0**
	HV	**0**	**1**	**4**	**0**	**0**	**1**	**4**	**5**	**0**	**1**	**17**	**2**	**0**	**7**	**11**	**1**	**54**	**0**
	HV%	**0%**	**0%**	**1%**	**0%**	**-**	**1%**	**1%**	**3%**	**0%**	**0%**	**2%**	**2%**	**0%**	**4%**	**1%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	3	6	7	*20*	0	0	0	0	*0*	2	18	33	3	*56*
4:15 PM	2	4	4	5	*15*	0	0	0	0	*0*	11	10	19	8	*48*
4:30 PM	3	1	10	8	*22*	0	0	1	0	*1*	8	12	14	7	*41*
4:45 PM	**3**	**4**	**4**	**4**	***15***	**1**	**1**	**0**	**0**	***2***	**5**	**8**	**16**	**5**	*34*
5:00 PM	**1**	**2**	**9**	**6**	***18***	**2**	**0**	**3**	**1**	***6***	**7**	**7**	**17**	**13**	*44*
5:15 PM	**1**	**3**	**2**	**4**	***10***	**1**	**0**	**0**	**0**	***1***	**4**	**14**	**28**	**3**	*49*
5:30 PM	**0**	**1**	**5**	**5**	***11***	**0**	**0**	**1**	**0**	***1***	**15**	**13**	**31**	**2**	***61***
5:45 PM	1	3	2	4	*10*	0	4	1	0	*5*	9	10	21	6	*46*
Count Total	15	21	42	43	*121*	4	5	6	1	*16*	61	92	179	47	*379*
Peak Hour	**5**	**10**	**20**	**19**	***54***	**4**	**1**	**4**	**1**	***10***	**31**	**42**	**92**	**23**	***188***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Jefferson Ave Eastbound				Jefferson Ave Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	3	0	0	0	3	0	0	6	0	0	2	4	1	20	0
4:15 PM	0	0	2	0	0	0	1	3	0	0	3	1	0	1	4	0	15	0
4:30 PM	0	2	1	0	0	0	0	1	0	0	9	1	0	2	5	1	22	0
4:45 PM	**0**	**1**	**2**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**4**	**0**	**0**	**1**	**3**	**0**	**15**	72
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**7**	**2**	**0**	**2**	**3**	**1**	**18**	70
5:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**2**	**0**	**0**	**1**	**3**	**0**	**10**	65
5:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**3**	**2**	**0**	**11**	**54**
5:45 PM	0	0	0	1	0	0	0	3	0	0	2	0	0	0	4	0	10	49
Count Total	0	4	7	4	0	1	5	15	0	1	37	4	0	12	28	3	121	0
Peak Hour	**0**	**1**	**4**	**0**	**0**	**1**	**4**	**5**	**0**	**1**	**17**	**2**	**0**	**7**	**11**	**1**	**54**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Jefferson Ave Eastbound			Jefferson Ave Westbound			El Camino Real Northbound			El Camino Real Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:45 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	3
5:00 PM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**6**	9
5:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	10
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**10**
5:45 PM	0	0	0	1	3	0	0	1	0	0	0	0	5	13
Count Total	0	4	0	1	4	0	0	6	0	0	1	0	16	0
Peak Hour	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**10**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Prepared by National Data & Surveying Services

El Camino Real & Jefferson Ave

Peak Hour Turning Movement Count

ID: 21-080030-003
City: Redwood City

Day: Tuesday
Date: 3/2/2021

PEAK HOURS	COUNT PERIODS
08:45 AM - 09:45 AM	7:00 AM - 10:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 07:00 PM

SOUTHBOUND (El Camino Real)

AM	89	665	96	1	1127	AM
NOON	0	0	0	0	0	NOON
PM	175	920	161	0	1240	PM

EASTBOUND (Jefferson Ave)

AM	NOON	PM	
400	0	800	
0	0	0	0
178	0	204	1
201	0	313	2
121	0	182	1
AM	NOON	PM	

WESTBOUND (Jefferson Ave)

PM	NOON	AM	
96	0	82	1
414	0	171	2
226	0	113	2
0	0	0	0
581	0	363	
PM	NOON	AM	

CONTROL

Signalized

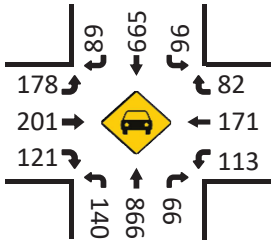
TEV	2796 AM	0 NOON	3960 PM
PHF	0.94		0.99

NORTHBOUND (El Camino Real)

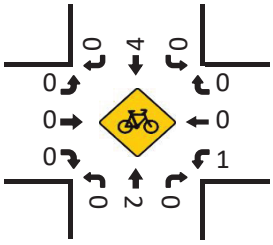
PM	1339	11	211	940	107	PM
NOON	0	0	0	0	0	NOON
AM	906	7	140	866	66	AM

0 1 2 1

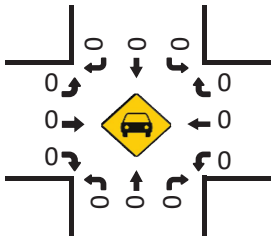
Total (AM)



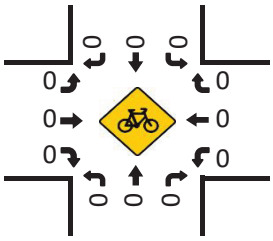
Total Bikes (AM)



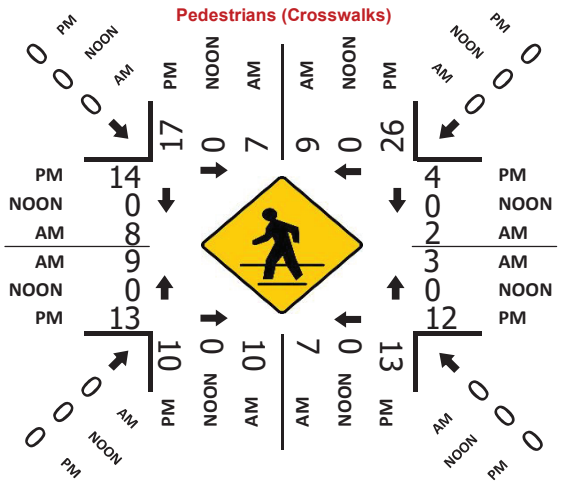
Total (NOON)



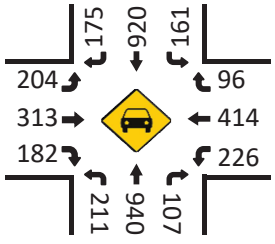
Total Bikes (NOON)



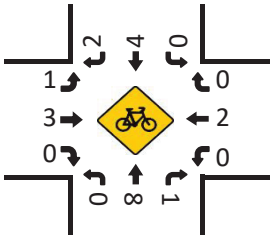
Pedestrians (Crosswalks)



Total (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: El Camino Real & Jefferson Ave
City: Redwood City
Control: Signalized

Project ID: 21-080030-003
Date: 3/2/2021

Data - Totals

NS/EW Streets:	El Camino Real				El Camino Real				Jefferson Ave				Jefferson Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	16	124	8	1	8	113	9	0	33	35	23	0	24	17	13	0	424
7:15 AM	23	155	12	2	9	159	10	0	41	46	25	0	30	38	15	0	565
7:30 AM	29	136	16	0	9	140	20	1	56	45	32	0	21	39	14	0	558
7:45 AM	33	169	9	2	17	184	32	0	59	54	44	0	34	52	22	0	711
8:00 AM	38	169	14	2	18	184	22	0	55	54	35	0	23	43	19	0	676
8:15 AM	35	211	16	0	23	174	16	0	51	68	48	0	21	46	15	0	724
8:30 AM	34	181	13	2	15	170	19	0	48	61	32	0	19	39	14	0	647
8:45 AM	39	255	12	2	20	181	21	0	42	45	35	0	23	45	21	0	741
9:00 AM	43	229	19	2	29	136	16	1	43	42	32	0	24	31	17	0	664
9:15 AM	25	195	15	1	28	170	26	0	45	62	25	0	35	46	22	0	695
9:30 AM	33	187	20	2	19	178	26	0	48	52	29	0	31	49	22	0	696
9:45 AM	24	219	15	5	26	168	25	0	60	41	25	0	29	38	19	0	694
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	372	2230	169	21	221	1957	242	2	581	605	385	0	314	483	213	0	7795
APPROACH %'s :	13.32%	79.87%	6.05%	0.75%	9.12%	80.80%	9.99%	0.08%	36.98%	38.51%	24.51%	0.00%	31.09%	47.82%	21.09%	0.00%	
PEAK HR :	**08:45 AM - 09:45 AM**																TOTAL
PEAK HR VOL :	140	866	66	7	96	665	89	1	178	201	121	0	113	171	82	0	2796
PEAK HR FACTOR :	0.814	0.849	0.825	0.875	0.828	0.919	0.856	0.250	0.927	0.810	0.864	0.000	0.807	0.872	0.932	0.000	0.943
		0.876				0.950				0.947				0.888			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	52	277	28	3	44	212	46	0	45	68	37	0	47	77	31	0	967
4:15 PM	39	238	22	3	44	237	52	0	44	71	31	0	46	100	32	0	959
4:30 PM	51	237	26	3	51	231	34	0	49	97	50	0	51	98	24	0	1002
4:45 PM	59	235	25	3	30	220	46	0	59	87	45	0	63	97	22	0	991
5:00 PM	42	224	28	4	49	233	53	0	52	71	42	0	59	111	24	0	992
5:15 PM	59	244	28	1	31	236	42	0	44	58	45	0	53	108	26	0	975
5:30 PM	49	211	32	6	41	233	38	0	44	57	38	0	52	102	23	0	926
5:45 PM	44	199	19	3	40	228	29	1	58	67	23	0	43	99	18	0	871
6:00 PM	39	206	23	5	33	178	35	1	54	59	29	0	53	85	19	0	819
6:15 PM	45	200	27	3	33	191	34	0	41	57	20	0	56	83	27	0	817
6:30 PM	30	188	26	2	37	163	29	0	53	59	37	0	35	66	19	0	744
6:45 PM	36	138	21	3	31	145	43	1	39	41	17	0	43	72	24	0	654
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	545	2597	305	39	464	2507	481	3	582	792	414	0	601	1098	289	0	10717
APPROACH %'s :	15.63%	74.50%	8.75%	1.12%	13.43%	72.56%	13.92%	0.09%	32.55%	44.30%	23.15%	0.00%	30.23%	55.23%	14.54%	0.00%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	211	940	107	11	161	920	175	0	204	313	182	0	226	414	96	0	3960
PEAK HR FACTOR :	0.894	0.963	0.955	0.688	0.789	0.975	0.825	0.000	0.864	0.807	0.910	0.000	0.897	0.932	0.923	0.000	0.988
		0.956				0.937				0.892				0.948			

National Data & Surveying Services Intersection Turning Movement Count

Location: El Camino Real & Jefferson Ave
City: Redwood City
Control: Signalized

Project ID: 21-080030-003
Date: 3/2/2021

Data - Bikes

NS/EW Streets:	El Camino Real				El Camino Real				Jefferson Ave				Jefferson Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0	0	4
7:15 AM	0	1	0	0	0	1	1	0	0	1	0	0	0	0	0	0	4
7:30 AM	0	2	0	0	0	1	0	0	0	1	0	0	0	2	0	0	6
7:45 AM	0	3	1	0	0	2	0	0	0	1	1	0	0	0	0	0	8
8:00 AM	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0	0	4
8:15 AM	0	3	0	0	0	3	0	0	1	0	0	0	0	0	0	0	7
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
9:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	3
9:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	14	1	0	0	14	1	0	3	6	1	0	1	2	0	0	43
APPROACH %'s :	0.00%	93.33%	6.67%	0.00%	0.00%	93.33%	6.67%	0.00%	30.00%	60.00%	10.00%	0.00%	33.33%	66.67%	0.00%	0.00%	
PEAK HR :	08:45 AM - 09:45 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	4	0	0	0	0	0	0	1	0	0	0	7
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.583
		0.500				0.500								0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
4:15 PM	0	2	1	1	0	2	0	0	0	0	0	0	0	0	0	0	6
4:30 PM	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
4:45 PM	0	2	1	0	0	1	1	0	1	0	0	0	0	1	0	0	7
5:00 PM	0	1	0	0	0	2	0	0	0	3	0	0	0	1	0	0	7
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	3
6:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
6:45 PM	0	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	11	2	1	0	11	3	1	2	5	1	0	2	3	0	0	42
APPROACH %'s :	0.00%	78.57%	14.29%	7.14%	0.00%	73.33%	20.00%	6.67%	25.00%	62.50%	12.50%	0.00%	40.00%	60.00%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	8	1	0	0	4	2	0	1	3	0	0	0	2	0	0	21
PEAK HR FACTOR :	0.000	0.500	0.250	0.000	0.000	0.500	0.500	0.000	0.250	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.750
		0.563				0.750				0.333				0.500			

National Data & Surveying Services Intersection Turning Movement Count

Location: El Camino Real & Jefferson Ave
City: Redwood City
Project ID: 21-080030-003
Date: 3/2/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	El Camino Real		El Camino Real		Jefferson Ave		Jefferson Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	1	3	0	4
7:15 AM	0	2	3	0	2	0	0	2	9
7:30 AM	5	3	2	0	3	0	0	1	14
7:45 AM	1	2	2	1	2	0	2	2	12
8:00 AM	1	0	2	0	1	0	0	0	4
8:15 AM	0	0	1	1	1	0	1	1	5
8:30 AM	2	0	4	0	1	1	0	1	9
8:45 AM	1	4	2	2	1	0	4	4	18
9:00 AM	2	2	0	1	1	0	2	1	9
9:15 AM	2	0	3	1	0	1	1	2	10
9:30 AM	2	3	5	3	1	1	2	1	18
9:45 AM	4	5	2	1	4	0	2	3	21
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	20	21	26	10	17	4	17	18	133
APPROACH %'s :	48.78%	51.22%	72.22%	27.78%	80.95%	19.05%	48.57%	51.43%	
PEAK HR :	08:45 AM - 09:45 AM								TOTAL
PEAK HR VOL :	7	9	10	7	3	2	9	8	55
PEAK HR FACTOR :	0.875	0.563	0.500	0.583	0.750	0.500	0.563	0.500	0.764
	0.800		0.531		0.625		0.531		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	3	6	3	3	0	4	6	26
4:15 PM	6	8	2	5	2	2	5	6	36
4:30 PM	7	5	2	2	3	1	5	2	27
4:45 PM	3	5	1	4	2	0	1	3	19
5:00 PM	6	10	1	2	1	0	2	5	27
5:15 PM	1	6	6	5	6	3	5	4	36
5:30 PM	5	3	3	4	4	2	0	2	23
5:45 PM	3	5	0	0	0	1	3	8	20
6:00 PM	8	9	3	0	2	2	2	9	35
6:15 PM	4	9	1	6	4	3	2	2	31
6:30 PM	5	8	0	1	0	1	6	7	28
6:45 PM	3	10	4	3	2	3	4	7	36
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	52	81	29	35	29	18	39	61	344
APPROACH %'s :	39.10%	60.90%	45.31%	54.69%	61.70%	38.30%	39.00%	61.00%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	17	26	10	13	12	4	13	14	109
PEAK HR FACTOR :	0.607	0.650	0.417	0.650	0.500	0.333	0.650	0.700	0.757
	0.672		0.523		0.444		0.750		

Prepared by National Data & Surveying Services

Arguello St & A St

Peak Hour Turning Movement Count

ID: 21-080030-004
City: Redwood City

Day: Tuesday
Date: 3/2/2021

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	7:00 AM - 10:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 07:00 PM

SOUTHBOUND (Arguello St)

AM	0	39	0	1	55	AM
NOON	0	0	0	0	0	NOON
PM	0	39	1	0	78	PM

EASTBOUND (A St)

AM	NOON	PM	
73	0	49	
0	0	0	0
1	0	1	0
5	0	5	1
27	0	47	0
AM	NOON	PM	

WESTBOUND (A St)

PM	NOON	AM	
4	0	1	0
5	0	14	1
8	0	7	0
0	0	0	0
16	0	11	
PM	NOON	AM	

NORTHBOUND (Arguello St)

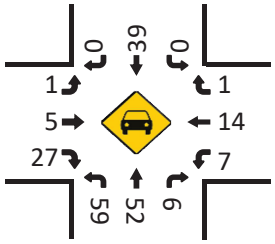
PM	94	0	44	73	10	PM
NOON	0	0	0	0	0	NOON
AM	73	0	59	52	6	AM

CONTROL

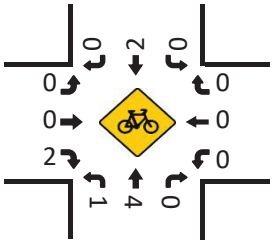
4-Way Stop

TEV	212 AM	0 NOON	237 PM
PHF	0.74		0.88

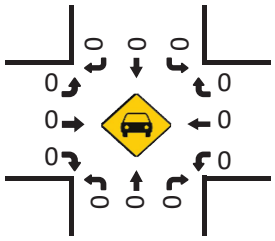
Total (AM)



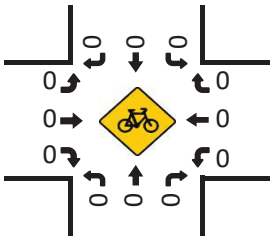
Total Bikes (AM)



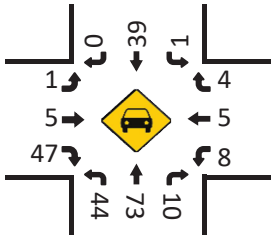
Total (NOON)



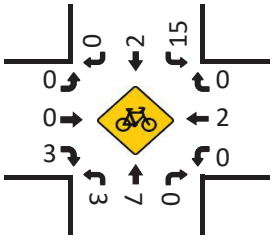
Total Bikes (NOON)



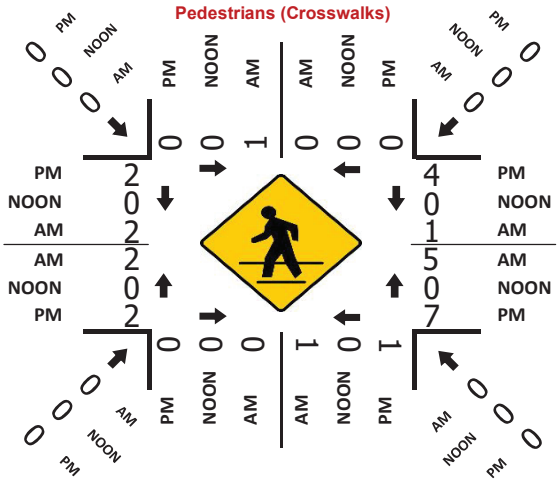
Total (PM)



Total Bikes (PM)



Pedestrians (Crosswalks)



National Data & Surveying Services Intersection Turning Movement Count

Location: Arguello St & A St
City: Redwood City
Control: 4-Way Stop

Project ID: 21-080030-004
Date: 3/2/2021

Data - Totals

NS/EW Streets:	Arguello St				Arguello St				A St				A St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	9	6	1	0	0	3	0	0	0	0	7	0	2	0	0	0	28
7:15 AM	9	4	1	0	0	9	0	0	0	2	9	0	1	1	0	0	36
7:30 AM	10	6	2	0	2	7	0	0	0	1	10	0	1	2	0	0	41
7:45 AM	24	12	1	0	0	14	0	1	1	1	8	0	2	8	0	0	72
8:00 AM	8	13	2	0	0	10	0	0	0	0	10	0	2	3	0	0	48
8:15 AM	12	12	0	0	0	8	0	0	0	2	6	0	1	1	1	0	43
8:30 AM	15	15	3	0	0	7	0	0	0	2	3	0	2	2	0	0	49
8:45 AM	11	13	2	0	0	13	1	0	0	0	8	0	1	0	0	0	49
9:00 AM	10	8	2	0	0	6	0	0	0	1	4	0	3	0	0	0	34
9:15 AM	6	7	2	0	0	6	0	0	0	0	8	0	1	0	0	0	30
9:30 AM	8	14	0	0	1	9	2	0	0	1	8	0	0	0	0	0	43
9:45 AM	11	7	0	0	0	6	1	0	0	0	5	0	0	0	0	0	30
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	133	117	16	0	3	98	4	1	1	10	86	0	16	17	1	0	503
APPROACH %'s :	50.00%	43.98%	6.02%	0.00%	2.83%	92.45%	3.77%	0.94%	1.03%	10.31%	88.66%	0.00%	47.06%	50.00%	2.94%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	59	52	6	0	0	39	0	1	1	5	27	0	7	14	1	0	212
PEAK HR FACTOR :	0.615	0.867	0.500	0.000	0.000	0.696	0.000	0.250	0.250	0.625	0.675	0.000	0.875	0.438	0.250	0.000	0.736
	0.791				0.667				0.825				0.550				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	13	5	0	1	7	0	0	1	2	13	0	1	0	0	0	53
4:15 PM	7	13	2	1	0	12	2	0	0	1	17	0	2	0	1	0	58
4:30 PM	12	16	3	0	0	5	0	0	1	1	12	0	1	0	1	0	52
4:45 PM	10	19	2	0	0	13	0	0	0	0	9	0	3	0	1	0	57
5:00 PM	11	19	2	0	0	11	0	0	0	3	14	0	2	4	1	0	67
5:15 PM	11	19	3	0	1	10	0	0	0	1	12	0	2	1	1	0	61
5:30 PM	7	7	4	0	0	8	0	0	0	1	8	0	1	0	0	0	36
5:45 PM	10	14	2	0	0	8	0	0	0	1	5	0	1	0	0	0	41
6:00 PM	4	20	5	1	0	10	0	0	0	2	10	0	1	0	0	0	53
6:15 PM	3	18	0	0	0	4	1	0	0	0	8	0	0	2	0	0	36
6:30 PM	4	9	4	0	0	8	0	1	0	0	7	0	1	1	0	0	35
6:45 PM	9	10	4	0	0	6	1	0	0	1	8	0	2	1	0	0	42
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	98	177	36	2	2	102	4	1	2	13	123	0	17	9	5	0	591
APPROACH %'s :	31.31%	56.55%	11.50%	0.64%	1.83%	93.58%	3.67%	0.92%	1.45%	9.42%	89.13%	0.00%	54.84%	29.03%	16.13%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	44	73	10	0	1	39	0	0	1	5	47	0	8	5	4	0	237
PEAK HR FACTOR :	0.917	0.961	0.833	0.000	0.250	0.750	0.000	0.000	0.250	0.417	0.839	0.000	0.667	0.313	1.000	0.000	0.884
	0.962				0.769				0.779				0.607				

National Data & Surveying Services Intersection Turning Movement Count

Location: Arguello St & A St
City: Redwood City
Control: 4-Way Stop

Project ID: 21-080030-004
Date: 3/2/2021

Data - Bikes

NS/EW Streets:	Arguello St				Arguello St				A St				A St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3
7:15 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
8:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
8:45 AM	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	3
9:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:15 AM	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
9:30 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	12	0	0	0	4	0	0	0	0	5	0	1	0	0	0	26
APPROACH %'s :	25.00%	75.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	1	4	0	0	0	2	0	0	0	0	2	0	0	0	0	0	9
PEAK HR FACTOR :	0.250	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.750
		0.625				0.500				0.500							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
4:15 PM	1	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	4
4:30 PM	1	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5
4:45 PM	0	2	0	0	6	2	0	0	0	0	0	0	0	0	0	0	10
5:00 PM	1	2	0	0	3	0	0	0	0	0	1	0	0	0	0	0	7
5:15 PM	1	0	0	0	6	0	0	0	0	0	1	0	0	2	0	0	10
5:30 PM	0	1	0	0	0	2	0	0	0	0	2	0	0	1	2	0	8
5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:00 PM	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	13	0	0	15	8	0	0	1	0	7	0	0	3	2	0	54
APPROACH %'s :	27.78%	72.22%	0.00%	0.00%	65.22%	34.78%	0.00%	0.00%	12.50%	0.00%	87.50%	0.00%	0.00%	60.00%	40.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	3	7	0	0	15	2	0	0	0	0	3	0	0	2	0	0	32
PEAK HR FACTOR :	0.750	0.583	0.000	0.000	0.625	0.250	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.250	0.000	0.000	0.800
		0.625				0.531				0.750				0.250			

National Data & Surveying Services Intersection Turning Movement Count

Location: Arguello St & A St
City: Redwood City
Project ID: 21-080030-004
Date: 3/2/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Arguello St		Arguello St		A St		A St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	0	0	0	0	0	1	0	2
7:15 AM	0	1	1	0	1	2	0	1	6
7:30 AM	2	0	0	0	3	1	0	1	7
7:45 AM	0	0	0	0	2	0	1	0	3
8:00 AM	0	0	0	0	1	0	0	0	1
8:15 AM	1	0	0	0	2	0	1	2	6
8:30 AM	0	0	0	1	0	1	0	0	2
8:45 AM	0	0	0	1	3	2	1	0	7
9:00 AM	0	0	0	2	1	1	0	0	4
9:15 AM	0	0	1	0	0	1	1	0	3
9:30 AM	1	0	0	0	0	3	0	0	4
9:45 AM	2	1	0	0	0	0	0	0	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	7	2	2	4	13	11	5	4	48
APPROACH %'s :	77.78%	22.22%	33.33%	66.67%	54.17%	45.83%	55.56%	44.44%	
PEAK HR :	**07:45 AM - 08:45 AM**								TOTAL
PEAK HR VOL :	1	0	0	1	5	1	2	2	12
PEAK HR FACTOR :	0.250			0.250	0.625	0.250	0.500	0.250	0.500
	0.250		0.250		0.750		0.333		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	1	2	0	1	0	0	0	4
4:15 PM	0	0	0	0	0	3	0	0	3
4:30 PM	0	0	0	0	2	2	0	0	4
4:45 PM	0	0	0	0	1	0	0	1	2
5:00 PM	0	0	0	0	3	0	0	0	3
5:15 PM	0	0	0	1	1	2	2	1	7
5:30 PM	1	1	0	0	3	4	1	1	11
5:45 PM	0	0	0	0	3	0	0	0	3
6:00 PM	0	2	0	1	1	1	0	2	7
6:15 PM	0	0	0	0	0	0	2	0	2
6:30 PM	0	0	0	0	0	0	0	0	0
6:45 PM	0	1	0	0	0	0	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	5	2	2	15	12	5	5	47
APPROACH %'s :	16.67%	83.33%	50.00%	50.00%	55.56%	44.44%	50.00%	50.00%	
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	1	7	4	2	2	16
PEAK HR FACTOR :				0.250	0.583	0.500	0.250	0.500	0.571
			0.250		0.688		0.333		

Prepared by National Data & Surveying Services

Warren St & Standish St

Peak Hour Turning Movement Count

ID: 21-080030-006
City: Redwood City

Day: Tuesday
Date: 3/2/2021

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 7:00 AM - 10:00 AM
NOON: NONE
PM: 4:00 PM - 07:00 PM

SOUTHBOUND (Warren St)

AM	5	43	0	0	17	AM
NOON	0	0	0	0	0	NOON
PM	3	24	4	1	33	PM

EASTBOUND (Standish St)

AM	NOON	PM		
16	0	13		
0	0	0	0	
1	0	4	0	
7	0	10	1	
1	0	6	0	
AM	NOON	PM		

WESTBOUND (Standish St)

PM	NOON	AM		
6	0	2	0	
8	0	7	1	
1	0	2	0	
0	0	0	0	
16	0	8		
PM	NOON	AM		

NORTHBOUND (Warren St)

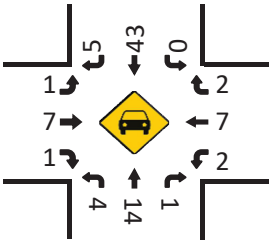
PM	32	1	2	22	2	PM
NOON	0	0	0	0	0	NOON
AM	46	0	4	14	1	AM

CONTROL

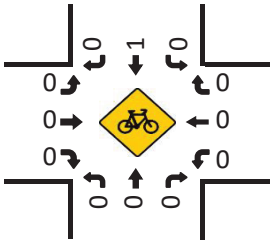
2-Way Stop(EB/WB)

TEV	87 AM	0 NOON	94 PM
PHF	0.62		0.81

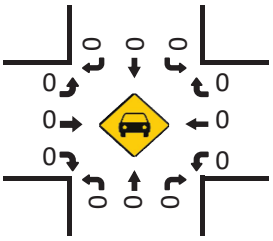
Total (AM)



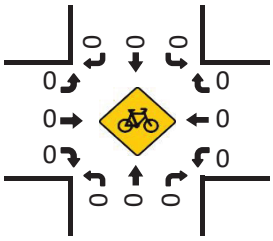
Total Bikes (AM)



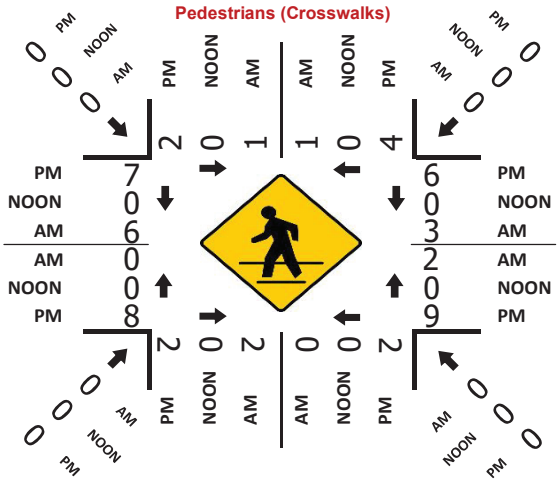
Total (NOON)



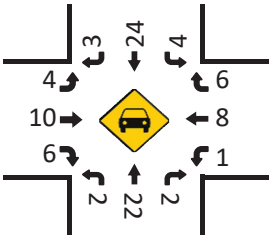
Total Bikes (NOON)



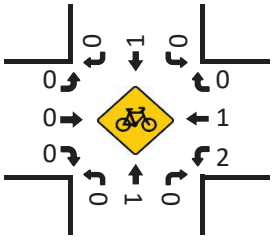
Pedestrians (Crosswalks)



Total (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Warren St & Standish St
City: Redwood City
Control: 2-Way Stop(EB/WB)

Project ID: 21-080030-006
Date: 3/2/2021

Data - Totals

NS/EW Streets:	Warren St				Warren St				Standish St				Standish St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	3	0	0	1	3	1	0	1	2	0	0	0	3	0	0	15
7:15 AM	1	1	0	0	0	3	1	0	1	1	0	0	0	4	2	0	14
7:30 AM	1	4	0	0	0	10	1	0	1	0	1	0	0	3	0	0	21
7:45 AM	2	2	1	0	0	19	4	0	0	5	0	0	1	1	0	0	35
8:00 AM	1	4	0	0	0	10	0	0	0	1	0	0	0	0	1	0	17
8:15 AM	0	4	0	0	0	4	0	0	0	1	0	0	1	3	1	0	14
8:30 AM	0	3	0	0	0	7	0	0	1	1	0	0	1	2	0	0	15
8:45 AM	0	3	1	0	1	6	2	0	1	0	1	0	0	1	2	0	18
9:00 AM	0	3	0	3	1	2	0	0	1	0	0	0	0	1	0	0	11
9:15 AM	0	2	0	0	0	3	0	0	0	1	0	0	0	0	1	0	7
9:30 AM	0	3	1	0	0	5	1	0	0	4	0	0	0	2	0	0	16
9:45 AM	0	2	0	0	0	4	1	0	0	2	0	0	0	2	0	0	11
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	34	3	3	3	76	11	0	6	18	2	0	3	22	7	0	194
APPROACH %'s :	13.04%	73.91%	6.52%	6.52%	3.33%	84.44%	12.22%	0.00%	23.08%	69.23%	7.69%	0.00%	9.38%	68.75%	21.88%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	4	14	1	0	0	43	5	0	1	7	1	0	2	7	2	0	87
PEAK HR FACTOR :	0.500	0.875	0.250	0.000	0.000	0.566	0.313	0.000	0.250	0.350	0.250	0.000	0.500	0.583	0.500	0.000	0.621
	0.950				0.522				0.450				0.550				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	3	3	1	1	4	1	1	0	4	0	0	1	3	0	0	24
4:15 PM	0	3	0	0	3	6	1	0	0	3	2	0	1	1	0	0	20
4:30 PM	1	3	0	0	0	8	0	0	2	5	1	0	0	3	3	0	26
4:45 PM	0	4	0	0	1	8	1	0	0	1	0	0	0	0	3	0	18
5:00 PM	1	9	2	0	0	4	1	1	1	3	4	0	1	2	0	0	29
5:15 PM	0	6	0	1	3	4	1	0	1	1	1	0	0	3	0	0	21
5:30 PM	0	2	0	0	0	2	1	0	1	0	0	0	0	2	0	0	8
5:45 PM	1	3	0	0	1	2	3	0	4	2	0	0	0	0	1	0	17
6:00 PM	0	1	0	0	1	9	2	0	0	1	2	0	1	0	1	0	18
6:15 PM	1	2	1	0	1	4	1	0	1	1	0	0	0	1	0	0	13
6:30 PM	4	1	0	0	0	4	2	0	0	1	1	0	0	1	2	0	16
6:45 PM	0	2	0	0	3	3	1	0	0	0	0	0	0	0	0	0	9
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	10	39	6	2	14	58	15	2	10	22	11	0	4	16	10	0	219
APPROACH %'s :	17.54%	68.42%	10.53%	3.51%	15.73%	65.17%	16.85%	2.25%	23.26%	51.16%	25.58%	0.00%	13.33%	53.33%	33.33%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	2	22	2	1	4	24	3	1	4	10	6	0	1	8	6	0	94
PEAK HR FACTOR :	0.500	0.611	0.250	0.250	0.333	0.750	0.750	0.250	0.500	0.500	0.375	0.000	0.250	0.667	0.500	0.000	0.810
	0.563				0.800				0.625				0.625				

National Data & Surveying Services Intersection Turning Movement Count

Location: Warren St & Standish St
City: Redwood City
Control: 2-Way Stop(EB/WB)

Project ID: 21-080030-006
Date: 3/2/2021

Data - Bikes

NS/EW Streets:	Warren St				Warren St				Standish St				Standish St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
APPROACH %'s :	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
					0.250												

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
6:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3	3	0	0	4	0	0	0	0	1	0	2	1	0	0	14
APPROACH %'s :	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	66.67%	33.33%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	0	0	0	2	1	0	0	5
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.625
		0.250				0.250								0.375			

National Data & Surveying Services Intersection Turning Movement Count

Location: Warren St & Standish St
City: Redwood City
Project ID: 21-080030-006
Date: 3/2/2021

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Warren St		Warren St		Standish St		Standish St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	1	1	0	0	2
7:30 AM	0	0	1	0	0	0	0	1	2
7:45 AM	0	1	1	0	0	1	0	3	6
8:00 AM	1	0	0	0	1	1	0	1	4
8:15 AM	0	0	0	0	1	1	0	1	3
8:30 AM	0	0	0	1	0	3	0	0	4
8:45 AM	1	1	0	0	1	1	0	0	4
9:00 AM	0	0	0	2	2	2	0	0	6
9:15 AM	0	2	1	0	3	0	0	0	6
9:30 AM	0	0	0	0	2	2	0	0	4
9:45 AM	0	0	0	0	0	3	0	0	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	4	3	3	11	16	0	6	45
APPROACH %'s :	33.33%	66.67%	50.00%	50.00%	40.74%	59.26%	0.00%	100.00%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	1	1	2	0	2	3	0	6	15
PEAK HR FACTOR :	0.250	0.250	0.500		0.500	0.750		0.500	0.625
	0.500		0.500		0.625		0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	3	0	0	0	8	1	1	4	17
4:15 PM	1	2	1	0	4	1	1	2	12
4:30 PM	0	0	2	0	2	2	1	1	8
4:45 PM	0	0	0	1	1	3	2	5	12
5:00 PM	2	1	0	0	2	0	4	0	9
5:15 PM	0	3	0	1	4	1	1	1	11
5:30 PM	1	0	0	0	5	1	0	5	12
5:45 PM	0	0	0	1	0	6	1	1	9
6:00 PM	2	0	0	0	2	1	5	0	10
6:15 PM	1	0	2	0	3	3	2	2	13
6:30 PM	0	2	0	0	0	0	0	0	2
6:45 PM	0	0	0	2	0	0	4	6	12
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	10	8	5	5	31	19	22	27	127
APPROACH %'s :	55.56%	44.44%	50.00%	50.00%	62.00%	38.00%	44.90%	55.10%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	2	4	2	2	9	6	8	7	40
PEAK HR FACTOR :	0.250	0.333	0.250	0.500	0.563	0.500	0.500	0.350	0.833
	0.500		0.500		0.750		0.536		

AM

Whipple Avenue/El Camino Real																	
	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Total
City (2019)	47	796	502	9	282	973	68	9	75	410	18	0	334	309	229	0	4061
City (2021)*	48	812	512	9	288	993	69	9	77	418	18	0	341	315	234	0	4143
2021 Counts	44	695	333	12	125	539	72	12	79	233	28	0	157	248	197	0	2774
Difference	1.09	1.17	1.54	0.77	2.30	1.84	0.96	0.77	0.97	1.80	0.66	0.00	2.17	1.27	1.19	0.00	1.493

Brewster Avenue/Arguello Street																	
	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Total
City (2014)	12	65	14	0	26	116	147	0	92	430	66	0	21	147	10	0	1146
City (2021)*	13	70	15	0	28	124	158	0	99	461	71	0	23	158	11	0	1229
2021 Counts	6	44	5	0	8	41	149	0	47	167	11	0	12	156	12	0	658
Difference	2.14	1.58	3.00	0.00	3.48	3.03	1.06	0.00	2.10	2.76	6.43	0.00	1.88	1.01	0.89	0.00	1.867

Jefferson Avenue/El Camino Real																	
	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Total
City (2016)	220	893	64	2	184	1054	95	1	269	708	264	0	74	317	181	0	4326
City (2021)*	231	939	67	2	193	1108	100	1	283	744	277	0	78	333	190	0	4547
2021 Counts	140	866	66	7	96	995	89	1	178	201	121	0	113	171	82	0	3126
Difference	1.65	1.08	1.02	0.30	2.01	1.11	1.12	1.05	1.59	3.70	2.29	0.00	0.69	1.95	2.32	0.00	1.454

* City 2021 counts derived from applying 1% annual growth factor to historical counts

Average:	1.605

PM

Whipple Avenue/El Camino Real																	
	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Total
City (2019)	53	1152	278	13	163	808	105	15	126	252	48	0	287	440	400	0	4140
City (2021)*	54	1175	284	13	166	824	107	15	129	257	49	0	293	449	408	0	4223
2021 Counts	50	867	362	13	227	876	116	25	94	256	49	0	307	293	245	0	3780
Difference	1.08	1.36	0.78	1.02	0.73	0.94	0.92	0.61	1.37	1.00	1.00	0.00	0.95	1.53	1.67	0.00	1.117

Brewster Avenue/Arguello Street																	
	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Total
City (2014)	34	99	27	0	23	74	96	0	82	149	29	0	14	362	17	0	1006
City (2021)*	36	106	29	0	25	79	103	0	88	160	31	0	15	388	18	0	1079
2021 Counts	7	63	16	0	8	41	149	0	71	132	22	0	18	191	16	0	734
Difference	5.21	1.68	1.81	0.00	3.08	1.94	0.69	0.00	1.24	1.21	1.41	0.00	0.83	2.03	1.14	0.00	1.469

Jefferson Avenue/El Camino Real																	
	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Total
City (2016)	210	1081	90	16	198	980	200	2	213	329	137	1	189	654	183	0	4483
City (2021)*	221	1136	95	17	208	1030	210	2	224	346	144	1	199	687	192	0	4712
2021 Counts	211	940	107	11	161	920	175	0	204	313	182	0	226	414	96	0	3960
Difference	1.05	1.21	0.88	1.53	1.29	1.12	1.20	0.00	1.10	1.10	0.79	0.00	0.88	1.66	2.00	0.00	1.190

Average:	1.259

B - Trip Generation

ITE Land Use Code	Land Use	Units	Daily Rate/Equation	AM Peak			PM Peak		
				Rate/Equation	In%	Out%	Rate/Equation	In%	Out%
221	Multifamily Housing (Mid-Rise)	Dwelling Unit(s)	T = 5.45(X) - 1.75	0.36	26%	74%	0.44	61%	39%
565	Day Care Center	1,000 Sq Ft	47.62	11.00	52%	47%	11.12	47%	53%
710	General Office Building	1,000 Sq Ft	Ln(T) = 0.97Ln(X) + 2.50	T = 0.94(X) + 26.49	86%	14%	Ln(T) = 0.95Ln(X) + 0.36	16%	84%

ITE Land Use Code	Land Use	Size	Units	Daily Trips	AM Peak			PM Peak		
					Total	In	Out	Total	In	Out
221	Residential	33	Dwelling Unit(s)	178	12	3	9	15	9	6
565	Childcare	4.225	1,000 Sq Ft	201	46	24	22	47	22	25
710	Office	301.261	1,000 Sq Ft	3,093	310	267	43	325	52	273
Subtotal				**3,472**	**368**	**294**	**74**	**387**	**83**	**304**
Internal Capture (Daily:5%, AM: 5%, PM:6%)[1]				-181	-28	-14	-14	-22	-11	-11
Transit Reduction (Daily 5.6%, AM 7.3%, PM 6.0%)[2]				-184	-24	-20	-4	-22	-4	-18
Total External Trips				**3,107**	**316**	**260**	**56**	**343**	**68**	**275**

Source: ITE *Trip Generation, 10th Edition*

[1] Internal Capture calculated using ITE *Trip Generation Handbook, 3rd Edition* methodology. ITE methodology does not include calculation for weekday daily, therefore an average percentage of AM and PM hours were assumed for daily internal capture.

[2] Assumed transit reduction assumed in Redwood City Downtown Precise Plan EIR.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	1125 Arguello Street LTA	**Organization:**	Kimley-Horn and Associates, Inc.
Project Location:	11125 Arguello Street	**Performed By:**	
Scenario Description:	Proposed Project	**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office		301	1,000 Sq Ft	310	267	43
Retail		4	1,000 Sq Ft	46	24	22
Restaurant		-	1,000 Sq Ft	0	0	0
Cinema/Entertainment		-	Screen(s)	0	0	0
Residential		33	Dwelling Unit(s)	12	3	9
Hotel		-	Room(s)	0	0	0
All Other Land Uses[2]		-	1,000 Sq Ft	0	0	0
				368	294	74

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.00	0%	0%	1.00	0%	0%
Restaurant	1.00	0%	0%	1.00	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses[2]	1.00	0%	0%	1.00	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	0	0	0	0
Retail	6		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	368	294	74
Internal Capture Percentage	8%	5%	19%
External Vehicle-Trips[5]	340	280	60
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	2%	19%
Retail	33%	27%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Project Name:	1125 Arguello Street LTA
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	267	267	1.00	43	43
Retail	1.00	24	24	1.00	22	22
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	3	3	1.00	9	9
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		12	27	0	0	0
Retail	6		3	0	3	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	2	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	0	0	0	0
Retail	11		0	0	0	0
Restaurant	37	2		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	8	4	0	0		0
Hotel	8	1	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	6	261	267	261	0	0
Retail	8	16	24	16	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	3	3	3	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	8	35	43	35	0	0
Retail	6	16	22	16	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	9	9	9	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	1125 Arguello Street LTA	**Organization:**	Kimley-Horn and Associates, Inc.
Project Location:	11125 Arguello Street	**Performed By:**	
Scenario Description:	Proposed Project	**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office		301	1,000 Sq Ft	325	52	273
Retail		4	1,000 Sq Ft	47	22	25
Restaurant		-	1,000 Sq Ft	0	0	0
Cinema/Entertainment		-	Screen(s)	0	0	0
Residential		33	Dwelling Unit(s)	15	9	6
Hotel		-	Room(s)	0	0	0
All Other Land Uses[2]		-	1,000 Sq Ft	0	0	0
				387	83	304

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.00	0%	0%	1.00	0%	0%
Restaurant	1.00	0%	0%	1.00	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses[2]	1.00	0%	0%	1.00	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office					250	
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	0	0	0	0
Retail	1		0	0	4	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	387	83	304
Internal Capture Percentage	5%	11%	3%
External Vehicle-Trips[5]	369	74	295
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	2%	1%
Retail	18%	20%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	44%	33%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Project Name:	1125 Arguello Street LTA
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	52	52	1.00	273	273
Retail	1.00	22	22	1.00	25	25
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	9	9	1.00	6	6
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		55	11	0	5	0
Retail	1		7	1	7	1
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	3	1	0		0
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	0	0	0	0
Retail	16		0	0	4	0
Restaurant	16	11		0	1	0
Cinema/Entertainment	3	1	0		0	0
Residential	30	2	0	0		0
Hotel	0	0	0	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	1	51	52	51	0	0
Retail	4	18	22	18	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	4	5	9	5	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	2	271	273	271	0	0
Retail	5	20	25	20	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	4	6	4	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

C - Synchro Outputs

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	164	325	1244
v/c Ratio	0.18	0.18	0.96
Control Delay	8.0	7.7	35.8
Queue Delay	0.0	0.0	0.0
Total Delay	8.0	7.7	35.8
Queue Length 50th (ft)	26	26	182
Queue Length 95th (ft)	52	45	#313
Internal Link Dist (ft)	200	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	928	1764	1321
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.18	0.18	0.94

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	149	0	0	296	1039	93
Future Volume (veh/h)	149	0	0	296	1039	93
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	164	0	0	325	1237	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	935	0	0	1777	1329	591
Arrive On Green	0.50	0.00	0.00	0.50	0.37	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	164	0	0	325	1237	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	2.5	0.0	0.0	2.6	17.3	0.0
Cycle Q Clear(g_c), s	2.5	0.0	0.0	2.6	17.3	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	935	0	0	1777	1329	591
V/C Ratio(X)	0.18	0.00	0.00	0.18	0.93	0.00
Avail Cap(c_a), veh/h	935	0	0	1777	1370	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.1	0.0	0.0	7.2	15.7	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	11.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	0.8	7.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.5	0.0	0.0	7.2	26.7	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h	164			325	1237	
Approach Delay, s/veh	7.5			7.2	26.7	
Approach LOS	A			A	C	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	22.4
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	4.5				4.6	19.3
Green Ext Time (p_c), s	0.1				0.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1398	236	923	118	13	699	114	1097	219
v/c Ratio	0.87	1.07	0.51	0.43	0.03	0.48	0.42	0.78	0.42
Control Delay	47.1	128.2	19.5	49.1	44.7	28.4	55.7	43.1	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.1	128.2	19.5	49.1	44.7	28.4	55.7	43.1	18.6
Queue Length 50th (ft)	385	~195	227	47	9	121	42	276	60
Queue Length 95th (ft)	431	#355	284	78	m28	160	72	332	133
Internal Link Dist (ft)	538		243		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1616	221	1827	281	516	1452	281	1413	522
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	1.07	0.51	0.42	0.03	0.48	0.41	0.78	0.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1214	118	229	881	15	114	13	678	111	1064	212
Future Volume (veh/h)	23	1214	118	229	881	15	114	13	678	111	1064	212
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1252	122	236	908	15	118	13	699	114	1097	219
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1603	155	223	1869	31	262	516	998	261	1409	437
Arrive On Green	0.12	0.12	0.12	0.13	0.52	0.52	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	46	4469	432	1781	3577	59	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	502	437	459	236	451	472	118	13	699	114	1097	219
Grp Sat Flow(s),veh/h/ln	1774	1549	1624	1781	1777	1860	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	13.5	31.8	31.8	14.5	18.8	18.8	3.8	0.6	20.1	3.7	23.0	13.5
Cycle Q Clear(g_c), s	31.5	31.8	31.8	14.5	18.8	18.8	3.8	0.6	20.1	3.7	23.0	13.5
Prop In Lane	0.05		0.27	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	669	555	583	223	928	972	262	516	998	261	1409	437
V/C Ratio(X)	0.75	0.79	0.79	1.06	0.49	0.49	0.45	0.03	0.70	0.44	0.78	0.50
Avail Cap(c_a), veh/h	669	555	583	223	928	972	283	516	998	283	1409	437
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	46.8	46.8	50.8	17.7	17.7	51.3	30.6	37.7	51.3	38.7	35.3
Incr Delay (d2), s/veh	4.4	6.3	6.0	77.0	1.8	1.7	1.2	0.1	3.9	1.1	4.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	14.2	14.9	11.3	8.1	8.5	1.7	0.3	6.2	1.6	10.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	53.1	52.9	127.8	19.5	19.5	52.4	30.7	41.6	52.4	43.0	39.3
LnGrp LOS	D	D	D	F	B	B	D	C	D	D	D	D
Approach Vol, veh/h		1398			1159			830			1430	
Approach Delay, s/veh		52.2			41.6			43.0			43.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	37.1		65.6	13.3	37.1	19.0	46.6
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0
Max Green Setting (Gmax), s	9.5	31.9		60.0	9.5	* 32	14.5	41.0
Max Q Clear Time (g_c+I1), s	5.7	22.1		20.8	5.8	25.0	16.5	33.8
Green Ext Time (p_c), s	0.1	2.3		7.6	0.1	4.3	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	86	1136	89	759	461	17	151	99	238	226	112
v/c Ratio	0.60	0.78	0.57	0.51	0.50	0.27	0.37	0.36	0.82	0.27	0.24
Control Delay	94.4	12.8	55.9	31.3	14.9	54.1	48.3	11.2	63.5	36.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.4	12.8	55.9	31.3	14.9	54.1	48.3	11.2	63.5	36.2	7.8
Queue Length 50th (ft)	0	122	66	260	129	12	56	0	162	69	0
Queue Length 95th (ft)	m89	m#588	121	347	187	34	81	43	#308	109	46
Internal Link Dist (ft)		930		538			474			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	147	1449	173	1475	928	115	741	413	302	875	475
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.78	0.51	0.51	0.50	0.15	0.20	0.24	0.79	0.26	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	1059	8	84	713	433	16	142	93	224	212	105
Future Volume (veh/h)	81	1059	8	84	713	433	16	142	93	224	212	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	1127	9	89	759	461	17	151	99	238	226	112
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	2097	17	130	2064	920	234	775	346	269	775	346
Arrive On Green	0.15	1.00	1.00	0.07	0.58	0.58	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3613	29	1781	3554	1585	1042	3554	1585	1130	3554	1585
Grp Volume(v), veh/h	86	554	582	89	759	461	17	151	99	238	226	112
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1585	1042	1777	1585	1130	1777	1585
Q Serve(g_s), s	5.3	0.0	0.0	5.7	13.2	19.9	1.6	4.0	6.0	21.3	6.2	6.9
Cycle Q Clear(g_c), s	5.3	0.0	0.0	5.7	13.2	19.9	7.8	4.0	6.0	25.3	6.2	6.9
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1031	1082	130	2064	920	234	775	346	269	775	346
V/C Ratio(X)	0.66	0.54	0.54	0.68	0.37	0.50	0.07	0.19	0.29	0.88	0.29	0.32
Avail Cap(c_a), veh/h	144	1031	1082	175	2064	920	234	775	346	269	775	346
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	0.0	52.4	13.0	14.4	41.1	37.0	37.8	48.7	37.9	38.2
Incr Delay (d2), s/veh	4.7	1.1	1.1	4.4	0.4	1.7	0.1	0.1	0.5	27.3	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.3	0.3	2.7	5.4	7.5	0.4	1.8	2.4	9.0	2.7	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	1.1	1.1	56.8	13.4	16.1	41.2	37.2	38.3	76.1	38.1	38.7
LnGrp LOS	D	A	A	E	B	B	D	D	D	E	D	D
Approach Vol, veh/h		1222			1309			267			576	
Approach Delay, s/veh		4.7			17.3			37.8			53.9	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.1	71.9		31.0	13.0	72.0		31.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	11.4	35.4		* 25	9.4	37.4		* 24				
Max Q Clear Time (g_c+I1), s	7.7	2.0		27.3	7.3	21.9		9.8				
Green Ext Time (p_c), s	0.0	7.9		0.0	0.0	5.5		1.1				

Intersection Summary		
HCM 6th Ctrl Delay		20.6
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	79	1213	59	767	114	64	51	160
v/c Ratio	0.56	0.79	0.50	0.51	0.72	0.26	0.17	1.08
Control Delay	66.7	34.8	49.8	49.0	71.2	46.0	1.3	136.9
Queue Delay	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.7	36.5	49.8	49.0	71.2	46.0	1.3	136.9
Queue Length 50th (ft)	58	411	46	315	83	44	0	~124
Queue Length 95th (ft)	108	#647	m92	383	138	80	1	#264
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	152	1531	145	1495	246	375	400	148
Starvation Cap Reductn	0	170	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.89	0.41	0.51	0.46	0.17	0.13	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	1035	69	54	686	12	104	58	46	19	86	40
Future Volume (veh/h)	72	1035	69	54	686	12	104	58	46	19	86	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	1137	76	59	754	13	114	64	51	21	95	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	2321	155	91	2436	42	198	268	227	54	159	68
Arrive On Green	0.06	0.69	0.69	0.02	0.22	0.22	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3381	226	1781	3574	62	1250	1870	1585	135	1114	474
Grp Volume(v), veh/h	79	597	616	59	375	392	114	64	51	160	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1830	1781	1777	1859	1250	1870	1585	1722	0	0
Q Serve(g_s), s	5.1	18.4	18.4	3.8	20.4	20.4	4.3	3.5	3.3	3.6	0.0	0.0
Cycle Q Clear(g_c), s	5.1	18.4	18.4	3.8	20.4	20.4	14.3	3.5	3.3	10.0	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.03	1.00		1.00	0.13		0.27
Lane Grp Cap(c), veh/h	100	1220	1256	91	1211	1267	198	268	227	281	0	0
V/C Ratio(X)	0.79	0.49	0.49	0.65	0.31	0.31	0.57	0.24	0.22	0.57	0.00	0.00
Avail Cap(c_a), veh/h	144	1220	1256	144	1211	1267	272	377	320	424	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	0.50	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.0	8.6	8.6	56.0	22.2	22.2	49.5	44.1	44.0	46.8	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.7	0.7	2.5	0.6	0.6	1.0	0.2	0.2	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	6.9	7.1	1.8	9.9	10.4	3.3	1.7	1.3	4.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	9.3	9.3	58.5	22.8	22.8	50.5	44.3	44.2	47.5	0.0	0.0
LnGrp LOS	E	A	A	E	C	C	D	D	D	D	A	A
Approach Vol, veh/h		1292			826			229			160	
Approach Delay, s/veh		12.3			25.3			47.4			47.5	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	83.7		21.2	10.6	84.3		21.2				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	9.4	38.4		23.4	9.4	38.4		26.4				
Max Q Clear Time (g_c+I1), s	7.1	22.4		16.3	5.8	20.4		12.0				
Green Ext Time (p_c), s	0.0	4.6		0.3	0.0	8.4		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		22.1	
HCM 6th LOS		C	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	546	355	328	244	63	846	533	313	1109
v/c Ratio	1.00	0.46	0.41	0.48	0.47	0.64	0.64	0.72	0.72
Control Delay	94.0	47.7	46.7	13.7	70.8	37.6	12.7	66.3	34.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.0	47.7	46.7	13.7	70.8	37.6	12.7	66.3	34.7
Queue Length 50th (ft)	~253	139	130	32	54	318	92	137	418
Queue Length 95th (ft)	#390	193	182	114	101	402	226	188	533
Internal Link Dist (ft)	1368		469			1567			427
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	547	768	792	508	191	1321	836	512	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.46	0.41	0.48	0.33	0.64	0.64	0.61	0.72

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	418	28	341	315	234	60	812	512	300	993	72
Future Volume (veh/h)	79	418	28	341	315	234	60	812	512	300	993	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	435	29	355	328	244	62	846	533	312	1034	75
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	508	35	530	545	243	80	1514	675	383	1652	120
Arrive On Green	0.17	0.17	0.17	0.15	0.15	0.15	0.05	0.43	0.43	0.11	0.49	0.49
Sat Flow, veh/h	528	2945	205	3456	3554	1585	1781	3554	1585	3456	3360	244
Grp Volume(v), veh/h	286	0	260	355	328	244	62	846	533	312	547	562
Grp Sat Flow(s),veh/h/ln	1844	0	1833	1728	1777	1585	1781	1777	1585	1728	1777	1827
Q Serve(g_s), s	17.9	0.0	16.0	11.4	10.1	18.0	4.0	21.0	34.1	10.4	26.5	26.5
Cycle Q Clear(g_c), s	17.9	0.0	16.0	11.4	10.1	18.0	4.0	21.0	34.1	10.4	26.5	26.5
Prop In Lane	0.29		0.11	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	318	0	316	530	545	243	80	1514	675	383	874	898
V/C Ratio(X)	0.90	0.00	0.82	0.67	0.60	1.00	0.77	0.56	0.79	0.81	0.63	0.63
Avail Cap(c_a), veh/h	328	0	327	530	545	243	220	1514	675	589	874	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	0.0	46.8	46.9	46.3	49.7	55.4	25.4	29.1	51.0	21.9	21.9
Incr Delay (d2), s/veh	26.0	0.0	14.9	6.6	4.9	58.6	14.4	1.5	9.1	5.1	3.4	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	0.0	8.7	5.4	4.9	11.1	2.1	9.0	14.2	4.7	11.4	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.6	0.0	61.7	53.5	51.2	108.3	69.8	26.9	38.2	56.1	25.3	25.2
LnGrp LOS	E	A	E	D	D	F	E	C	D	E	C	C
Approach Vol, veh/h		546			927			1441			1421	
Approach Delay, s/veh		67.9			67.1			32.9			32.0	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	61.7		22.0	17.5	54.0		23.8				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	6.0	28.5		20.0	12.4	36.1		19.9				
Green Ext Time (p_c), s	0.1	5.4		0.0	0.7	6.6		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		44.3	
HCM 6th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	162	78	194	25	28	60	66	531	43	69	1260	257
v/c Ratio	0.24	0.09	0.24	0.04	0.04	0.09	0.44	0.35	0.08	0.53	0.85	0.48
Control Delay	15.8	20.8	3.8	14.1	23.5	0.5	59.7	33.4	0.3	77.4	34.4	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	20.8	3.8	14.1	23.5	0.5	59.7	33.4	0.3	77.4	34.4	16.4
Queue Length 50th (ft)	62	36	0	9	13	0	48	117	0	55	159	30
Queue Length 95th (ft)	101	68	45	23	33	3	92	152	0	m69	m#409	m81
Internal Link Dist (ft)		405			458			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	703	839	820	731	714	676	181	1526	550	135	1474	540
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.09	0.24	0.03	0.04	0.09	0.36	0.35	0.08	0.51	0.85	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	74	184	24	27	57	63	504	41	66	1197	244
Future Volume (veh/h)	154	74	184	24	27	57	63	504	41	66	1197	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	78	194	25	28	60	66	531	43	69	1260	257
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	734	845	716	601	781	662	108	1404	436	110	1408	437
Arrive On Green	0.08	0.45	0.45	0.04	0.42	0.42	0.06	0.28	0.28	0.06	0.28	0.28
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	162	78	194	25	28	60	66	531	43	69	1260	257
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.7	2.8	8.9	0.9	1.0	2.7	4.2	9.8	2.3	4.4	27.5	16.3
Cycle Q Clear(g_c), s	5.7	2.8	8.9	0.9	1.0	2.7	4.2	9.8	2.3	4.4	27.5	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	734	845	716	601	781	662	108	1404	436	110	1408	437
V/C Ratio(X)	0.22	0.09	0.27	0.04	0.04	0.09	0.61	0.38	0.10	0.63	0.89	0.59
Avail Cap(c_a), veh/h	801	845	716	759	781	662	183	1404	436	137	1408	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.45	0.45	0.45
Uniform Delay (d), s/veh	15.6	18.2	19.9	17.1	20.0	20.5	53.1	34.0	31.3	53.1	40.4	36.3
Incr Delay (d2), s/veh	0.1	0.2	0.9	0.0	0.1	0.3	5.5	0.8	0.5	2.8	4.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.3	3.5	0.4	0.5	1.0	2.0	4.1	1.0	2.0	11.9	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	18.4	20.8	17.2	20.1	20.7	58.6	34.8	31.8	55.9	44.9	38.9
LnGrp LOS	B	B	C	B	C	C	E	C	C	E	D	D
Approach Vol, veh/h		434			113			640			1586	
Approach Delay, s/veh		18.5			19.8			37.1			44.4	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	37.1	13.7	53.1	12.2	37.0	9.7	57.1
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	11.9	28.9	* 13	* 42	8.9	31.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	6.2	29.5	7.7	4.7	6.4	11.8	2.9	10.9
Green Ext Time (p_c), s	0.0	0.0	0.2	0.3	0.0	3.6	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	37.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	701	215	14	78	17	31	314
v/c Ratio	1.36	0.23	0.10	0.19	0.04	0.22	0.61
Control Delay	203.8	26.6	42.6	31.3	0.1	44.2	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	203.8	26.6	42.6	31.3	0.1	44.2	29.7
Queue Length 50th (ft)	~299	51	8	38	0	18	121
Queue Length 95th (ft)	#422	84	28	78	0	46	#266
Internal Link Dist (ft)	447	311		392			777
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	515	944	317	418	447	317	512
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	0.23	0.04	0.19	0.04	0.10	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	461	71	23	158	12	13	70	15	28	124	158
Future Volume (veh/h)	99	461	71	23	158	12	13	70	15	28	124	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	512	79	26	176	13	14	78	17	31	138	176
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	705	114	113	800	62	41	413	350	75	179	228
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.02	0.22	0.22	0.04	0.24	0.24
Sat Flow, veh/h	546	2660	430	426	3019	233	1781	1870	1585	1781	747	952
Grp Volume(v), veh/h	371	0	330	113	0	102	14	78	17	31	0	314
Grp Sat Flow(s),veh/h/ln	1843	0	1793	1849	0	1828	1781	1870	1585	1781	0	1699
Q Serve(g_s), s	16.8	0.0	15.0	4.3	0.0	3.9	0.7	3.1	0.8	1.5	0.0	15.6
Cycle Q Clear(g_c), s	16.8	0.0	15.0	4.3	0.0	3.9	0.7	3.1	0.8	1.5	0.0	15.6
Prop In Lane	0.30		0.24	0.23		0.13	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	488	0	475	490	0	484	41	413	350	75	0	407
V/C Ratio(X)	0.76	0.00	0.69	0.23	0.00	0.21	0.34	0.19	0.05	0.42	0.00	0.77
Avail Cap(c_a), veh/h	488	0	475	490	0	484	315	413	350	315	0	407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.7	0.0	30.0	26.1	0.0	25.9	43.6	28.7	27.8	42.3	0.0	32.1
Incr Delay (d2), s/veh	10.7	0.0	8.1	1.1	0.0	1.0	1.8	1.0	0.3	1.4	0.0	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.0	7.4	2.0	0.0	1.8	0.3	1.5	0.3	0.7	0.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	0.0	38.1	27.2	0.0	26.9	45.4	29.7	28.1	43.7	0.0	45.3
LnGrp LOS	D	A	D	C	A	C	D	C	C	D	A	D
Approach Vol, veh/h		701			215			109			345	
Approach Delay, s/veh		39.8			27.0			31.5			45.2	
Approach LOS		D			C			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	8.5	24.7		28.7	6.8	26.4				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		18.8	3.5	5.1		6.3	2.7	17.6				
Green Ext Time (p_c), s		1.5	0.0	0.2		0.7	0.0	0.3				

Intersection Summary	
HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	96	377	70	244	1100	142	123	1080	112
v/c Ratio	0.40	0.45	0.40	0.29	0.58	0.16	0.62	0.44	0.10
Control Delay	46.1	42.3	48.3	37.2	6.1	1.5	66.2	9.0	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	42.3	48.3	37.2	6.1	1.5	66.2	9.0	3.4
Queue Length 50th (ft)	66	136	48	79	65	1	96	181	13
Queue Length 95th (ft)	121	185	98	117	m84	m4	155	221	31
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	238	844	174	838	1894	913	297	2463	1118
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.45	0.40	0.29	0.58	0.16	0.41	0.44	0.10

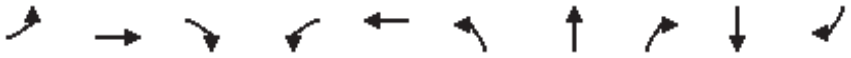
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	359	11	69	200	39	1	1077	139	121	1058	110
Future Volume (veh/h)	94	359	11	69	200	39	1	1077	139	121	1058	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	96	366	11	70	204	40	1	1099	142	123	1080	112
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	1137	34	303	960	185	29	1757	799	150	2176	971
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.08	0.61	0.61
Sat Flow, veh/h	1136	3523	106	1006	2972	572	0	3486	1585	1781	3554	1585
Grp Volume(v), veh/h	96	184	193	70	120	124	590	510	142	123	1080	112
Grp Sat Flow(s),veh/h/ln	1136	1777	1851	1006	1777	1767	1869	1617	1585	1781	1777	1585
Q Serve(g_s), s	8.4	9.8	9.8	7.1	6.2	6.4	0.0	28.6	6.1	8.5	21.2	3.7
Cycle Q Clear(g_c), s	14.8	9.8	9.8	16.9	6.2	6.4	28.6	28.6	6.1	8.5	21.2	3.7
Prop In Lane	1.00		0.06	1.00		0.32	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	367	574	598	303	574	571	971	815	799	150	2176	971
V/C Ratio(X)	0.26	0.32	0.32	0.23	0.21	0.22	0.61	0.63	0.18	0.82	0.50	0.12
Avail Cap(c_a), veh/h	367	574	598	303	574	571	971	815	799	299	2176	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	0.46	0.46	0.46	0.71	0.71	0.71
Uniform Delay (d), s/veh	36.2	32.0	32.0	38.4	30.7	30.8	22.5	22.5	16.9	56.3	13.5	10.1
Incr Delay (d2), s/veh	1.7	1.5	1.4	1.7	0.8	0.9	1.3	1.7	0.2	7.6	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.5	4.7	1.9	2.8	2.9	12.5	10.9	2.2	4.1	8.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	33.4	33.4	40.1	31.6	31.7	23.8	24.1	17.1	63.9	14.1	10.3
LnGrp LOS	D	C	C	D	C	C	C	C	B	E	B	B
Approach Vol, veh/h		473			314			1242			1315	
Approach Delay, s/veh		34.3			33.5			23.2			18.4	
Approach LOS		C			C			C			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		80.5		44.5	13.5	67.0		44.5				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		67.0		29.9	21.0	63.0		25.4				
Max Q Clear Time (g_c+I1), s		23.2		18.9	10.5	30.6		16.8				
Green Ext Time (p_c), s		10.4		1.2	0.2	9.1		1.7				

Intersection Summary												
HCM 6th Ctrl Delay			23.8									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	173	472	434	28	305	282	118	37	116	84
v/c Ratio	0.64	0.46	0.44	0.18	0.38	0.84	0.24	0.08	0.25	0.17
Control Delay	49.5	16.7	7.9	45.8	21.6	55.7	28.5	2.8	28.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	16.7	7.9	45.8	21.6	55.7	28.5	2.8	28.7	7.2
Queue Length 50th (ft)	102	194	64	16	127	158	55	0	54	0
Queue Length 95th (ft)	172	300	149	46	220	#304	106	10	105	36
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	382	1036	990	382	796	406	603	556	574	569
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.46	0.44	0.07	0.38	0.69	0.20	0.07	0.20	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	448	412	27	264	26	268	112	35	17	93	80
Future Volume (veh/h)	164	448	412	27	264	26	268	112	35	17	93	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	472	434	28	278	27	282	118	37	18	98	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	945	801	79	724	70	385	564	478	97	484	478
Arrive On Green	0.12	0.51	0.51	0.04	0.43	0.43	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1678	163	1202	1870	1585	174	1606	1585
Grp Volume(v), veh/h	173	472	434	28	0	305	282	118	37	116	0	84
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1841	1202	1870	1585	1780	0	1585
Q Serve(g_s), s	8.8	15.5	17.3	1.4	0.0	10.5	21.2	4.4	1.5	0.0	0.0	3.6
Cycle Q Clear(g_c), s	8.8	15.5	17.3	1.4	0.0	10.5	25.5	4.4	1.5	4.3	0.0	3.6
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	0.16		1.00
Lane Grp Cap(c), veh/h	211	945	801	79	0	794	385	564	478	582	0	478
V/C Ratio(X)	0.82	0.50	0.54	0.35	0.00	0.38	0.73	0.21	0.08	0.20	0.00	0.18
Avail Cap(c_a), veh/h	384	945	801	384	0	794	411	605	513	582	0	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	15.2	15.6	43.0	0.0	18.0	33.6	24.1	23.2	24.1	0.0	23.9
Incr Delay (d2), s/veh	7.7	1.9	2.6	2.7	0.0	1.4	6.2	0.2	0.1	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.9	6.6	0.7	0.0	4.7	6.8	2.0	0.6	1.9	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	17.1	18.3	45.7	0.0	19.4	39.8	24.3	23.2	24.3	0.0	24.1
LnGrp LOS	D	B	B	D	A	B	D	C	C	C	A	C
Approach Vol, veh/h		1079			333			437			200	
Approach Delay, s/veh		22.4			21.6			34.2			24.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	51.5		32.6	15.6	44.6		32.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	3.4	19.3		6.3	10.8	12.5		27.5				
Green Ext Time (p_c), s	0.0	4.9		0.7	0.3	2.0		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		25.0	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	292	767	286	116	343	196	245	968	69	200	1142	103
v/c Ratio	0.94	0.63	0.47	0.44	0.39	0.28	0.83	0.89	0.10	0.76	1.12	0.20
Control Delay	90.2	37.2	24.5	60.1	40.7	16.9	73.6	53.5	6.9	62.8	108.7	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.2	37.2	24.5	60.1	40.7	16.9	73.6	53.5	6.9	62.8	108.7	19.5
Queue Length 50th (ft)	236	271	120	46	122	71	190	396	3	157	~590	30
Queue Length 95th (ft)	#409	350	212	76	167	119	#306	#564	32	236	#737	77
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	311	1226	608	604	878	764	325	1084	844	325	1024	512
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.63	0.47	0.19	0.39	0.26	0.75	0.89	0.08	0.62	1.12	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	744	277	113	333	190	238	939	67	194	1108	100
Future Volume (veh/h)	283	744	277	113	333	190	238	939	67	194	1108	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	292	767	286	116	343	196	245	968	69	200	1142	103
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	1435	640	174	988	647	273	1049	548	231	967	431
Arrive On Green	0.18	0.40	0.40	0.05	0.28	0.28	0.15	0.30	0.30	0.04	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	292	767	286	116	343	196	245	968	69	200	1142	103
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	20.2	20.5	16.4	4.1	9.6	10.4	16.9	33.0	3.7	14.0	34.0	7.6
Cycle Q Clear(g_c), s	20.2	20.5	16.4	4.1	9.6	10.4	16.9	33.0	3.7	14.0	34.0	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	1435	640	174	988	647	273	1049	548	231	967	431
V/C Ratio(X)	0.93	0.53	0.45	0.67	0.35	0.30	0.90	0.92	0.13	0.86	1.18	0.24
Avail Cap(c_a), veh/h	314	1435	640	608	988	647	328	1049	548	328	967	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	50.8	28.3	27.1	58.3	36.1	25.0	52.0	42.7	28.0	58.7	56.9	44.9
Incr Delay (d2), s/veh	33.4	1.4	2.3	4.3	1.0	1.2	23.3	14.4	0.5	14.1	91.4	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	9.1	6.7	1.9	4.4	4.2	9.2	16.3	1.5	7.6	28.5	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	29.8	29.4	62.7	37.0	26.2	75.3	57.1	28.5	72.8	148.3	46.0
LnGrp LOS	F	C	C	E	D	C	E	E	C	E	F	D
Approach Vol, veh/h		1345			655			1282			1445	
Approach Delay, s/veh		41.5			38.3			59.0			130.6	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.6	38.0	25.5	38.9	19.7	40.9	9.8	54.6
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	23.0	34.0	22.0	30.9	23.0	33.0	22.0	29.9
Max Q Clear Time (g_c+I1), s	18.9	36.0	22.2	12.4	16.0	35.0	6.1	22.5
Green Ext Time (p_c), s	0.3	0.0	0.0	2.9	0.3	0.0	0.3	3.7

Intersection Summary	
HCM 6th Ctrl Delay	73.0
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	8	43	11	22	2	95	83	10	2	63	0
Future Vol, veh/h	2	8	43	11	22	2	95	83	10	2	63	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	47	12	24	2	103	90	11	2	68	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.9	8.7	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	51%	4%	31%	3%
Vol Thru, %	44%	15%	63%	97%
Vol Right, %	5%	81%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	188	53	35	65
LT Vol	95	2	11	2
Through Vol	83	8	22	63
RT Vol	10	43	2	0
Lane Flow Rate	204	58	38	71
Geometry Grp	1	1	1	1
Degree of Util (X)	0.24	0.066	0.049	0.086
Departure Headway (Hd)	4.224	4.12	4.647	4.366
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	840	873	774	824
Service Time	2.303	2.125	2.653	2.376
HCM Lane V/C Ratio	0.243	0.066	0.049	0.086
HCM Control Delay	8.7	7.4	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.2	0.2	0.3

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	11	2	3	11	3	6	22	2	0	69	8
Future Vol, veh/h	2	11	2	3	11	3	6	22	2	0	69	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	12	2	3	12	3	7	24	2	0	75	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.2	7.2	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	13%	18%	0%
Vol Thru, %	73%	73%	65%	90%
Vol Right, %	7%	13%	18%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	15	17	77
LT Vol	6	2	3	0
Through Vol	22	11	11	69
RT Vol	2	2	3	8
Lane Flow Rate	33	16	18	84
Geometry Grp	1	1	1	1
Degree of Util (X)	0.037	0.019	0.021	0.092
Departure Headway (Hd)	4.055	4.095	4.076	3.955
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	881	868	872	906
Service Time	2.09	2.15	2.131	1.981
HCM Lane V/C Ratio	0.037	0.018	0.021	0.093
HCM Control Delay	7.2	7.2	7.2	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.3

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	300	216	1265
v/c Ratio	0.32	0.12	0.97
Control Delay	9.2	7.4	37.7
Queue Delay	0.0	0.0	0.0
Total Delay	9.2	7.4	37.7
Queue Length 50th (ft)	51	17	187
Queue Length 95th (ft)	93	31	#321
Internal Link Dist (ft)	135	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	924	1757	1316
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.32	0.12	0.96

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	288	0	0	207	1110	105
Future Volume (veh/h)	288	0	0	207	1110	105
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	300	0	0	216	1258	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	928	0	0	1763	1347	599
Arrive On Green	0.50	0.00	0.00	0.50	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	300	0	0	216	1258	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	5.0	0.0	0.0	1.7	17.8	0.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	1.7	17.8	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	928	0	0	1763	1347	599
V/C Ratio(X)	0.32	0.00	0.00	0.12	0.93	0.00
Avail Cap(c_a), veh/h	928	0	0	1763	1359	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	7.1	15.7	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.0	11.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.5	8.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.9	0.0	0.0	7.1	27.4	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h	300			216	1258	
Approach Delay, s/veh	8.9			7.1	27.4	
Approach LOS	A			A	C	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	22.8
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	7.0				3.7	19.8
Green Ext Time (p_c), s	0.3				0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	912	160	1137	318	11	983	105	1004	334
v/c Ratio	0.59	0.79	0.66	0.73	0.02	0.60	0.42	0.73	0.64
Control Delay	31.9	79.6	26.4	85.7	19.7	3.4	60.5	45.7	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	79.6	26.4	85.7	19.7	3.4	60.5	45.7	30.1
Queue Length 50th (ft)	170	126	355	138	3	15	42	274	144
Queue Length 95th (ft)	m227	#227	431	188	m9	14	72	331	254
Internal Link Dist (ft)	538		219		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1548	219	1723	480	598	1642	260	1369	524
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.73	0.66	0.66	0.02	0.60	0.40	0.73	0.64

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	699	128	147	1028	18	293	10	904	97	924	307
Future Volume (veh/h)	12	699	128	147	1028	18	293	10	904	97	924	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	760	139	160	1117	20	318	11	983	105	1004	334
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	1460	263	187	1764	32	379	597	1154	242	1427	443
Arrive On Green	0.24	0.24	0.24	0.10	0.49	0.49	0.11	0.32	0.32	0.07	0.28	0.28
Sat Flow, veh/h	29	4134	744	1781	3572	64	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	333	286	293	160	556	581	318	11	983	105	1004	334
Grp Sat Flow(s),veh/h/ln	1790	1549	1568	1781	1777	1859	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	0.0	20.1	20.4	11.0	28.8	28.8	11.3	0.5	31.8	3.6	22.0	24.0
Cycle Q Clear(g_c), s	19.3	20.1	20.4	11.0	28.8	28.8	11.3	0.5	31.8	3.6	22.0	24.0
Prop In Lane	0.04		0.47	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	662	547	554	187	878	918	379	597	1154	242	1427	443
V/C Ratio(X)	0.50	0.52	0.53	0.86	0.63	0.63	0.84	0.02	0.85	0.43	0.70	0.75
Avail Cap(c_a), veh/h	662	547	554	221	878	918	484	597	1154	263	1427	443
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	38.5	38.6	55.0	23.3	23.3	54.6	29.1	39.8	55.7	40.4	41.1
Incr Delay (d2), s/veh	2.1	2.7	2.7	24.0	3.5	3.3	9.2	0.1	7.4	1.2	2.9	11.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	8.5	8.7	6.2	12.9	13.5	5.4	0.2	10.0	1.6	9.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	41.2	41.4	79.1	26.8	26.6	63.8	29.2	47.2	57.0	43.3	52.4
LnGrp LOS	D	D	D	E	C	C	E	C	D	E	D	D
Approach Vol, veh/h		912			1297			1312			1443	
Approach Delay, s/veh		40.9			33.1			51.0			46.4	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	45.0		66.7	18.2	40.0	17.6	49.1
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0
Max Green Setting (Gmax), s	9.5	39.9		61.0	17.5	* 32	15.5	41.0
Max Q Clear Time (g_c+I1), s	5.6	33.8		30.8	13.3	26.0	13.0	22.4
Green Ext Time (p_c), s	0.1	2.4		9.7	0.4	3.7	0.1	6.0

Intersection Summary		
HCM 6th Ctrl Delay		43.2
HCM 6th LOS		D

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	137	553	56	940	682	57	374	84	226	253	151
v/c Ratio	0.67	0.47	0.43	1.00	0.84	0.97	0.42	0.17	1.09	0.34	0.34
Control Delay	70.7	59.2	71.4	66.6	18.2	156.7	41.1	1.8	134.7	43.5	9.7
Queue Delay	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.7	59.2	71.4	66.6	19.5	156.7	41.1	1.8	134.7	43.5	9.7
Queue Length 50th (ft)	117	243	39	412	235	46	134	0	~205	92	5
Queue Length 95th (ft)	m185	308	m65	#626	#386	#138	182	9	#368	133	61
Internal Link Dist (ft)		930		538			448			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	288	1167	133	942	814	59	886	497	207	745	447
Starvation Cap Reductn	0	0	0	0	37	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.47	0.42	1.00	0.88	0.97	0.42	0.17	1.09	0.34	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	506	19	53	893	648	54	355	80	215	240	143
Future Volume (veh/h)	130	506	19	53	893	648	54	355	80	215	240	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	533	20	56	940	682	57	374	84	226	253	151
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	2126	80	110	2052	915	205	748	333	167	748	333
Arrive On Green	0.03	0.20	0.20	0.06	0.58	0.58	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	3493	131	1781	3554	1585	981	3554	1585	934	3554	1585
Grp Volume(v), veh/h	137	271	282	56	940	682	57	374	84	226	253	151
Grp Sat Flow(s),veh/h/ln	1781	1777	1847	1781	1777	1585	981	1777	1585	934	1777	1585
Q Serve(g_s), s	9.6	16.0	16.1	3.8	19.0	39.9	6.6	11.6	5.5	14.7	7.6	10.4
Cycle Q Clear(g_c), s	9.6	16.0	16.1	3.8	19.0	39.9	14.1	11.6	5.5	26.3	7.6	10.4
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	166	1082	1124	110	2052	915	205	748	333	167	748	333
V/C Ratio(X)	0.83	0.25	0.25	0.51	0.46	0.75	0.28	0.50	0.25	1.35	0.34	0.45
Avail Cap(c_a), veh/h	291	1082	1124	134	2052	915	244	890	397	167	748	333
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	25.9	26.0	56.8	15.2	19.6	48.0	43.6	41.1	57.7	42.0	43.1
Incr Delay (d2), s/veh	7.0	0.5	0.5	1.9	0.5	3.8	0.7	0.5	0.4	191.9	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	7.8	8.1	1.8	7.8	15.4	1.7	5.2	2.2	14.2	3.4	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	26.5	26.5	58.7	15.7	23.4	48.7	44.1	41.5	249.6	42.2	44.0
LnGrp LOS	E	C	C	E	B	C	D	D	D	F	D	D
Approach Vol, veh/h		690			1678			515			630	
Approach Delay, s/veh		34.4			20.3			44.2			117.0	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	80.7		32.0	16.2	76.8		32.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	9.4	38.4		* 26	20.4	27.4		* 31				
Max Q Clear Time (g_c+I1), s	5.8	18.1		28.3	11.6	41.9		16.1				
Green Ext Time (p_c), s	0.0	2.8		0.0	0.2	0.0		2.6				

Intersection Summary												
HCM 6th Ctrl Delay			43.9									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	81	766	41	1156	103	116	40	130
v/c Ratio	0.55	0.42	0.40	0.65	0.71	0.53	0.13	0.94
Control Delay	68.9	21.2	80.1	10.1	76.9	59.8	0.9	109.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	21.2	80.1	10.1	76.9	59.8	0.9	109.4
Queue Length 50th (ft)	64	201	35	71	81	90	0	95
Queue Length 95th (ft)	114	305	m42	m96	137	143	0	#200
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	203	1844	133	1777	234	348	405	170
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.42	0.31	0.65	0.44	0.33	0.10	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	676	74	40	1109	24	101	114	39	10	87	30
Future Volume (veh/h)	79	676	74	40	1109	24	101	114	39	10	87	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	81	690	76	41	1132	24	103	116	40	10	89	31
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	2338	257	76	2524	53	183	230	195	39	157	52
Arrive On Green	0.06	0.72	0.72	0.09	1.00	1.00	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	3228	355	1781	3558	75	1272	1870	1585	65	1276	420
Grp Volume(v), veh/h	81	380	386	41	565	591	103	116	40	130	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1806	1781	1777	1857	1272	1870	1585	1761	0	0
Q Serve(g_s), s	5.6	9.4	9.4	2.8	0.0	0.0	4.3	7.3	2.8	0.7	0.0	0.0
Cycle Q Clear(g_c), s	5.6	9.4	9.4	2.8	0.0	0.0	12.9	7.3	2.8	8.6	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.04	1.00		1.00	0.08		0.24
Lane Grp Cap(c), veh/h	103	1287	1308	76	1260	1317	183	230	195	247	0	0
V/C Ratio(X)	0.79	0.29	0.30	0.54	0.45	0.45	0.56	0.51	0.21	0.53	0.00	0.00
Avail Cap(c_a), veh/h	205	1287	1308	134	1260	1317	265	350	297	400	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	0.29	0.29	0.29	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	58.2	6.0	6.0	56.0	0.0	0.0	54.4	51.3	49.3	51.9	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.4	0.4	0.6	0.3	0.3	1.0	0.6	0.2	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.5	3.5	1.2	0.1	0.1	3.2	3.4	1.1	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	6.4	6.4	56.7	0.3	0.3	55.4	51.9	49.5	52.5	0.0	0.0
LnGrp LOS	E	A	A	E	A	A	E	D	D	D	A	A
Approach Vol, veh/h		847			1197			259			130	
Approach Delay, s/veh		11.7			2.3			52.9			52.5	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	93.3		20.0	9.9	95.1		20.0				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	14.4	42.4		23.4	9.4	47.4		26.4				
Max Q Clear Time (g_c+I1), s	7.6	2.0		14.9	4.8	11.4		10.6				
Green Ext Time (p_c), s	0.0	10.7		0.4	0.0	5.9		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		13.6	
HCM 6th LOS		B	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	453	320	468	425	70	1224	377	263	1034
v/c Ratio	0.87	0.41	0.58	0.77	0.50	0.91	0.52	0.66	0.68
Control Delay	71.5	45.6	48.9	30.7	70.6	49.5	18.1	63.9	33.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.5	45.6	48.9	30.7	70.6	49.5	18.1	63.9	33.2
Queue Length 50th (ft)	196	121	190	152	59	522	119	113	378
Queue Length 95th (ft)	#292	174	258	#301	111	#701	229	159	483
Internal Link Dist (ft)	1368		469			1567			283
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	554	786	810	550	195	1350	722	524	1536
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.41	0.58	0.77	0.36	0.91	0.52	0.50	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	257	49	307	449	408	67	1175	362	252	876	116
Future Volume (veh/h)	129	257	49	307	449	408	67	1175	362	252	876	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	268	51	320	468	425	70	1224	377	262	912	121
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	336	66	553	568	254	91	1579	704	336	1548	205
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.44	0.44	0.10	0.49	0.49
Sat Flow, veh/h	1023	2164	426	3456	3554	1585	1781	3554	1585	3456	3154	418
Grp Volume(v), veh/h	238	0	215	320	468	425	70	1224	377	262	514	519
Grp Sat Flow(s),veh/h/ln	1819	0	1794	1728	1777	1585	1781	1777	1585	1728	1777	1795
Q Serve(g_s), s	14.3	0.0	12.9	9.6	14.3	18.0	4.4	32.8	19.5	8.3	23.3	23.3
Cycle Q Clear(g_c), s	14.3	0.0	12.9	9.6	14.3	18.0	4.4	32.8	19.5	8.3	23.3	23.3
Prop In Lane	0.56		0.24	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	283	0	279	553	568	254	91	1579	704	336	872	881
V/C Ratio(X)	0.84	0.00	0.77	0.58	0.82	1.68	0.77	0.78	0.54	0.78	0.59	0.59
Avail Cap(c_a), veh/h	338	0	333	553	568	254	230	1579	704	614	872	881
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	0.0	45.6	43.8	45.7	47.3	52.8	26.5	22.8	49.6	20.5	20.5
Incr Delay (d2), s/veh	15.1	0.0	8.8	4.4	12.7	320.9	13.0	3.8	2.9	3.9	2.9	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	6.5	4.5	7.4	29.7	2.3	14.2	7.6	3.7	10.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	0.0	54.4	48.1	58.4	368.2	65.8	30.3	25.7	53.6	23.4	23.4
LnGrp LOS	E	A	D	D	E	F	E	C	C	D	C	C
Approach Vol, veh/h		453			1213			1671			1295	
Approach Delay, s/veh		58.0			164.3			30.7			29.5	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	59.2		22.0	15.4	54.0		21.1				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	6.4	25.3		20.0	10.3	34.8		16.3				
Green Ext Time (p_c), s	0.1	5.8		0.0	0.6	8.8		1.2				

Intersection Summary			
HCM 6th Ctrl Delay		68.0	
HCM 6th LOS		E	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	178	49	91	43	85	100	113	861	25	52	905	334
v/c Ratio	0.29	0.07	0.13	0.07	0.13	0.15	0.62	0.48	0.04	0.43	0.60	0.55
Control Delay	20.1	25.6	0.9	17.9	29.0	1.7	68.6	33.5	0.1	51.1	62.9	46.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	25.6	0.9	17.9	29.0	1.7	68.6	33.5	0.1	51.1	62.9	46.3
Queue Length 50th (ft)	81	25	0	18	47	0	89	205	0	44	278	202
Queue Length 95th (ft)	128	53	5	39	86	11	149	249	0	m62	331	303
Internal Link Dist (ft)		299			401			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	628	738	716	685	651	650	225	1784	620	126	1506	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.07	0.13	0.06	0.13	0.15	0.50	0.48	0.04	0.41	0.60	0.55

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	47	87	41	82	96	108	827	24	50	869	321
Future Volume (veh/h)	171	47	87	41	82	96	108	827	24	50	869	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	49	91	43	85	100	112	861	25	52	905	334
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	622	761	645	639	721	611	138	1671	519	95	1549	481
Arrive On Green	0.08	0.41	0.41	0.06	0.39	0.39	0.08	0.33	0.33	0.05	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	178	49	91	43	85	100	112	861	25	52	905	334
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	7.5	2.0	4.5	1.7	3.7	5.2	7.7	17.1	1.3	3.6	18.8	23.2
Cycle Q Clear(g_c), s	7.5	2.0	4.5	1.7	3.7	5.2	7.7	17.1	1.3	3.6	18.8	23.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	622	761	645	639	721	611	138	1671	519	95	1549	481
V/C Ratio(X)	0.29	0.06	0.14	0.07	0.12	0.16	0.81	0.52	0.05	0.55	0.58	0.69
Avail Cap(c_a), veh/h	674	761	645	757	721	611	227	1671	519	127	1549	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	20.1	22.6	23.3	20.0	24.7	25.2	56.8	34.0	28.7	57.7	36.9	38.4
Incr Delay (d2), s/veh	0.3	0.2	0.5	0.0	0.3	0.6	10.9	1.1	0.2	2.9	1.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.9	1.8	0.7	1.7	2.1	3.9	7.2	0.5	1.7	7.9	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	22.8	23.8	20.0	25.0	25.7	67.7	35.2	28.9	60.5	37.8	43.3
LnGrp LOS	C	C	C	C	C	C	E	D	C	E	D	D
Approach Vol, veh/h		318			228			998			1291	
Approach Delay, s/veh		21.7			24.4			38.7			40.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	43.0	14.3	52.9	11.8	46.0	11.7	55.5
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	15.9	33.9	* 13	* 42	8.9	40.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	9.7	25.2	9.5	7.2	5.6	19.1	3.7	6.5
Green Ext Time (p_c), s	0.1	4.6	0.2	0.8	0.0	6.1	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	36.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	294	446	38	112	31	26	240
v/c Ratio	1.02dl	0.47	0.26	0.24	0.06	0.18	0.55
Control Delay	32.0	30.1	44.9	29.8	0.2	43.9	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	30.1	44.9	29.8	0.2	43.9	26.3
Queue Length 50th (ft)	76	117	22	46	0	15	83
Queue Length 95th (ft)	123	170	53	105	0	41	164
Internal Link Dist (ft)	447	490		392			777
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	555	948	317	470	487	317	440
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.47	0.12	0.24	0.06	0.08	0.55

Intersection Summary

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	160	31	18	388	18	36	106	29	25	79	149
Future Volume (veh/h)	88	160	31	18	388	18	36	106	29	25	79	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	168	33	19	408	19	38	112	31	26	83	157
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	551	112	40	892	44	85	430	364	66	127	240
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.05	0.23	0.23	0.04	0.22	0.22
Sat Flow, veh/h	1094	2092	424	151	3387	165	1781	1870	1585	1781	579	1095
Grp Volume(v), veh/h	154	0	140	234	0	212	38	112	31	26	0	240
Grp Sat Flow(s),veh/h/ln	1816	0	1794	1863	0	1841	1781	1870	1585	1781	0	1673
Q Serve(g_s), s	6.2	0.0	5.7	9.7	0.0	8.7	1.9	4.5	1.4	1.3	0.0	11.9
Cycle Q Clear(g_c), s	6.2	0.0	5.7	9.7	0.0	8.7	1.9	4.5	1.4	1.3	0.0	11.9
Prop In Lane	0.60		0.24	0.08		0.09	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	478	0	473	491	0	485	85	430	364	66	0	367
V/C Ratio(X)	0.32	0.00	0.30	0.48	0.00	0.44	0.45	0.26	0.09	0.39	0.00	0.65
Avail Cap(c_a), veh/h	478	0	473	491	0	485	313	430	364	313	0	367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	26.8	28.3	0.0	27.9	42.2	28.7	27.6	42.9	0.0	32.4
Incr Delay (d2), s/veh	1.8	0.0	1.6	3.3	0.0	2.8	1.4	1.5	0.5	1.4	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.6	4.7	0.0	4.1	0.9	2.2	0.6	0.6	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	28.4	31.6	0.0	30.8	43.6	30.2	28.0	44.3	0.0	41.2
LnGrp LOS	C	A	C	C	A	C	D	C	C	D	A	D
Approach Vol, veh/h		294			446			181			266	
Approach Delay, s/veh		28.6			31.2			32.7			41.5	
Approach LOS		C			C			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	8.1	25.6		28.7	9.0	24.7				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		8.2	3.3	6.5		11.7	3.9	13.9				
Green Ext Time (p_c), s		1.0	0.0	0.3		1.4	0.0	0.5				

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	129	156	511	1461	102	95	1265	98
v/c Ratio	0.41	0.15	0.52	0.60	0.75	0.11	0.56	0.51	0.09
Control Delay	52.5	31.3	48.7	41.6	17.4	8.9	66.0	9.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	31.3	48.7	41.6	17.4	8.9	66.0	9.9	3.8
Queue Length 50th (ft)	34	35	110	176	232	11	75	230	13
Queue Length 95th (ft)	77	63	183	236	m285	m17	128	277	30
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	119	838	298	845	1946	927	240	2463	1114
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.15	0.52	0.60	0.75	0.11	0.40	0.51	0.09

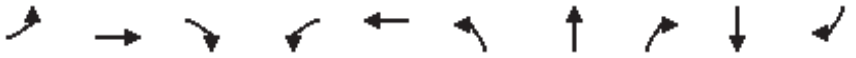
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	102	26	154	356	149	1	1445	101	94	1252	97
Future Volume (veh/h)	49	102	26	154	356	149	1	1445	101	94	1252	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	103	26	156	360	151	1	1460	102	95	1265	98
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	873	213	412	756	312	29	1869	850	119	2228	994
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.54	0.54	0.54	0.07	0.63	0.63
Sat Flow, veh/h	889	2831	692	1261	2453	1012	0	3486	1585	1781	3554	1585
Grp Volume(v), veh/h	49	63	66	156	259	252	783	678	102	95	1265	98
Grp Sat Flow(s),veh/h/ln	889	1777	1746	1261	1777	1688	1869	1617	1585	1781	1777	1585
Q Serve(g_s), s	5.9	3.2	3.4	12.7	14.8	15.2	0.0	41.8	4.0	6.6	25.8	3.1
Cycle Q Clear(g_c), s	21.1	3.2	3.4	16.1	14.8	15.2	41.8	41.8	4.0	6.6	25.8	3.1
Prop In Lane	1.00		0.40	1.00		0.60	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	548	538	412	548	520	1031	867	850	119	2228	994
V/C Ratio(X)	0.22	0.12	0.12	0.38	0.47	0.48	0.76	0.78	0.12	0.80	0.57	0.10
Avail Cap(c_a), veh/h	224	548	538	412	548	520	1031	867	850	242	2228	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	0.42	0.42	0.42	0.75	0.75	0.75
Uniform Delay (d), s/veh	43.7	31.0	31.1	36.8	35.0	35.1	23.2	23.2	14.4	57.5	13.5	9.3
Incr Delay (d2), s/veh	2.2	0.4	0.5	2.3	2.6	2.9	2.3	3.0	0.1	8.8	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.5	4.2	6.8	6.7	18.2	15.9	1.4	3.2	9.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	31.4	31.5	39.2	37.6	38.0	25.4	26.2	14.5	66.2	14.3	9.4
LnGrp LOS	D	C	C	D	D	D	C	C	B	E	B	A
Approach Vol, veh/h		178			667			1563			1458	
Approach Delay, s/veh		35.5			38.1			25.0			17.4	
Approach LOS		D			D			C			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		82.4		42.6	11.4	71.0		42.6				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		68.0		29.9	17.0	67.0		25.0				
Max Q Clear Time (g_c+I1), s		27.8		18.1	8.6	43.8		23.1				
Green Ext Time (p_c), s		12.8		2.9	0.1	11.6		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			24.9									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	110	274	276	59	458	347	141	47	181	221
v/c Ratio	0.53	0.31	0.31	0.35	0.59	1.01	0.24	0.09	0.33	0.34
Control Delay	48.8	18.1	3.2	46.3	25.4	86.5	26.2	4.3	27.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	18.1	3.2	46.3	25.4	86.5	26.2	4.3	27.6	5.2
Queue Length 50th (ft)	63	103	1	34	207	~212	63	0	83	0
Queue Length 95th (ft)	117	173	46	74	332	#417	117	18	149	52
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	372	874	888	372	782	343	588	544	552	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.31	0.31	0.16	0.59	1.01	0.24	0.09	0.33	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	266	268	57	435	10	337	137	46	29	146	214
Future Volume (veh/h)	107	266	268	57	435	10	337	137	46	29	146	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	274	276	59	448	10	347	141	47	30	151	221
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	843	714	121	801	18	339	616	522	110	516	522
Arrive On Green	0.08	0.45	0.45	0.07	0.44	0.44	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1781	1822	41	1010	1870	1585	195	1566	1585
Grp Volume(v), veh/h	110	274	276	59	0	458	347	141	47	181	0	221
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1863	1010	1870	1585	1760	0	1585
Q Serve(g_s), s	5.5	8.6	10.5	2.9	0.0	16.6	23.5	5.0	1.9	0.0	0.0	9.9
Cycle Q Clear(g_c), s	5.5	8.6	10.5	2.9	0.0	16.6	30.0	5.0	1.9	6.5	0.0	9.9
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.17		1.00
Lane Grp Cap(c), veh/h	142	843	714	121	0	819	339	616	522	626	0	522
V/C Ratio(X)	0.78	0.33	0.39	0.49	0.00	0.56	1.02	0.23	0.09	0.29	0.00	0.42
Avail Cap(c_a), veh/h	391	843	714	391	0	819	339	616	522	626	0	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	16.1	16.6	40.9	0.0	19.0	36.5	22.1	21.1	22.7	0.0	23.8
Incr Delay (d2), s/veh	8.8	1.0	1.6	3.0	0.0	2.8	54.6	0.2	0.1	0.3	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.8	4.1	1.4	0.0	7.6	12.8	2.2	0.7	2.9	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	17.1	18.2	43.9	0.0	21.7	91.1	22.3	21.2	22.9	0.0	24.3
LnGrp LOS	D	B	B	D	A	C	F	C	C	C	A	C
Approach Vol, veh/h		660			517			535			402	
Approach Delay, s/veh		23.0			24.3			66.9			23.7	
Approach LOS		C			C			E			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	45.6		34.6	11.8	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	4.9	12.5		11.9	7.5	18.6		32.0				
Green Ext Time (p_c), s	0.1	2.8		1.2	0.2	3.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		34.5	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	230	353	186	231	701	196	243	1159	109	214	1102	214
v/c Ratio	0.99	0.38	0.36	0.63	0.83	0.28	0.84	0.91	0.13	0.81	0.91	0.32
Control Delay	110.0	39.4	14.9	61.4	54.7	19.6	74.5	50.4	5.5	70.5	60.2	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.0	39.4	14.9	61.4	54.7	19.6	74.5	50.4	5.5	70.5	60.2	17.4
Queue Length 50th (ft)	188	123	35	93	284	78	189	478	9	170	435	37
Queue Length 95th (ft)	#355	173	101	135	359	134	#309	#624	40	#278	#580	104
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	233	937	515	425	846	712	318	1270	856	290	1216	662
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.38	0.36	0.54	0.83	0.28	0.76	0.91	0.13	0.74	0.91	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	346	182	226	687	192	238	1136	107	210	1080	210
Future Volume (veh/h)	225	346	182	226	687	192	238	1136	107	210	1080	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	230	353	186	231	701	196	243	1159	109	214	1102	214
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1119	499	292	950	641	271	1219	677	244	1166	520
Arrive On Green	0.13	0.31	0.31	0.08	0.27	0.27	0.15	0.34	0.34	0.05	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	230	353	186	231	701	196	243	1159	109	214	1102	214
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.1	9.4	11.4	8.2	22.5	10.5	16.7	39.7	5.3	14.9	38.5	15.8
Cycle Q Clear(g_c), s	16.1	9.4	11.4	8.2	22.5	10.5	16.7	39.7	5.3	14.9	38.5	15.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	1119	499	292	950	641	271	1219	677	244	1166	520
V/C Ratio(X)	0.98	0.32	0.37	0.79	0.74	0.31	0.90	0.95	0.16	0.88	0.95	0.41
Avail Cap(c_a), veh/h	235	1119	499	429	950	641	321	1219	677	292	1166	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	54.1	32.6	33.2	56.1	41.8	25.3	52.1	40.0	22.0	58.6	54.6	44.5
Incr Delay (d2), s/veh	52.3	0.7	2.1	6.1	5.1	1.2	23.9	16.4	0.5	19.3	14.4	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	4.3	4.7	3.9	10.6	4.2	9.2	19.7	2.1	8.5	20.7	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.4	33.3	35.4	62.3	46.9	26.5	76.0	56.5	22.5	77.9	69.0	46.5
LnGrp LOS	F	C	D	E	D	C	E	E	C	E	E	D
Approach Vol, veh/h		769			1128			1511			1530	
Approach Delay, s/veh		55.7			46.5			57.1			67.1	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.5	45.0	20.0	37.5	20.6	46.9	14.1	43.5
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	22.5	41.0	16.5	29.9	20.5	41.0	15.5	29.4
Max Q Clear Time (g_c+I1), s	18.7	40.5	18.1	24.5	16.9	41.7	10.2	13.4
Green Ext Time (p_c), s	0.2	0.4	0.0	2.6	0.2	0.0	0.4	2.8

Intersection Summary	
HCM 6th Ctrl Delay	57.6
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	6	59	10	6	5	55	92	13	1	49	0
Future Vol, veh/h	1	6	59	10	6	5	55	92	13	1	49	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	7	64	11	7	5	60	100	14	1	53	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.6	8.3	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	2%	48%	2%
Vol Thru, %	57%	9%	29%	98%
Vol Right, %	8%	89%	24%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	66	21	50
LT Vol	55	1	10	1
Through Vol	92	6	6	49
RT Vol	13	59	5	0
Lane Flow Rate	174	72	23	54
Geometry Grp	1	1	1	1
Degree of Util (X)	0.201	0.078	0.028	0.064
Departure Headway (Hd)	4.16	3.936	4.47	4.237
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	856	915	805	834
Service Time	2.217	1.936	2.472	2.321
HCM Lane V/C Ratio	0.203	0.079	0.029	0.065
HCM Control Delay	8.3	7.3	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.3	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	13	8	1	10	8	4	28	3	6	30	4
Future Vol, veh/h	5	13	8	1	10	8	4	28	3	6	30	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	14	9	1	11	9	4	30	3	7	33	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7	7.2	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	19%	5%	15%
Vol Thru, %	80%	50%	53%	75%
Vol Right, %	9%	31%	42%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	26	19	40
LT Vol	4	5	1	6
Through Vol	28	13	10	30
RT Vol	3	8	8	4
Lane Flow Rate	38	28	21	43
Geometry Grp	1	1	1	1
Degree of Util (X)	0.043	0.031	0.022	0.049
Departure Headway (Hd)	4.023	3.945	3.855	4.017
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	889	903	924	891
Service Time	2.051	1.986	1.897	2.044
HCM Lane V/C Ratio	0.043	0.031	0.023	0.048
HCM Control Delay	7.2	7.1	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.2

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	164	325	1315
v/c Ratio	0.18	0.19	1.00
Control Delay	8.0	7.8	44.9
Queue Delay	0.0	0.0	0.0
Total Delay	8.0	7.8	44.9
Queue Length 50th (ft)	26	26	~201
Queue Length 95th (ft)	52	45	#340
Internal Link Dist (ft)	200	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1310
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.18	0.19	1.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	149	0	0	296	1104	93
Future Volume (veh/h)	149	0	0	296	1104	93
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	164	0	0	325	1308	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	164	0	0	325	1308	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	2.6	0.0	0.0	2.7	18.9	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	2.7	18.9	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.18	0.00	0.00	0.19	0.97	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.4	0.0	0.0	7.4	16.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	16.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	0.8	9.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.8	0.0	0.0	7.4	32.7	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h	164			325	1308	
Approach Delay, s/veh	7.8			7.4	32.7	
Approach LOS	A			A	C	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	23.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	4.6				4.7	20.9
Green Ext Time (p_c), s	0.1				0.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1425	236	990	118	13	699	114	1097	286
v/c Ratio	0.88	1.07	0.54	0.43	0.03	0.48	0.42	0.78	0.56
Control Delay	43.8	128.2	20.1	49.1	44.7	28.5	55.7	43.1	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	128.2	20.1	49.1	44.7	28.5	55.7	43.1	27.2
Queue Length 50th (ft)	396	~195	251	47	9	121	42	276	116
Queue Length 95th (ft)	442	#355	311	79	m28	161	72	332	207
Internal Link Dist (ft)	538		243		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1613	221	1827	281	516	1452	281	1413	514
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	1.07	0.54	0.42	0.03	0.48	0.41	0.78	0.56

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1241	118	229	946	15	114	13	678	111	1064	277
Future Volume (veh/h)	23	1241	118	229	946	15	114	13	678	111	1064	277
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1279	122	236	975	15	118	13	699	114	1097	286
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1604	152	223	1871	29	262	516	998	261	1409	437
Arrive On Green	0.12	0.12	0.12	0.13	0.52	0.52	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	45	4473	423	1781	3582	55	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	510	446	468	236	484	506	118	13	699	114	1097	286
Grp Sat Flow(s),veh/h/ln	1767	1549	1626	1781	1777	1860	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	14.2	32.6	32.6	14.5	20.7	20.7	3.8	0.6	20.1	3.7	23.0	18.5
Cycle Q Clear(g_c), s	32.2	32.6	32.6	14.5	20.7	20.7	3.8	0.6	20.1	3.7	23.0	18.5
Prop In Lane	0.05		0.26	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	666	555	583	223	928	972	262	516	998	261	1409	437
V/C Ratio(X)	0.77	0.80	0.80	1.06	0.52	0.52	0.45	0.03	0.70	0.44	0.78	0.65
Avail Cap(c_a), veh/h	666	555	583	223	928	972	283	516	998	283	1409	437
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	47.2	47.2	50.8	18.2	18.2	51.3	30.6	37.7	51.3	38.7	37.1
Incr Delay (d2), s/veh	4.6	6.6	6.4	77.0	2.1	2.0	1.2	0.1	3.9	1.1	4.3	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	14.6	15.3	11.3	9.0	9.4	1.7	0.3	6.2	1.6	10.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	53.8	53.5	127.8	20.3	20.2	52.4	30.7	41.6	52.4	43.0	44.5
LnGrp LOS	D	D	D	F	C	C	D	C	D	D	D	D
Approach Vol, veh/h		1425			1226			830			1497	
Approach Delay, s/veh		52.8			40.9			43.0			44.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	37.1		65.6	13.3	37.1	19.0	46.6				
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0				
Max Green Setting (Gmax), s	9.5	31.9		60.0	9.5	* 32	14.5	41.0				
Max Q Clear Time (g_c+I1), s	5.7	22.1		22.7	5.8	25.0	16.5	34.6				
Green Ext Time (p_c), s	0.1	2.3		8.3	0.1	4.4	0.0	4.5				

Intersection Summary			
HCM 6th Ctrl Delay		45.6	
HCM 6th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	86	1161	90	896	461	17	151	102	238	226	112
v/c Ratio	0.60	0.80	0.57	0.61	0.50	0.27	0.37	0.37	0.82	0.27	0.24
Control Delay	80.1	11.0	56.1	33.4	13.4	54.1	48.3	11.8	63.5	36.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.1	11.0	56.1	33.4	13.4	54.1	48.3	11.8	63.5	36.2	7.8
Queue Length 50th (ft)	69	48	67	312	118	12	56	0	162	69	0
Queue Length 95th (ft)	m68	m#51	121	409	190	34	81	47	#308	109	46
Internal Link Dist (ft)		930		538			474			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	147	1449	173	1475	928	115	741	413	302	875	475
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.80	0.52	0.61	0.50	0.15	0.20	0.25	0.79	0.26	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	1083	8	85	842	433	16	142	96	224	212	105
Future Volume (veh/h)	81	1083	8	85	842	433	16	142	96	224	212	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	1152	9	90	896	461	17	151	102	238	226	112
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	2097	16	131	2064	920	234	775	346	269	775	346
Arrive On Green	0.15	1.00	1.00	0.07	0.58	0.58	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3614	28	1781	3554	1585	1042	3554	1585	1127	3554	1585
Grp Volume(v), veh/h	86	566	595	90	896	461	17	151	102	238	226	112
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1585	1042	1777	1585	1127	1777	1585
Q Serve(g_s), s	5.3	0.0	0.0	5.7	16.4	19.9	1.6	4.0	6.2	21.3	6.2	6.9
Cycle Q Clear(g_c), s	5.3	0.0	0.0	5.7	16.4	19.9	7.8	4.0	6.2	25.3	6.2	6.9
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1031	1082	131	2064	920	234	775	346	269	775	346
V/C Ratio(X)	0.66	0.55	0.55	0.69	0.43	0.50	0.07	0.19	0.30	0.89	0.29	0.32
Avail Cap(c_a), veh/h	144	1031	1082	175	2064	920	234	775	346	269	775	346
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	0.0	52.5	13.6	14.4	41.1	37.0	37.9	48.8	37.9	38.2
Incr Delay (d2), s/veh	0.8	0.2	0.2	4.5	0.6	1.6	0.1	0.1	0.5	27.7	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.1	0.1	2.7	6.7	7.5	0.4	1.8	2.5	9.0	2.7	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	0.2	0.2	57.0	14.2	16.0	41.2	37.2	38.4	76.5	38.1	38.7
LnGrp LOS	D	A	A	E	B	B	D	D	D	E	D	D
Approach Vol, veh/h		1247			1447			270			576	
Approach Delay, s/veh		3.6			17.4			37.9			54.1	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.1	71.9		31.0	13.0	72.0		31.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	11.4	35.4		* 25	9.4	37.4		* 24				
Max Q Clear Time (g_c+I1), s	7.7	2.0		27.3	7.3	21.9		9.8				
Green Ext Time (p_c), s	0.0	8.2		0.0	0.0	6.4		1.1				

Intersection Summary		
HCM 6th Ctrl Delay		20.1
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	79	1266	201	767	123	65	77	161
v/c Ratio	0.58	1.09	0.79	0.52	0.73	0.25	0.25	1.09
Control Delay	68.3	91.6	61.2	48.3	71.4	44.9	5.8	138.9
Queue Delay	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.3	95.6	61.2	48.3	71.4	44.9	5.8	138.9
Queue Length 50th (ft)	58	~559	161	316	89	44	0	~126
Queue Length 95th (ft)	110	#698	#364	384	147	81	24	#265
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	149	1161	256	1477	246	375	400	148
Starvation Cap Reductn	0	22	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	1.11	0.79	0.52	0.50	0.17	0.19	1.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	1035	117	183	686	12	112	59	70	19	87	40
Future Volume (veh/h)	72	1035	117	183	686	12	112	59	70	19	87	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	1137	129	201	754	13	123	65	77	21	96	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	2091	237	144	2411	42	207	281	238	55	168	71
Arrive On Green	0.06	0.65	0.65	0.03	0.22	0.22	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3217	364	1781	3574	62	1249	1870	1585	132	1117	470
Grp Volume(v), veh/h	79	627	639	201	375	392	123	65	77	161	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1805	1781	1777	1859	1249	1870	1585	1720	0	0
Q Serve(g_s), s	5.1	22.2	22.3	9.4	20.4	20.4	5.1	3.5	5.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	5.1	22.2	22.3	9.4	20.4	20.4	15.1	3.5	5.0	10.0	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.03	1.00		1.00	0.13		0.27
Lane Grp Cap(c), veh/h	100	1155	1173	144	1198	1254	207	281	238	293	0	0
V/C Ratio(X)	0.79	0.54	0.54	1.39	0.31	0.31	0.59	0.23	0.32	0.55	0.00	0.00
Avail Cap(c_a), veh/h	144	1155	1173	144	1198	1254	272	377	320	423	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.46	0.46	0.46	0.81	0.81	0.81	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.0	11.0	11.0	56.4	22.6	22.6	49.2	43.4	44.0	46.1	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.8	0.8	207.2	0.6	0.5	1.0	0.2	0.3	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	8.6	8.8	12.8	9.9	10.4	3.5	1.7	2.0	4.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	11.8	11.9	263.6	23.2	23.2	50.2	43.5	44.3	46.7	0.0	0.0
LnGrp LOS	E	B	B	F	C	C	D	D	D	D	A	A
Approach Vol, veh/h		1345			968			265			161	
Approach Delay, s/veh		14.6			73.1			46.9			46.7	
Approach LOS		B			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	82.8		22.0	14.0	80.0		22.0				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	9.4	38.4		23.4	9.4	38.4		26.4				
Max Q Clear Time (g_c+I1), s	7.1	22.4		17.1	11.4	24.3		12.0				
Green Ext Time (p_c), s	0.0	4.6		0.3	0.0	7.7		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		40.3	
HCM 6th LOS		D	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	554	355	329	251	63	846	538	352	1109
v/c Ratio	1.02	0.47	0.42	0.49	0.47	0.65	0.65	0.77	0.71
Control Delay	99.1	48.2	47.2	13.8	71.2	38.2	13.3	68.7	34.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.1	48.2	47.2	13.8	71.2	38.2	13.3	68.7	34.4
Queue Length 50th (ft)	~273	141	132	33	54	325	101	155	418
Queue Length 95th (ft)	#398	193	182	117	101	402	235	210	533
Internal Link Dist (ft)	1368		469			1567			427
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	543	763	786	511	190	1311	831	508	1560
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.47	0.42	0.49	0.33	0.65	0.65	0.69	0.71

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	425	28	341	316	241	60	812	516	338	993	72
Future Volume (veh/h)	79	425	28	341	316	241	60	812	516	338	993	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	443	29	355	329	251	62	846	538	352	1034	75
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	511	35	522	536	239	80	1490	665	421	1667	121
Arrive On Green	0.17	0.17	0.17	0.15	0.15	0.15	0.05	0.42	0.42	0.12	0.50	0.50
Sat Flow, veh/h	520	2956	202	3456	3554	1585	1781	3554	1585	3456	3360	244
Grp Volume(v), veh/h	291	0	263	355	329	251	62	846	538	352	547	562
Grp Sat Flow(s),veh/h/ln	1844	0	1834	1728	1777	1585	1781	1777	1585	1728	1777	1827
Q Serve(g_s), s	18.5	0.0	16.5	11.6	10.3	18.0	4.1	21.6	35.6	11.9	26.7	26.7
Cycle Q Clear(g_c), s	18.5	0.0	16.5	11.6	10.3	18.0	4.1	21.6	35.6	11.9	26.7	26.7
Prop In Lane	0.28		0.11	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	319	0	317	522	536	239	80	1490	665	421	881	906
V/C Ratio(X)	0.91	0.00	0.83	0.68	0.61	1.05	0.77	0.57	0.81	0.84	0.62	0.62
Avail Cap(c_a), veh/h	323	0	321	522	536	239	217	1490	665	580	881	906
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	0.0	47.6	47.9	47.4	50.6	56.3	26.4	30.4	51.2	21.9	21.9
Incr Delay (d2), s/veh	28.5	0.0	16.4	7.0	5.2	71.7	14.4	1.6	10.3	7.6	3.3	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	0.0	9.0	5.5	5.0	11.9	2.2	9.3	15.0	5.5	11.5	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.9	0.0	64.0	54.9	52.5	122.3	70.7	28.0	40.7	58.8	25.1	25.1
LnGrp LOS	E	A	E	D	D	F	E	C	D	E	C	C
Approach Vol, veh/h		554			935			1446			1461	
Approach Delay, s/veh		70.8			72.2			34.6			33.2	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	63.2		22.0	19.0	54.0		24.2				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	6.1	28.7		20.0	13.9	37.6		20.5				
Green Ext Time (p_c), s	0.1	5.3		0.0	0.7	6.2		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		46.7	
HCM 6th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	162	78	197	25	28	60	79	532	43	69	1260	257
v/c Ratio	0.24	0.09	0.24	0.04	0.04	0.09	0.51	0.35	0.08	0.53	0.87	0.48
Control Delay	15.8	20.8	3.8	14.1	23.5	0.5	61.7	33.4	0.3	77.4	35.2	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	20.8	3.8	14.1	23.5	0.5	61.7	33.4	0.3	77.4	35.2	16.5
Queue Length 50th (ft)	62	36	0	9	13	0	57	117	0	55	159	30
Queue Length 95th (ft)	101	68	45	23	33	3	107	153	0	m69	m#409	m80
Internal Link Dist (ft)		405			458			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	703	839	821	731	714	676	181	1526	550	135	1455	534
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.09	0.24	0.03	0.04	0.09	0.44	0.35	0.08	0.51	0.87	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	74	187	24	27	57	75	505	41	66	1197	244
Future Volume (veh/h)	154	74	187	24	27	57	75	505	41	66	1197	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	78	197	25	28	60	79	532	43	69	1260	257
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	734	845	716	599	781	662	113	1404	436	110	1394	433
Arrive On Green	0.08	0.45	0.45	0.04	0.42	0.42	0.06	0.28	0.28	0.06	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	162	78	197	25	28	60	79	532	43	69	1260	257
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	5.7	2.8	9.0	0.9	1.0	2.7	5.0	9.8	2.3	4.4	27.6	16.3
Cycle Q Clear(g_c), s	5.7	2.8	9.0	0.9	1.0	2.7	5.0	9.8	2.3	4.4	27.6	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	734	845	716	599	781	662	113	1404	436	110	1394	433
V/C Ratio(X)	0.22	0.09	0.28	0.04	0.04	0.09	0.70	0.38	0.10	0.63	0.90	0.59
Avail Cap(c_a), veh/h	801	845	716	758	781	662	183	1404	436	137	1394	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.45	0.45	0.45
Uniform Delay (d), s/veh	15.6	18.2	19.9	17.1	20.0	20.5	53.2	34.0	31.3	53.1	40.7	36.6
Incr Delay (d2), s/veh	0.1	0.2	1.0	0.0	0.1	0.3	7.5	0.8	0.5	2.8	4.9	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.3	3.5	0.4	0.5	1.0	2.5	4.1	1.0	2.0	12.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	18.4	20.9	17.2	20.1	20.7	60.7	34.8	31.8	55.9	45.6	39.3
LnGrp LOS	B	B	C	B	C	C	E	C	C	E	D	D
Approach Vol, veh/h		437			113			654			1586	
Approach Delay, s/veh		18.5			19.8			37.7			45.0	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	36.8	13.7	53.1	12.2	37.0	9.7	57.1
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	11.9	28.9	* 13	* 42	8.9	31.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	7.0	29.6	7.7	4.7	6.4	11.8	2.9	11.0
Green Ext Time (p_c), s	0.1	0.0	0.2	0.3	0.0	3.6	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	735	229	14	119	17	34	332
v/c Ratio	1.58dl	0.24	0.10	0.28	0.04	0.23	0.64
Control Delay	219.7	26.0	42.7	32.6	0.1	44.5	30.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	219.7	26.0	42.7	32.6	0.1	44.5	30.6
Queue Length 50th (ft)	~318	53	8	60	0	19	129
Queue Length 95th (ft)	#445	87	28	112	0	50	#286
Internal Link Dist (ft)	447	311		392			959
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	525	940	317	418	446	317	516
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.40	0.24	0.04	0.28	0.04	0.11	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	461	71	23	158	24	13	107	15	31	127	172
Future Volume (veh/h)	130	461	71	23	158	24	13	107	15	31	127	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	144	512	79	26	176	27	14	119	17	34	141	191
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	672	108	105	739	118	41	412	349	79	174	236
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.02	0.22	0.22	0.04	0.24	0.24
Sat Flow, veh/h	680	2543	410	399	2796	446	1781	1870	1585	1781	720	975
Grp Volume(v), veh/h	389	0	346	121	0	108	14	119	17	34	0	332
Grp Sat Flow(s),veh/h/ln	1836	0	1797	1850	0	1790	1781	1870	1585	1781	0	1695
Q Serve(g_s), s	17.9	0.0	16.0	4.7	0.0	4.3	0.7	4.8	0.8	1.7	0.0	16.8
Cycle Q Clear(g_c), s	17.9	0.0	16.0	4.7	0.0	4.3	0.7	4.8	0.8	1.7	0.0	16.8
Prop In Lane	0.37		0.23	0.22		0.25	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	485	0	475	489	0	473	41	412	349	79	0	410
V/C Ratio(X)	0.80	0.00	0.73	0.25	0.00	0.23	0.34	0.29	0.05	0.43	0.00	0.81
Avail Cap(c_a), veh/h	485	0	475	489	0	473	314	412	349	314	0	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.2	0.0	30.5	26.3	0.0	26.2	43.7	29.5	27.9	42.3	0.0	32.5
Incr Delay (d2), s/veh	13.0	0.0	9.5	1.2	0.0	1.1	1.8	1.8	0.3	1.4	0.0	15.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	0.0	8.0	2.2	0.0	2.0	0.3	2.3	0.3	0.8	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.2	0.0	40.0	27.5	0.0	27.3	45.5	31.3	28.2	43.7	0.0	48.3
LnGrp LOS	D	A	D	C	A	C	D	C	C	D	A	D
Approach Vol, veh/h		735			229			150			366	
Approach Delay, s/veh		42.2			27.4			32.2			47.9	
Approach LOS		D			C			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	8.7	24.7		28.7	6.8	26.6				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		19.9	3.7	6.8		6.7	2.7	18.8				
Green Ext Time (p_c), s		1.3	0.0	0.3		0.7	0.0	0.2				

Intersection Summary	
HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	96	383	80	249	1103	167	123	1080	112
v/c Ratio	0.41	0.45	0.47	0.30	0.58	0.18	0.62	0.44	0.10
Control Delay	46.3	42.4	51.2	37.3	6.2	1.5	66.2	9.0	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	42.4	51.2	37.3	6.2	1.5	66.2	9.0	3.4
Queue Length 50th (ft)	66	139	56	81	70	2	96	181	13
Queue Length 95th (ft)	122	188	111	120	m83	m5	155	221	31
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	236	844	171	839	1894	917	297	2463	1118
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.45	0.47	0.30	0.58	0.18	0.41	0.44	0.10

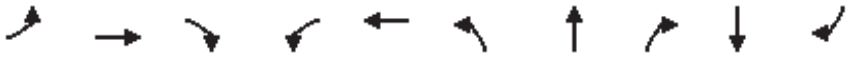
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	365	11	78	205	39	1	1080	164	121	1058	110
Future Volume (veh/h)	94	365	11	78	205	39	1	1080	164	121	1058	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	96	372	11	80	209	40	1	1102	167	123	1080	112
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	364	1138	34	300	964	181	29	1757	799	150	2176	971
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.08	0.61	0.61
Sat Flow, veh/h	1131	3524	104	1000	2985	561	0	3486	1585	1781	3554	1585
Grp Volume(v), veh/h	96	187	196	80	123	126	591	512	167	123	1080	112
Grp Sat Flow(s),veh/h/ln	1131	1777	1852	1000	1777	1769	1869	1617	1585	1781	1777	1585
Q Serve(g_s), s	8.5	10.0	10.0	8.2	6.3	6.5	0.0	28.7	7.3	8.5	21.2	3.7
Cycle Q Clear(g_c), s	15.0	10.0	10.0	18.2	6.3	6.5	28.7	28.7	7.3	8.5	21.2	3.7
Prop In Lane	1.00		0.06	1.00		0.32	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	364	574	598	300	574	571	971	815	799	150	2176	971
V/C Ratio(X)	0.26	0.33	0.33	0.27	0.21	0.22	0.61	0.63	0.21	0.82	0.50	0.12
Avail Cap(c_a), veh/h	364	574	598	300	574	571	971	815	799	299	2176	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	0.43	0.43	0.43	0.71	0.71	0.71
Uniform Delay (d), s/veh	36.3	32.0	32.0	38.9	30.8	30.9	22.5	22.5	17.2	56.3	13.5	10.1
Incr Delay (d2), s/veh	1.8	1.5	1.5	2.1	0.8	0.9	1.2	1.6	0.3	7.6	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.6	4.8	2.2	2.9	2.9	12.5	10.9	2.7	4.1	8.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	33.5	33.5	41.1	31.6	31.7	23.7	24.1	17.4	63.9	14.1	10.3
LnGrp LOS	D	C	C	D	C	C	C	C	B	E	B	B
Approach Vol, veh/h		479			329			1270			1315	
Approach Delay, s/veh		34.4			34.0			23.0			18.4	
Approach LOS		C			C			C			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		80.5		44.5	13.5	67.0		44.5				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		67.0		29.9	21.0	63.0		25.4				
Max Q Clear Time (g_c+I1), s		23.2		20.2	10.5	30.7		17.0				
Green Ext Time (p_c), s		10.4		1.2	0.2	9.3		1.7				

Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	199	472	434	28	305	282	131	37	119	84
v/c Ratio	0.69	0.45	0.44	0.18	0.39	0.85	0.26	0.08	0.25	0.17
Control Delay	51.7	16.6	7.8	46.5	22.3	57.8	29.3	2.8	29.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	16.6	7.8	46.5	22.3	57.8	29.3	2.8	29.3	7.2
Queue Length 50th (ft)	120	198	66	17	133	163	63	0	57	0
Queue Length 95th (ft)	197	300	149	46	220	#307	116	10	108	36
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	376	1042	995	376	784	396	594	548	564	561
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.45	0.44	0.07	0.39	0.71	0.22	0.07	0.21	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	448	412	27	264	26	268	124	35	17	96	80
Future Volume (veh/h)	189	448	412	27	264	26	268	124	35	17	96	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	472	434	28	278	27	282	131	37	18	101	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	952	807	78	705	69	381	564	478	95	486	478
Arrive On Green	0.13	0.51	0.51	0.04	0.42	0.42	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1678	163	1199	1870	1585	169	1611	1585
Grp Volume(v), veh/h	199	472	434	28	0	305	282	131	37	119	0	84
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1841	1199	1870	1585	1780	0	1585
Q Serve(g_s), s	10.4	15.8	17.6	1.5	0.0	11.0	21.8	5.0	1.6	0.0	0.0	3.7
Cycle Q Clear(g_c), s	10.4	15.8	17.6	1.5	0.0	11.0	26.3	5.0	1.6	4.5	0.0	3.7
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	0.15		1.00
Lane Grp Cap(c), veh/h	237	952	807	78	0	774	381	564	478	581	0	478
V/C Ratio(X)	0.84	0.50	0.54	0.36	0.00	0.39	0.74	0.23	0.08	0.20	0.00	0.18
Avail Cap(c_a), veh/h	374	952	807	374	0	774	397	590	500	581	0	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.3	15.3	15.8	44.2	0.0	19.2	34.6	24.9	23.7	24.8	0.0	24.5
Incr Delay (d2), s/veh	9.4	1.8	2.6	2.7	0.0	1.5	7.0	0.2	0.1	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	7.0	6.7	0.7	0.0	4.9	7.0	2.3	0.6	2.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	17.2	18.3	46.9	0.0	20.7	41.6	25.2	23.8	24.9	0.0	24.7
LnGrp LOS	D	B	B	D	A	C	D	C	C	C	A	C
Approach Vol, veh/h		1105			333			450			203	
Approach Delay, s/veh		23.5			22.9			35.3			24.8	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	53.1		33.3	17.2	44.6		33.3				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	3.5	19.6		6.5	12.4	13.0		28.3				
Green Ext Time (p_c), s	0.0	4.9		0.7	0.3	2.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		26.1	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	306	779	286	116	343	196	245	982	81	200	1148	106
v/c Ratio	0.98	0.64	0.47	0.44	0.39	0.28	0.83	0.91	0.12	0.76	1.12	0.21
Control Delay	98.6	37.4	24.6	60.1	40.8	17.7	73.6	54.8	6.7	63.0	110.8	19.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.6	37.4	24.6	60.1	40.8	17.7	73.6	54.8	6.7	63.0	110.8	19.4
Queue Length 50th (ft)	249	276	120	46	122	74	190	404	4	157	~595	30
Queue Length 95th (ft)	#434	357	213	76	167	122	#306	#576	36	235	#741	78
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	311	1226	607	604	874	759	325	1084	849	325	1024	514
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.64	0.47	0.19	0.39	0.26	0.75	0.91	0.10	0.62	1.12	0.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	756	277	113	333	190	238	953	79	194	1114	103
Future Volume (veh/h)	297	756	277	113	333	190	238	953	79	194	1114	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	306	779	286	116	343	196	245	982	81	200	1148	106
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	1435	640	174	988	647	273	1049	548	231	967	431
Arrive On Green	0.18	0.40	0.40	0.05	0.28	0.28	0.15	0.30	0.30	0.04	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	306	779	286	116	343	196	245	982	81	200	1148	106
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	21.4	20.9	16.4	4.1	9.6	10.4	16.9	33.6	4.4	14.0	34.0	7.8
Cycle Q Clear(g_c), s	21.4	20.9	16.4	4.1	9.6	10.4	16.9	33.6	4.4	14.0	34.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	1435	640	174	988	647	273	1049	548	231	967	431
V/C Ratio(X)	0.98	0.54	0.45	0.67	0.35	0.30	0.90	0.94	0.15	0.86	1.19	0.25
Avail Cap(c_a), veh/h	314	1435	640	608	988	647	328	1049	548	328	967	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	51.2	28.5	27.1	58.3	36.1	25.0	52.0	42.9	28.2	58.7	56.9	45.0
Incr Delay (d2), s/veh	44.2	1.5	2.3	4.3	1.0	1.2	23.3	16.1	0.6	14.1	94.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	9.3	6.7	1.9	4.4	4.2	9.2	16.8	1.8	7.6	28.8	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.4	29.9	29.4	62.7	37.0	26.2	75.3	59.0	28.8	72.8	150.9	46.2
LnGrp LOS	F	C	C	E	D	C	E	E	C	E	F	D
Approach Vol, veh/h		1371			655			1308			1454	
Approach Delay, s/veh		44.4			38.3			60.1			132.5	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.6	38.0	25.5	38.9	19.7	40.9	9.8	54.6
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	23.0	34.0	22.0	30.9	23.0	33.0	22.0	29.9
Max Q Clear Time (g_c+I1), s	18.9	36.0	23.4	12.4	16.0	35.6	6.1	22.9
Green Ext Time (p_c), s	0.3	0.0	0.0	2.9	0.3	0.0	0.3	3.6

Intersection Summary	
HCM 6th Ctrl Delay	74.6
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	8	43	11	22	2	95	84	10	2	64	0
Future Vol, veh/h	2	8	43	11	22	2	95	84	10	2	64	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	47	12	24	2	103	91	11	2	70	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.9	8.7	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	4%	31%	3%
Vol Thru, %	44%	15%	63%	97%
Vol Right, %	5%	81%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	53	35	66
LT Vol	95	2	11	2
Through Vol	84	8	22	64
RT Vol	10	43	2	0
Lane Flow Rate	205	58	38	72
Geometry Grp	1	1	1	1
Degree of Util (X)	0.241	0.066	0.049	0.087
Departure Headway (Hd)	4.224	4.124	4.65	4.367
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	840	873	773	824
Service Time	2.303	2.129	2.657	2.377
HCM Lane V/C Ratio	0.244	0.066	0.049	0.087
HCM Control Delay	8.7	7.4	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.2	0.2	0.3

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	14	2	3	12	3	6	22	2	0	69	8
Future Vol, veh/h	2	14	2	3	12	3	6	22	2	0	69	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	15	2	3	13	3	7	24	2	0	75	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.2	7.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	11%	17%	0%
Vol Thru, %	73%	78%	67%	90%
Vol Right, %	7%	11%	17%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	18	18	77
LT Vol	6	2	3	0
Through Vol	22	14	12	69
RT Vol	2	2	3	8
Lane Flow Rate	33	20	20	84
Geometry Grp	1	1	1	1
Degree of Util (X)	0.037	0.022	0.022	0.092
Departure Headway (Hd)	4.063	4.105	4.083	3.963
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	879	866	870	904
Service Time	2.098	2.16	2.137	1.989
HCM Lane V/C Ratio	0.038	0.023	0.023	0.093
HCM Control Delay	7.3	7.3	7.2	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.3

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	1	18	12	1	13	76	197	8	9	219	157
Future Vol, veh/h	31	1	18	12	1	13	76	197	8	9	219	157
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	1	20	13	1	14	83	214	9	10	238	171

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	736	733	324	739	814	219	409	0	0	223	0	0
Stage 1	344	344	-	385	385	-	-	-	-	-	-	-
Stage 2	392	389	-	354	429	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	335	348	717	333	312	821	1150	-	-	1346	-	-
Stage 1	671	637	-	638	611	-	-	-	-	-	-	-
Stage 2	633	608	-	663	584	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	309	321	717	304	288	821	1150	-	-	1346	-	-
Mov Cap-2 Maneuver	309	321	-	304	288	-	-	-	-	-	-	-
Stage 1	623	633	-	592	567	-	-	-	-	-	-	-
Stage 2	576	564	-	639	580	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.8	13.7	2.3	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1150	-	-	389	442	1346	-	-
HCM Lane V/C Ratio	0.072	-	-	0.14	0.064	0.007	-	-
HCM Control Delay (s)	8.4	-	-	15.8	13.7	7.7	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1	4	271	240	9
Future Vol, veh/h	2	1	4	271	240	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	4	295	261	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	569	266	271	0	-	0
Stage 1	266	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	484	773	1292	-	-	-
Stage 1	779	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	483	773	1292	-	-	-
Mov Cap-2 Maneuver	568	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	749	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1292	-	623	-	-
HCM Lane V/C Ratio	0.003	-	0.005	-	-
HCM Control Delay (s)	7.8	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	300	216	1283
v/c Ratio	0.33	0.12	0.98
Control Delay	9.3	7.4	39.1
Queue Delay	0.0	0.0	0.0
Total Delay	9.3	7.4	39.1
Queue Length 50th (ft)	51	17	191
Queue Length 95th (ft)	93	31	#328
Internal Link Dist (ft)	135	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1310
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.33	0.12	0.98

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	288	0	0	207	1127	105
Future Volume (veh/h)	288	0	0	207	1127	105
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	300	0	0	216	1276	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	300	0	0	216	1276	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	5.1	0.0	0.0	1.7	18.2	0.0
Cycle Q Clear(g_c), s	5.1	0.0	0.0	1.7	18.2	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.32	0.00	0.00	0.12	0.94	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	0.0	7.2	15.7	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.0	12.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.5	8.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.9	0.0	0.0	7.2	28.6	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h	300			216	1276	
Approach Delay, s/veh	8.9			7.2	28.6	
Approach LOS	A			A	C	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		29.6				29.6	23.0
Change Period (Y+Rc), s		3.6				3.6	3.0
Max Green Setting (Gmax), s		26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s		7.1				3.7	20.2
Green Ext Time (p_c), s		0.3				0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1060	160	1156	318	11	983	105	1004	352
v/c Ratio	0.68	0.79	0.67	0.73	0.02	0.61	0.42	0.73	0.67
Control Delay	39.8	79.6	26.7	85.7	19.7	3.8	60.5	45.7	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	79.6	26.7	85.7	19.7	3.8	60.5	45.7	32.2
Queue Length 50th (ft)	228	126	364	138	3	15	42	274	160
Queue Length 95th (ft)	m278	#227	441	188	m9	16	72	331	275
Internal Link Dist (ft)	538		219		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1551	219	1723	480	598	1619	260	1369	524
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.73	0.67	0.66	0.02	0.61	0.40	0.73	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	835	128	147	1045	18	293	10	904	97	924	324
Future Volume (veh/h)	12	835	128	147	1045	18	293	10	904	97	924	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	908	139	160	1136	20	318	11	983	105	1004	352
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	1505	228	187	1765	31	379	597	1154	242	1427	443
Arrive On Green	0.24	0.24	0.24	0.10	0.49	0.49	0.11	0.32	0.32	0.07	0.28	0.28
Sat Flow, veh/h	25	4263	646	1781	3573	63	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	387	332	341	160	565	591	318	11	983	105	1004	352
Grp Sat Flow(s),veh/h/ln	1799	1549	1586	1781	1777	1859	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	0.0	23.9	24.0	11.0	29.5	29.5	11.3	0.5	31.8	3.6	22.0	25.7
Cycle Q Clear(g_c), s	22.9	23.9	24.0	11.0	29.5	29.5	11.3	0.5	31.8	3.6	22.0	25.7
Prop In Lane	0.03		0.41	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	665	547	560	187	878	918	379	597	1154	242	1427	443
V/C Ratio(X)	0.58	0.61	0.61	0.86	0.64	0.64	0.84	0.02	0.85	0.43	0.70	0.79
Avail Cap(c_a), veh/h	665	547	560	221	878	918	484	597	1154	263	1427	443
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	40.0	40.0	55.0	23.5	23.5	54.6	29.1	39.8	55.7	40.4	41.7
Incr Delay (d2), s/veh	2.6	3.5	3.4	24.0	3.6	3.5	9.2	0.1	7.4	1.2	2.9	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	10.1	10.4	6.2	13.2	13.8	5.4	0.2	10.0	1.6	9.5	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	43.4	43.5	79.1	27.1	26.9	63.8	29.2	47.2	57.0	43.3	55.4
LnGrp LOS	D	D	D	E	C	C	E	C	D	E	D	E
Approach Vol, veh/h		1060			1316			1312			1461	
Approach Delay, s/veh		43.0			33.3			51.0			47.2	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	45.0		66.7	18.2	40.0	17.6	49.1				
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0				
Max Green Setting (Gmax), s	9.5	39.9		61.0	17.5	* 32	15.5	41.0				
Max Q Clear Time (g_c+I1), s	5.6	33.8		31.5	13.3	27.7	13.0	26.0				
Green Ext Time (p_c), s	0.1	2.4		9.8	0.4	2.8	0.1	6.3				

Intersection Summary			
HCM 6th Ctrl Delay		43.8	
HCM 6th LOS		D	

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	137	685	56	976	682	57	374	95	226	253	151
v/c Ratio	0.67	0.59	0.43	1.04	0.84	0.97	0.42	0.19	1.09	0.34	0.34
Control Delay	68.6	57.5	71.2	75.6	17.8	156.7	41.1	2.9	134.7	43.5	9.7
Queue Delay	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.6	57.5	71.2	75.6	19.2	156.7	41.1	2.9	134.7	43.5	9.7
Queue Length 50th (ft)	117	301	39	~452	233	46	134	0	~205	92	5
Queue Length 95th (ft)	m184	366	m62	#659	#385	#138	182	17	#368	133	61
Internal Link Dist (ft)		930		538			448			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	288	1167	133	942	814	59	886	497	207	745	447
Starvation Cap Reductn	0	0	0	0	37	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.59	0.42	1.04	0.88	0.97	0.42	0.19	1.09	0.34	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	632	19	53	927	648	54	355	90	215	240	143
Future Volume (veh/h)	130	632	19	53	927	648	54	355	90	215	240	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	665	20	56	976	682	57	374	95	226	253	151
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	2144	64	110	2052	915	205	748	333	166	748	333
Arrive On Green	0.03	0.20	0.20	0.06	0.58	0.58	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	3522	106	1781	3554	1585	981	3554	1585	924	3554	1585
Grp Volume(v), veh/h	137	335	350	56	976	682	57	374	95	226	253	151
Grp Sat Flow(s),veh/h/ln	1781	1777	1851	1781	1777	1585	981	1777	1585	924	1777	1585
Q Serve(g_s), s	9.6	20.1	20.1	3.8	20.0	39.9	6.6	11.6	6.3	14.7	7.6	10.4
Cycle Q Clear(g_c), s	9.6	20.1	20.1	3.8	20.0	39.9	14.1	11.6	6.3	26.3	7.6	10.4
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	166	1082	1127	110	2052	915	205	748	333	166	748	333
V/C Ratio(X)	0.83	0.31	0.31	0.51	0.48	0.75	0.28	0.50	0.28	1.36	0.34	0.45
Avail Cap(c_a), veh/h	291	1082	1127	134	2052	915	244	890	397	166	748	333
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	27.6	27.6	56.8	15.4	19.6	48.0	43.6	41.5	57.7	42.0	43.1
Incr Delay (d2), s/veh	6.8	0.7	0.6	1.8	0.5	3.7	0.7	0.5	0.5	195.7	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	9.8	10.2	1.8	8.2	15.3	1.7	5.2	2.5	14.3	3.4	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.4	28.2	28.2	58.6	15.9	23.3	48.7	44.1	41.9	253.4	42.2	44.0
LnGrp LOS	E	C	C	E	B	C	D	D	D	F	D	D
Approach Vol, veh/h		822			1714			526			630	
Approach Delay, s/veh		34.6			20.3			44.2			118.4	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	80.7		32.0	16.2	76.8		32.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	9.4	38.4		* 26	20.4	27.4		* 31				
Max Q Clear Time (g_c+I1), s	5.8	22.1		28.3	11.6	41.9		16.1				
Green Ext Time (p_c), s	0.0	3.4		0.0	0.2	0.0		2.7				

Intersection Summary			
HCM 6th Ctrl Delay		43.6	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	81	778	76	1156	149	117	168	130
v/c Ratio	0.55	0.45	0.65	0.69	0.81	0.43	0.45	0.94
Control Delay	68.9	24.6	89.1	10.3	82.2	52.3	10.4	109.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	24.6	89.1	10.3	82.2	52.3	10.4	109.4
Queue Length 50th (ft)	64	224	65	71	117	87	0	95
Queue Length 95th (ft)	114	323	m72	m87	188	141	60	#200
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	203	1712	134	1672	234	348	432	170
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.45	0.57	0.69	0.64	0.34	0.39	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	676	86	74	1109	24	146	115	165	10	87	30
Future Volume (veh/h)	79	676	86	74	1109	24	146	115	165	10	87	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	81	690	88	76	1132	24	149	117	168	10	89	31
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	2156	275	95	2406	51	229	292	247	40	199	65
Arrive On Green	0.06	0.68	0.68	0.11	1.00	1.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3170	404	1781	3558	75	1272	1870	1585	60	1274	418
Grp Volume(v), veh/h	81	386	392	76	565	591	149	117	168	130	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1798	1781	1777	1857	1272	1870	1585	1752	0	0
Q Serve(g_s), s	5.6	11.1	11.1	5.2	0.0	0.0	8.8	7.0	12.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.6	11.1	11.1	5.2	0.0	0.0	17.0	7.0	12.5	8.2	0.0	0.0
Prop In Lane	1.00		0.22	1.00		0.04	1.00		1.00	0.08		0.24
Lane Grp Cap(c), veh/h	103	1208	1222	95	1201	1255	229	292	247	304	0	0
V/C Ratio(X)	0.79	0.32	0.32	0.80	0.47	0.47	0.65	0.40	0.68	0.43	0.00	0.00
Avail Cap(c_a), veh/h	205	1208	1222	134	1201	1255	268	350	297	398	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.22	0.22	0.22	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	58.2	8.2	8.2	55.1	0.0	0.0	52.5	47.5	49.8	48.0	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.4	0.4	3.2	0.3	0.3	2.6	0.3	3.1	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	4.3	4.4	2.3	0.1	0.1	4.8	3.3	5.2	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.4	8.6	8.6	58.3	0.3	0.3	55.1	47.8	52.9	48.4	0.0	0.0
LnGrp LOS	E	A	A	E	A	A	E	D	D	D	A	A
Approach Vol, veh/h		859			1232			434			130	
Approach Delay, s/veh		13.6			3.9			52.3			48.4	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	89.1		24.1	11.3	89.6		24.1				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	14.4	42.4		23.4	9.4	47.4		26.4				
Max Q Clear Time (g_c+I1), s	7.6	2.0		19.0	7.2	13.1		10.2				
Green Ext Time (p_c), s	0.0	10.7		0.5	0.0	6.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		17.1	
HCM 6th LOS		B	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	455	320	475	465	70	1226	378	273	1034
v/c Ratio	0.87	0.41	0.59	0.82	0.50	0.91	0.52	0.67	0.68
Control Delay	72.1	45.8	49.3	34.2	70.8	50.1	18.3	64.3	33.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.1	45.8	49.3	34.2	70.8	50.1	18.3	64.3	33.1
Queue Length 50th (ft)	198	122	194	177	59	526	121	118	378
Queue Length 95th (ft)	#295	174	263	#371	111	#703	230	165	483
Internal Link Dist (ft)	1368		469			1567			283
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	552	784	808	564	195	1347	721	522	1534
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.41	0.59	0.82	0.36	0.91	0.52	0.52	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	259	49	307	456	446	67	1177	363	262	876	116
Future Volume (veh/h)	129	259	49	307	456	446	67	1177	363	262	876	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	270	51	320	475	465	70	1226	378	273	912	121
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	338	66	550	566	252	90	1572	701	347	1551	206
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.44	0.44	0.10	0.49	0.49
Sat Flow, veh/h	1018	2171	424	3456	3554	1585	1781	3554	1585	3456	3154	418
Grp Volume(v), veh/h	239	0	216	320	475	465	70	1226	378	273	514	519
Grp Sat Flow(s),veh/h/ln	1819	0	1794	1728	1777	1585	1781	1777	1585	1728	1777	1795
Q Serve(g_s), s	14.5	0.0	13.0	9.7	14.7	18.0	4.4	33.2	19.7	8.7	23.4	23.4
Cycle Q Clear(g_c), s	14.5	0.0	13.0	9.7	14.7	18.0	4.4	33.2	19.7	8.7	23.4	23.4
Prop In Lane	0.56		0.24	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	283	0	279	550	566	252	90	1572	701	347	874	883
V/C Ratio(X)	0.85	0.00	0.77	0.58	0.84	1.84	0.77	0.78	0.54	0.79	0.59	0.59
Avail Cap(c_a), veh/h	336	0	332	550	566	252	228	1572	701	611	874	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	0.0	45.8	44.0	46.1	47.5	53.0	26.8	23.1	49.7	20.5	20.5
Incr Delay (d2), s/veh	15.5	0.0	9.1	4.4	13.9	394.1	13.0	3.9	3.0	4.0	2.9	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	6.5	4.5	7.6	34.7	2.3	14.3	7.7	3.9	10.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.9	0.0	54.9	48.5	60.1	441.6	66.0	30.7	26.0	53.7	23.4	23.4
LnGrp LOS	E	A	D	D	E	F	E	C	C	D	C	C
Approach Vol, veh/h		455			1260			1674			1306	
Approach Delay, s/veh		58.6			197.9			31.2			29.7	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	59.6		22.0	15.8	54.0		21.2				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	6.4	25.4		20.0	10.7	35.2		16.5				
Green Ext Time (p_c), s	0.1	5.8		0.0	0.6	8.7		1.1				

Intersection Summary			
HCM 6th Ctrl Delay		78.2	
HCM 6th LOS		E	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	178	49	105	43	85	100	116	861	25	52	905	334
v/c Ratio	0.29	0.07	0.15	0.07	0.13	0.15	0.63	0.48	0.04	0.43	0.60	0.55
Control Delay	20.1	25.6	1.7	17.9	29.0	1.7	69.0	33.5	0.1	51.4	62.9	46.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	25.6	1.7	17.9	29.0	1.7	69.0	33.5	0.1	51.4	62.9	46.3
Queue Length 50th (ft)	81	25	0	18	47	0	91	205	0	44	279	202
Queue Length 95th (ft)	128	53	14	39	86	11	152	249	0	m61	332	303
Internal Link Dist (ft)		299			401			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	628	738	716	685	651	650	225	1784	620	126	1500	607
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.07	0.15	0.06	0.13	0.15	0.52	0.48	0.04	0.41	0.60	0.55

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	47	101	41	82	96	111	827	24	50	869	321
Future Volume (veh/h)	171	47	101	41	82	96	111	827	24	50	869	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	49	105	43	85	100	116	861	25	52	905	334
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	622	761	645	633	721	611	142	1671	519	95	1537	477
Arrive On Green	0.08	0.41	0.41	0.06	0.39	0.39	0.08	0.33	0.33	0.05	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	178	49	105	43	85	100	116	861	25	52	905	334
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	7.5	2.0	5.3	1.7	3.7	5.2	8.0	17.1	1.3	3.6	18.8	23.3
Cycle Q Clear(g_c), s	7.5	2.0	5.3	1.7	3.7	5.2	8.0	17.1	1.3	3.6	18.8	23.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	622	761	645	633	721	611	142	1671	519	95	1537	477
V/C Ratio(X)	0.29	0.06	0.16	0.07	0.12	0.16	0.82	0.52	0.05	0.55	0.59	0.70
Avail Cap(c_a), veh/h	674	761	645	751	721	611	227	1671	519	127	1537	477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	20.1	22.6	23.6	20.0	24.7	25.2	56.6	34.0	28.7	57.7	37.1	38.7
Incr Delay (d2), s/veh	0.3	0.2	0.5	0.0	0.3	0.6	11.7	1.1	0.2	2.9	1.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.9	2.1	0.7	1.7	2.1	4.0	7.2	0.5	1.7	7.9	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	22.8	24.1	20.0	25.0	25.7	68.3	35.2	28.9	60.5	38.1	43.7
LnGrp LOS	C	C	C	C	C	C	E	D	C	E	D	D
Approach Vol, veh/h		332			228			1002			1291	
Approach Delay, s/veh		21.9			24.4			38.9			40.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	42.7	14.3	52.9	11.8	46.0	11.7	55.5
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	15.9	33.9	* 13	* 42	8.9	40.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	10.0	25.3	9.5	7.2	5.6	19.1	3.7	7.3
Green Ext Time (p_c), s	0.1	4.6	0.2	0.8	0.0	6.1	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	302	449	38	122	31	41	323
v/c Ratio	1.11dl	0.47	0.26	0.29	0.07	0.28	0.71
Control Delay	32.3	30.1	45.0	32.8	0.3	45.3	33.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	30.1	45.0	32.8	0.3	45.3	33.0
Queue Length 50th (ft)	78	118	22	61	0	24	125
Queue Length 95th (ft)	126	171	53	115	0	56	#253
Internal Link Dist (ft)	447	490		392			959
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	560	946	317	417	446	317	453
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.47	0.12	0.29	0.07	0.13	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	160	31	18	388	21	36	116	29	39	93	214
Future Volume (veh/h)	96	160	31	18	388	21	36	116	29	39	93	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	101	168	33	19	408	22	38	122	31	41	98	225
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	536	109	39	883	50	84	410	347	88	112	256
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.05	0.22	0.22	0.05	0.22	0.22
Sat Flow, veh/h	1155	2041	413	150	3359	190	1781	1870	1585	1781	504	1158
Grp Volume(v), veh/h	158	0	144	236	0	213	38	122	31	41	0	323
Grp Sat Flow(s),veh/h/ln	1813	0	1796	1863	0	1836	1781	1870	1585	1781	0	1662
Q Serve(g_s), s	6.5	0.0	5.8	9.8	0.0	8.8	1.9	5.0	1.4	2.0	0.0	17.2
Cycle Q Clear(g_c), s	6.5	0.0	5.8	9.8	0.0	8.8	1.9	5.0	1.4	2.0	0.0	17.2
Prop In Lane	0.64		0.23	0.08		0.10	1.00		1.00	1.00		0.70
Lane Grp Cap(c), veh/h	476	0	472	490	0	483	84	410	347	88	0	368
V/C Ratio(X)	0.33	0.00	0.30	0.48	0.00	0.44	0.45	0.30	0.09	0.46	0.00	0.88
Avail Cap(c_a), veh/h	476	0	472	490	0	483	312	410	347	312	0	368
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	27.0	28.4	0.0	28.1	42.3	29.8	28.4	42.2	0.0	34.4
Incr Delay (d2), s/veh	1.9	0.0	1.7	3.4	0.0	2.9	1.4	1.9	0.5	1.4	0.0	24.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	2.7	4.7	0.0	4.2	0.9	2.4	0.6	0.9	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	0.0	28.6	31.8	0.0	31.0	43.7	31.6	28.9	43.6	0.0	58.9
LnGrp LOS	C	A	C	C	A	C	D	C	C	D	A	E
Approach Vol, veh/h		302			449			191			364	
Approach Delay, s/veh		28.9			31.4			33.6			57.2	
Approach LOS		C			C			C			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	9.2	24.7		28.7	9.0	24.9				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		8.5	4.0	7.0		11.8	3.9	19.2				
Green Ext Time (p_c), s		1.0	0.0	0.3		1.4	0.0	0.1				

Intersection Summary	
HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Notes

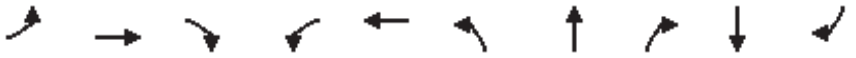
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	130	198	534	1462	109	95	1265	98
v/c Ratio	0.45	0.16	0.66	0.63	0.75	0.12	0.56	0.51	0.09
Control Delay	55.4	31.4	55.2	42.8	17.4	9.1	66.0	9.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	31.4	55.2	42.8	17.4	9.1	66.0	9.9	3.8
Queue Length 50th (ft)	34	35	146	187	235	12	75	230	13
Queue Length 95th (ft)	79	63	234	249	m282	m19	128	277	30
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	110	838	298	844	1946	927	240	2463	1114
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.16	0.66	0.63	0.75	0.12	0.40	0.51	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	103	26	196	377	151	1	1446	108	94	1252	97
Future Volume (veh/h)	49	103	26	196	377	151	1	1446	108	94	1252	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	104	26	198	381	153	1	1461	109	95	1265	98
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	874	212	412	766	303	29	1869	850	119	2228	994
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.54	0.54	0.54	0.07	0.63	0.63
Sat Flow, veh/h	870	2836	687	1260	2486	984	0	3486	1585	1781	3554	1585
Grp Volume(v), veh/h	49	64	66	198	271	263	784	678	109	95	1265	98
Grp Sat Flow(s),veh/h/ln	870	1777	1747	1260	1777	1693	1869	1617	1585	1781	1777	1585
Q Serve(g_s), s	6.1	3.2	3.4	16.8	15.6	15.9	0.0	41.9	4.3	6.6	25.8	3.1
Cycle Q Clear(g_c), s	22.0	3.2	3.4	20.2	15.6	15.9	41.9	41.9	4.3	6.6	25.8	3.1
Prop In Lane	1.00		0.39	1.00		0.58	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	215	548	538	412	548	522	1031	867	850	119	2228	994
V/C Ratio(X)	0.23	0.12	0.12	0.48	0.49	0.50	0.76	0.78	0.13	0.80	0.57	0.10
Avail Cap(c_a), veh/h	215	548	538	412	548	522	1031	867	850	242	2228	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	0.41	0.41	0.41	0.75	0.75	0.75
Uniform Delay (d), s/veh	44.4	31.0	31.1	38.3	35.3	35.4	23.2	23.2	14.4	57.5	13.5	9.3
Incr Delay (d2), s/veh	2.5	0.4	0.5	3.5	2.8	3.1	2.2	3.0	0.1	8.8	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.5	5.6	7.2	7.0	18.2	15.9	1.6	3.2	9.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	31.5	31.5	41.9	38.1	38.5	25.4	26.1	14.6	66.2	14.3	9.4
LnGrp LOS	D	C	C	D	D	D	C	C	B	E	B	A
Approach Vol, veh/h		179			732			1571			1458	
Approach Delay, s/veh		35.7			39.3			25.0			17.4	
Approach LOS		D			D			C			B	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		82.4		42.6	11.4	71.0		42.6				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		68.0		29.9	17.0	67.0		25.0				
Max Q Clear Time (g_c+I1), s		27.8		22.2	8.6	43.9		24.0				
Green Ext Time (p_c), s		12.8		2.5	0.1	11.6		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			25.3									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	118	274	276	59	458	347	144	47	195	221
v/c Ratio	0.55	0.31	0.31	0.35	0.59	1.05	0.25	0.09	0.35	0.34
Control Delay	49.2	18.0	3.2	46.7	25.7	99.4	26.5	4.3	28.2	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	18.0	3.2	46.7	25.7	99.4	26.5	4.3	28.2	5.2
Queue Length 50th (ft)	68	103	1	34	208	~232	64	0	91	0
Queue Length 95th (ft)	124	172	46	75	335	#430	120	18	161	53
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	371	879	891	371	779	329	585	542	551	649
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.31	0.31	0.16	0.59	1.05	0.25	0.09	0.35	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	266	268	57	435	10	337	140	46	29	160	214
Future Volume (veh/h)	114	266	268	57	435	10	337	140	46	29	160	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	274	276	59	448	10	347	144	47	30	165	221
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	849	719	121	796	18	327	613	519	103	523	519
Arrive On Green	0.08	0.45	0.45	0.07	0.44	0.44	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1781	1822	41	997	1870	1585	175	1595	1585
Grp Volume(v), veh/h	118	274	276	59	0	458	347	144	47	195	0	221
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1863	997	1870	1585	1771	0	1585
Q Serve(g_s), s	5.9	8.6	10.5	2.9	0.0	16.8	22.8	5.1	1.9	0.0	0.0	10.0
Cycle Q Clear(g_c), s	5.9	8.6	10.5	2.9	0.0	16.8	30.0	5.1	1.9	7.2	0.0	10.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.15		1.00
Lane Grp Cap(c), veh/h	151	849	719	121	0	814	327	613	519	626	0	519
V/C Ratio(X)	0.78	0.32	0.38	0.49	0.00	0.56	1.06	0.23	0.09	0.31	0.00	0.43
Avail Cap(c_a), veh/h	389	849	719	389	0	814	327	613	519	626	0	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	16.0	16.5	41.1	0.0	19.2	37.1	22.4	21.3	23.1	0.0	24.0
Incr Delay (d2), s/veh	8.5	1.0	1.6	3.0	0.0	2.8	66.4	0.2	0.1	0.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.8	4.1	1.4	0.0	7.7	13.5	2.3	0.7	3.2	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	17.0	18.1	44.2	0.0	22.1	103.5	22.6	21.4	23.4	0.0	24.6
LnGrp LOS	D	B	B	D	A	C	F	C	C	C	A	C
Approach Vol, veh/h		668			517			538			416	
Approach Delay, s/veh		23.2			24.6			74.7			24.0	
Approach LOS		C			C			E			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	46.1		34.6	12.4	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	4.9	12.5		12.0	7.9	18.8		32.0				
Green Ext Time (p_c), s	0.1	2.8		1.2	0.2	3.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		36.6	
HCM 6th LOS		D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	234	356	186	231	701	196	243	1163	112	214	1131	229
v/c Ratio	1.00	0.38	0.36	0.63	0.83	0.28	0.84	0.92	0.13	0.81	0.93	0.34
Control Delay	114.2	39.5	15.1	61.4	54.7	19.6	74.5	50.7	5.4	71.4	61.3	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.2	39.5	15.1	61.4	54.7	19.6	74.5	50.7	5.4	71.4	61.3	16.8
Queue Length 50th (ft)	~192	124	35	93	284	78	189	481	10	170	449	38
Queue Length 95th (ft)	#362	175	102	135	359	134	#309	#627	40	#279	#607	105
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	233	937	514	425	846	712	318	1270	858	290	1216	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.38	0.36	0.54	0.83	0.28	0.76	0.92	0.13	0.74	0.93	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	349	182	226	687	192	238	1140	110	210	1108	224
Future Volume (veh/h)	229	349	182	226	687	192	238	1140	110	210	1108	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	234	356	186	231	701	196	243	1163	112	214	1131	229
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1119	499	292	950	641	271	1219	677	244	1166	520
Arrive On Green	0.13	0.31	0.31	0.08	0.27	0.27	0.15	0.34	0.34	0.05	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	234	356	186	231	701	196	243	1163	112	214	1131	229
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.4	9.5	11.4	8.2	22.5	10.5	16.7	40.0	5.4	14.9	39.6	16.9
Cycle Q Clear(g_c), s	16.4	9.5	11.4	8.2	22.5	10.5	16.7	40.0	5.4	14.9	39.6	16.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	1119	499	292	950	641	271	1219	677	244	1166	520
V/C Ratio(X)	1.00	0.32	0.37	0.79	0.74	0.31	0.90	0.95	0.17	0.88	0.97	0.44
Avail Cap(c_a), veh/h	235	1119	499	429	950	641	321	1219	677	292	1166	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	54.2	32.6	33.2	56.1	41.8	25.3	52.1	40.1	22.1	58.6	55.1	45.0
Incr Delay (d2), s/veh	57.3	0.7	2.1	6.1	5.1	1.2	23.9	16.9	0.5	18.9	17.9	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	4.3	4.7	3.9	10.6	4.2	9.2	19.9	2.2	8.4	21.8	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.5	33.4	35.4	62.3	46.9	26.5	76.0	57.0	22.6	77.6	73.0	47.2
LnGrp LOS	F	C	D	E	D	C	E	E	C	E	E	D
Approach Vol, veh/h		776			1128			1518			1574	
Approach Delay, s/veh		57.4			46.5			57.5			69.9	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.5	45.0	20.0	37.5	20.6	46.9	14.1	43.5
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	22.5	41.0	16.5	29.9	20.5	41.0	15.5	29.4
Max Q Clear Time (g_c+I1), s	18.7	41.6	18.4	24.5	16.9	42.0	10.2	13.4
Green Ext Time (p_c), s	0.2	0.0	0.0	2.6	0.2	0.0	0.4	2.8

Intersection Summary	
HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	6	59	10	6	5	55	93	13	1	49	0
Future Vol, veh/h	1	6	59	10	6	5	55	93	13	1	49	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	7	64	11	7	5	60	101	14	1	53	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.6	8.3	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	2%	48%	2%
Vol Thru, %	58%	9%	29%	98%
Vol Right, %	8%	89%	24%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	66	21	50
LT Vol	55	1	10	1
Through Vol	93	6	6	49
RT Vol	13	59	5	0
Lane Flow Rate	175	72	23	54
Geometry Grp	1	1	1	1
Degree of Util (X)	0.202	0.078	0.028	0.064
Departure Headway (Hd)	4.159	3.938	4.472	4.238
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	856	915	805	834
Service Time	2.217	1.938	2.474	2.322
HCM Lane V/C Ratio	0.204	0.079	0.029	0.065
HCM Control Delay	8.3	7.3	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.3	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	23	8	1	10	8	4	28	3	6	30	4
Future Vol, veh/h	5	23	8	1	10	8	4	28	3	6	30	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	25	9	1	11	9	4	30	3	7	33	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7	7.3	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	14%	5%	15%
Vol Thru, %	80%	64%	53%	75%
Vol Right, %	9%	22%	42%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	36	19	40
LT Vol	4	5	1	6
Through Vol	28	23	10	30
RT Vol	3	8	8	4
Lane Flow Rate	38	39	21	43
Geometry Grp	1	1	1	1
Degree of Util (X)	0.043	0.043	0.022	0.049
Departure Headway (Hd)	4.042	3.986	3.864	4.037
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	884	895	921	886
Service Time	2.074	2.026	1.908	2.068
HCM Lane V/C Ratio	0.043	0.044	0.023	0.049
HCM Control Delay	7.3	7.2	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.2

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	163	3	82	9	0	9	19	254	13	20	210	41
Future Vol, veh/h	163	3	82	9	0	9	19	254	13	20	210	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	177	3	89	10	0	10	21	276	14	22	228	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	625	627	251	666	642	283	273	0	0	290	0	0
Stage 1	295	295	-	325	325	-	-	-	-	-	-	-
Stage 2	330	332	-	341	317	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	397	400	788	373	392	756	1290	-	-	1272	-	-
Stage 1	713	669	-	687	649	-	-	-	-	-	-	-
Stage 2	683	644	-	674	654	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	382	387	788	320	379	756	1290	-	-	1272	-	-
Mov Cap-2 Maneuver	382	387	-	320	379	-	-	-	-	-	-	-
Stage 1	702	658	-	676	639	-	-	-	-	-	-	-
Stage 2	663	634	-	585	643	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	13.4	0.5	0.6
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1290	-	-	461	450	1272	-	-
HCM Lane V/C Ratio	0.016	-	-	0.585	0.043	0.017	-	-
HCM Control Delay (s)	7.8	-	-	23.2	13.4	7.9	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	3.7	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	5	1	264	299	2
Future Vol, veh/h	9	5	1	264	299	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	5	1	287	325	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	615	326	327	0	-	0
Stage 1	326	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	455	715	1233	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	455	715	1233	-	-	-
Mov Cap-2 Maneuver	547	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	760	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1233	-	597	-	-
HCM Lane V/C Ratio	0.001	-	0.025	-	-
HCM Control Delay (s)	7.9	-	11.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	170	338	1318
v/c Ratio	0.18	0.19	1.01
Control Delay	8.1	7.8	45.5
Queue Delay	0.0	0.0	0.0
Total Delay	8.1	7.8	45.5
Queue Length 50th (ft)	27	28	~203
Queue Length 95th (ft)	54	46	#341
Internal Link Dist (ft)	200	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1310
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.18	0.19	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	155	0	0	308	1102	97
Future Volume (veh/h)	155	0	0	308	1102	97
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	170	0	0	338	1311	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	170	0	0	338	1311	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	2.7	0.0	0.0	2.8	19.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	2.8	19.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.18	0.00	0.00	0.19	0.97	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.4	0.0	0.0	7.4	16.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	17.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.8	9.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.8	0.0	0.0	7.5	33.2	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h	170			338	1311	
Approach Delay, s/veh	7.8			7.5	33.2	
Approach LOS	A			A	C	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	23.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	4.7				4.8	21.0
Green Ext Time (p_c), s	0.2				0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1462	289	963	125	14	770	120	1160	235
v/c Ratio	0.91	1.31	0.53	0.45	0.03	0.53	0.44	0.82	0.46
Control Delay	48.0	207.7	19.9	49.3	45.1	30.8	56.1	45.1	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	207.7	19.9	49.3	45.1	30.8	56.1	45.1	22.3
Queue Length 50th (ft)	407	~278	241	50	10	134	44	298	79
Queue Length 95th (ft)	m#452	#452	300	81	m27	188	75	355	156
Internal Link Dist (ft)	538		243		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1613	221	1827	281	515	1445	281	1411	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	1.31	0.53	0.44	0.03	0.53	0.43	0.82	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1269	125	280	919	16	121	14	747	116	1125	228
Future Volume (veh/h)	24	1269	125	280	919	16	121	14	747	116	1125	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	1308	129	289	947	16	125	14	770	120	1160	235
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1597	156	223	1867	32	263	516	998	263	1409	437
Arrive On Green	0.12	0.12	0.12	0.13	0.52	0.52	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	47	4457	436	1781	3576	60	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	524	458	480	289	471	492	125	14	770	120	1160	235
Grp Sat Flow(s),veh/h/ln	1767	1549	1624	1781	1777	1859	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	15.7	33.5	33.5	14.5	20.0	20.0	4.0	0.6	22.7	3.9	24.7	14.6
Cycle Q Clear(g_c), s	33.2	33.5	33.5	14.5	20.0	20.0	4.0	0.6	22.7	3.9	24.7	14.6
Prop In Lane	0.05		0.27	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	666	555	582	223	928	971	263	516	998	263	1409	437
V/C Ratio(X)	0.79	0.83	0.83	1.30	0.51	0.51	0.47	0.03	0.77	0.46	0.82	0.54
Avail Cap(c_a), veh/h	666	555	582	223	928	971	283	516	998	283	1409	437
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.40	0.40	0.40	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	47.6	47.6	50.8	18.0	18.0	51.4	30.6	38.6	51.3	39.4	35.7
Incr Delay (d2), s/veh	3.8	5.7	5.5	163.0	2.0	1.9	1.3	0.1	5.5	1.2	5.6	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	14.9	15.5	16.6	8.7	9.0	1.8	0.3	7.1	1.7	10.8	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	53.3	53.1	213.8	20.0	19.9	52.6	30.7	44.1	52.5	44.9	40.4
LnGrp LOS	D	D	D	F	C	B	D	C	D	D	D	D
Approach Vol, veh/h		1462			1252			909			1515	
Approach Delay, s/veh		52.4			64.7			45.1			44.8	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	37.1		65.6	13.3	37.1	19.0	46.6
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0
Max Green Setting (Gmax), s	9.5	31.9		60.0	9.5	* 32	14.5	41.0
Max Q Clear Time (g_c+I1), s	5.9	24.7		22.0	6.0	26.7	16.5	35.5
Green Ext Time (p_c), s	0.1	2.1		8.1	0.1	3.6	0.0	4.0

Intersection Summary		
HCM 6th Ctrl Delay		51.9
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	89	1188	93	800	480	18	157	103	248	235	116
v/c Ratio	0.61	0.90	0.59	0.60	0.54	0.28	0.37	0.37	0.82	0.27	0.24
Control Delay	93.2	19.3	57.2	34.7	15.3	54.3	47.8	11.5	63.0	35.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.2	19.3	57.2	34.7	15.4	54.3	47.8	11.5	63.0	35.8	7.7
Queue Length 50th (ft)	69	303	69	288	132	13	58	0	167	71	0
Queue Length 95th (ft)	m87	m#630	125	367	190	34	82	46	#341	115	48
Internal Link Dist (ft)		930		538			474			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	148	1313	173	1338	897	111	741	413	307	895	487
Starvation Cap Reductn	0	0	0	0	18	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.90	0.54	0.60	0.55	0.16	0.21	0.25	0.81	0.26	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	1108	8	87	752	451	17	148	97	233	221	109
Future Volume (veh/h)	84	1108	8	87	752	451	17	148	97	233	221	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1179	9	93	800	480	18	157	103	248	235	116
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	2096	16	131	2062	920	230	775	346	266	775	346
Arrive On Green	0.15	1.00	1.00	0.07	0.58	0.58	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3615	28	1781	3554	1585	1030	3554	1585	1119	3554	1585
Grp Volume(v), veh/h	89	580	608	93	800	480	18	157	103	248	235	116
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1585	1030	1777	1585	1119	1777	1585
Q Serve(g_s), s	5.5	0.0	0.0	5.9	14.1	21.1	1.7	4.2	6.3	21.1	6.4	7.2
Cycle Q Clear(g_c), s	5.5	0.0	0.0	5.9	14.1	21.1	8.2	4.2	6.3	25.3	6.4	7.2
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1030	1081	131	2062	920	230	775	346	266	775	346
V/C Ratio(X)	0.68	0.56	0.56	0.71	0.39	0.52	0.08	0.20	0.30	0.93	0.30	0.34
Avail Cap(c_a), veh/h	144	1030	1081	175	2062	920	230	775	346	266	775	346
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.48	0.48	0.48	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	0.0	52.5	13.2	14.7	41.4	37.1	37.9	49.3	38.0	38.3
Incr Delay (d2), s/veh	4.9	1.1	1.0	5.8	0.5	1.8	0.1	0.1	0.5	37.6	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.3	0.3	2.9	5.7	7.9	0.5	1.8	2.5	10.0	2.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	1.1	1.0	58.3	13.7	16.5	41.5	37.2	38.4	86.9	38.2	38.8
LnGrp LOS	D	A	A	E	B	B	D	D	D	F	D	D
Approach Vol, veh/h		1277			1373			278			599	
Approach Delay, s/veh		4.7			17.7			37.9			58.5	
Approach LOS		A			B			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.2	71.8		31.0	13.1	71.9		31.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	11.4	35.4		* 25	9.4	37.4		* 24				
Max Q Clear Time (g_c+I1), s	7.9	2.0		27.3	7.5	23.1		10.2				
Green Ext Time (p_c), s	0.0	8.5		0.0	0.0	5.6		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	82	1267	62	809	120	66	55	166
v/c Ratio	0.59	0.84	0.53	0.55	0.73	0.26	0.18	1.15
Control Delay	68.1	37.3	49.6	52.6	71.7	45.4	2.1	159.8
Queue Delay	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	40.2	49.6	52.6	71.7	45.4	2.1	159.8
Queue Length 50th (ft)	60	444	49	333	87	45	0	~137
Queue Length 95th (ft)	113	#699	m84	403	143	82	6	#280
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	152	1514	144	1478	245	375	400	144
Starvation Cap Reductn	0	154	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.93	0.43	0.55	0.49	0.18	0.14	1.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	1081	72	56	724	12	109	60	50	20	89	42
Future Volume (veh/h)	75	1081	72	56	724	12	109	60	50	20	89	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	1188	79	62	796	13	120	66	55	22	98	46
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	2295	152	93	2406	39	204	281	238	56	166	72
Arrive On Green	0.06	0.68	0.68	0.02	0.22	0.22	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3382	225	1781	3578	58	1244	1870	1585	137	1106	477
Grp Volume(v), veh/h	82	624	643	62	395	414	120	66	55	166	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1830	1781	1777	1860	1244	1870	1585	1720	0	0
Q Serve(g_s), s	5.3	20.2	20.2	4.0	21.7	21.7	4.8	3.6	3.5	3.6	0.0	0.0
Cycle Q Clear(g_c), s	5.3	20.2	20.2	4.0	21.7	21.7	15.2	3.6	3.5	10.4	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.03	1.00		1.00	0.13		0.28
Lane Grp Cap(c), veh/h	104	1206	1242	93	1195	1250	204	281	238	294	0	0
V/C Ratio(X)	0.79	0.52	0.52	0.67	0.33	0.33	0.59	0.23	0.23	0.56	0.00	0.00
Avail Cap(c_a), veh/h	144	1206	1242	144	1195	1250	268	377	320	424	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	0.82	0.82	0.82	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	53.9	9.2	9.2	56.0	23.2	23.2	49.2	43.4	43.4	46.2	0.0	0.0
Incr Delay (d2), s/veh	5.5	0.7	0.7	2.5	0.6	0.6	1.0	0.2	0.2	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.6	7.9	1.9	10.5	11.0	3.5	1.7	1.4	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	9.9	9.9	58.5	23.8	23.8	50.2	43.6	43.6	46.8	0.0	0.0
LnGrp LOS	E	A	A	E	C	C	D	D	D	D	A	A
Approach Vol, veh/h		1349			871			241			166	
Approach Delay, s/veh		12.9			26.3			46.9			46.8	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	82.6		22.0	10.7	83.3		22.0				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	9.4	38.4		23.4	9.4	38.4		26.4				
Max Q Clear Time (g_c+I1), s	7.3	23.7		17.2	6.0	22.2		12.4				
Green Ext Time (p_c), s	0.0	4.7		0.3	0.0	8.3		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	570	379	343	255	66	892	559	325	1169
v/c Ratio	1.04	0.49	0.43	0.50	0.49	0.68	0.67	0.74	0.76
Control Delay	104.5	48.5	47.2	15.3	71.3	38.8	14.6	66.9	36.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.5	48.5	47.2	15.3	71.3	38.8	14.6	66.9	36.2
Queue Length 50th (ft)	~284	151	137	40	57	344	119	142	453
Queue Length 95th (ft)	#415	206	190	127	106	430	261	194	574
Internal Link Dist (ft)	1368		469			1567			427
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	546	766	790	508	191	1317	833	511	1548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.49	0.43	0.50	0.35	0.68	0.67	0.64	0.76

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	435	31	364	329	245	63	856	537	312	1047	75
Future Volume (veh/h)	82	435	31	364	329	245	63	856	537	312	1047	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	453	32	379	343	255	66	892	559	325	1091	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	517	38	525	540	241	85	1499	668	395	1642	117
Arrive On Green	0.18	0.18	0.18	0.15	0.15	0.15	0.05	0.42	0.42	0.11	0.49	0.49
Sat Flow, veh/h	524	2935	216	3456	3554	1585	1781	3554	1585	3456	3364	240
Grp Volume(v), veh/h	299	0	271	379	343	255	66	892	559	325	576	593
Grp Sat Flow(s),veh/h/ln	1844	0	1831	1728	1777	1585	1781	1777	1585	1728	1777	1827
Q Serve(g_s), s	18.9	0.0	16.9	12.4	10.7	18.0	4.3	23.0	37.4	10.9	29.1	29.2
Cycle Q Clear(g_c), s	18.9	0.0	16.9	12.4	10.7	18.0	4.3	23.0	37.4	10.9	29.1	29.2
Prop In Lane	0.28		0.12	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	325	0	323	525	540	241	85	1499	668	395	867	892
V/C Ratio(X)	0.92	0.00	0.84	0.72	0.64	1.06	0.77	0.60	0.84	0.82	0.66	0.66
Avail Cap(c_a), veh/h	325	0	323	525	540	241	218	1499	668	583	867	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	47.2	47.9	47.2	50.3	55.8	26.5	30.6	51.3	23.0	23.0
Incr Delay (d2), s/veh	30.4	0.0	17.5	8.4	5.6	74.6	13.7	1.7	11.8	6.0	4.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	0.0	9.3	6.0	5.2	12.2	2.3	9.9	16.0	5.0	12.7	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.4	0.0	64.7	56.3	52.8	124.9	69.5	28.2	42.5	57.3	27.0	26.9
LnGrp LOS	E	A	E	E	D	F	E	C	D	E	C	C
Approach Vol, veh/h		570			977			1517			1494	
Approach Delay, s/veh		71.9			73.0			35.3			33.5	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	61.9		22.0	18.1	54.0		24.5				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	6.3	31.2		20.0	12.9	39.4		20.9				
Green Ext Time (p_c), s	0.1	4.8		0.0	0.7	5.9		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		47.4	
HCM 6th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	178	81	201	26	38	63	69	578	45	73	1332	286
v/c Ratio	0.26	0.10	0.24	0.04	0.05	0.09	0.46	0.38	0.08	0.56	0.91	0.53
Control Delay	16.0	20.8	3.8	14.2	23.9	0.9	60.1	33.8	0.3	75.6	38.9	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	20.8	3.8	14.2	23.9	0.9	60.1	33.8	0.3	75.6	38.9	19.6
Queue Length 50th (ft)	68	37	0	9	18	0	50	129	0	58	186	52
Queue Length 95th (ft)	110	70	45	24	42	5	96	165	0	m68	m#424	m93
Internal Link Dist (ft)		405			458			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	699	839	823	727	708	671	181	1524	550	135	1469	543
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.10	0.24	0.04	0.05	0.09	0.38	0.38	0.08	0.54	0.91	0.53

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	77	191	25	36	60	66	549	43	69	1265	272
Future Volume (veh/h)	169	77	191	25	36	60	66	549	43	69	1265	272
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	81	201	26	38	63	69	578	45	73	1332	286
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	723	841	713	597	779	660	110	1404	436	111	1409	437
Arrive On Green	0.08	0.45	0.45	0.04	0.42	0.42	0.06	0.28	0.28	0.06	0.28	0.28
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	178	81	201	26	38	63	69	578	45	73	1332	286
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.4	2.9	9.3	0.9	1.4	2.8	4.4	10.7	2.5	4.6	29.6	18.5
Cycle Q Clear(g_c), s	6.4	2.9	9.3	0.9	1.4	2.8	4.4	10.7	2.5	4.6	29.6	18.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	723	841	713	597	779	660	110	1404	436	111	1409	437
V/C Ratio(X)	0.25	0.10	0.28	0.04	0.05	0.10	0.63	0.41	0.10	0.66	0.95	0.65
Avail Cap(c_a), veh/h	789	841	713	754	779	660	183	1404	436	137	1409	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.27	0.27	0.27
Uniform Delay (d), s/veh	15.9	18.4	20.1	17.1	20.2	20.6	53.1	34.4	31.4	53.2	41.1	37.1
Incr Delay (d2), s/veh	0.2	0.2	1.0	0.0	0.1	0.3	5.8	0.9	0.5	2.2	5.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.3	3.6	0.4	0.6	1.1	2.1	4.5	1.0	2.1	12.8	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	18.6	21.1	17.2	20.3	20.9	59.0	35.3	31.9	55.4	46.1	39.2
LnGrp LOS	B	B	C	B	C	C	E	D	C	E	D	D
Approach Vol, veh/h		460			127			692			1691	
Approach Delay, s/veh		18.7			19.9			37.4			45.3	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	37.1	13.7	53.0	12.3	37.0	9.8	56.9
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	11.9	28.9	* 13	* 42	8.9	31.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	6.4	31.6	8.4	4.8	6.6	12.7	2.9	11.3
Green Ext Time (p_c), s	0.1	0.0	0.2	0.4	0.0	3.8	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	739	241	17	81	18	32	326
v/c Ratio	1.44	0.26	0.12	0.19	0.04	0.22	0.69
Control Delay	236.2	27.0	43.0	31.4	0.2	44.3	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	236.2	27.0	43.0	31.4	0.2	44.3	34.8
Queue Length 50th (ft)	~325	58	10	40	0	18	127
Queue Length 95th (ft)	#451	93	31	81	0	47	#282
Internal Link Dist (ft)	447	311		392			777
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	514	944	317	418	447	317	472
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.44	0.26	0.05	0.19	0.04	0.10	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	484	78	24	181	12	15	73	16	29	129	165
Future Volume (veh/h)	103	484	78	24	181	12	15	73	16	29	129	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	114	538	87	27	201	13	17	81	18	32	143	183
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	701	119	105	815	55	48	413	350	76	176	225
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.03	0.22	0.22	0.04	0.24	0.24
Sat Flow, veh/h	536	2648	449	395	3080	208	1781	1870	1585	1781	745	954
Grp Volume(v), veh/h	392	0	347	126	0	115	17	81	18	32	0	326
Grp Sat Flow(s),veh/h/ln	1844	0	1790	1851	0	1833	1781	1870	1585	1781	0	1699
Q Serve(g_s), s	18.0	0.0	16.0	4.9	0.0	4.4	0.9	3.2	0.8	1.6	0.0	16.4
Cycle Q Clear(g_c), s	18.0	0.0	16.0	4.9	0.0	4.4	0.9	3.2	0.8	1.6	0.0	16.4
Prop In Lane	0.29		0.25	0.21		0.11	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	488	0	474	490	0	485	48	413	350	76	0	402
V/C Ratio(X)	0.80	0.00	0.73	0.26	0.00	0.24	0.35	0.20	0.05	0.42	0.00	0.81
Avail Cap(c_a), veh/h	488	0	474	490	0	485	314	413	350	314	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	0.0	30.4	26.3	0.0	26.1	43.3	28.8	27.9	42.3	0.0	32.7
Incr Delay (d2), s/veh	13.1	0.0	9.6	1.3	0.0	1.1	1.6	1.1	0.3	1.4	0.0	16.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	0.0	8.0	2.3	0.0	2.1	0.4	1.5	0.3	0.7	0.0	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	0.0	40.0	27.6	0.0	27.3	45.0	29.9	28.1	43.7	0.0	48.9
LnGrp LOS	D	A	D	C	A	C	D	C	C	D	A	D
Approach Vol, veh/h		739			241			116			358	
Approach Delay, s/veh		42.3			27.4			31.8			48.5	
Approach LOS		D			C			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	8.6	24.7		28.7	7.1	26.1				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		20.0	3.6	5.2		6.9	2.9	18.4				
Green Ext Time (p_c), s		1.3	0.0	0.2		0.8	0.0	0.2				

Intersection Summary												
HCM 6th Ctrl Delay			40.5									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	401	85	263	1158	152	131	1146	116
v/c Ratio	0.44	0.48	0.52	0.31	0.62	0.17	0.64	0.47	0.10
Control Delay	47.6	42.7	54.2	37.2	6.4	1.6	66.4	9.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	42.7	54.2	37.2	6.4	1.6	66.4	9.3	3.6
Queue Length 50th (ft)	69	146	60	85	73	2	103	198	14
Queue Length 95th (ft)	127	197	118	125	m85	m4	163	241	33
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	228	843	164	839	1873	907	297	2463	1118
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.48	0.52	0.31	0.62	0.17	0.44	0.47	0.10

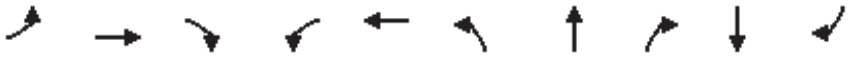
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	376	17	83	211	47	4	1131	149	128	1123	114
Future Volume (veh/h)	98	376	17	83	211	47	4	1131	149	128	1123	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	384	17	85	215	48	4	1154	152	131	1146	116
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	1103	49	287	922	202	30	1752	799	159	2193	978
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.09	0.62	0.62
Sat Flow, veh/h	1116	3467	153	984	2899	634	3	3476	1585	1781	3554	1585
Grp Volume(v), veh/h	100	196	205	85	130	133	620	538	152	131	1146	116
Grp Sat Flow(s),veh/h/ln	1116	1777	1843	984	1777	1756	1862	1617	1585	1781	1777	1585
Q Serve(g_s), s	9.1	10.6	10.6	9.1	6.7	7.0	0.0	30.9	6.6	9.0	22.8	3.8
Cycle Q Clear(g_c), s	16.0	10.6	10.6	19.7	6.7	7.0	30.7	30.9	6.6	9.0	22.8	3.8
Prop In Lane	1.00		0.08	1.00		0.36	0.01		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	350	565	586	287	565	559	967	815	799	159	2193	978
V/C Ratio(X)	0.29	0.35	0.35	0.30	0.23	0.24	0.64	0.66	0.19	0.83	0.52	0.12
Avail Cap(c_a), veh/h	350	565	586	287	565	559	967	815	799	299	2193	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	0.36	0.36	0.36	0.66	0.66	0.66
Uniform Delay (d), s/veh	37.4	32.7	32.7	40.2	31.4	31.4	23.0	23.0	17.0	56.0	13.5	9.9
Incr Delay (d2), s/veh	2.0	1.7	1.6	2.6	0.9	1.0	1.2	1.5	0.2	7.1	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.9	5.1	2.4	3.1	3.1	13.4	11.7	2.4	4.3	8.8	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	34.3	34.3	42.8	32.3	32.4	24.2	24.6	17.2	63.0	14.1	10.1
LnGrp LOS	D	C	C	D	C	C	C	C	B	E	B	B
Approach Vol, veh/h		501			348			1310			1393	
Approach Delay, s/veh		35.3			34.9			23.5			18.4	
Approach LOS		D			C			C			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		81.1		43.9	14.1	67.0		43.9				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		67.0		29.9	21.0	63.0		25.4				
Max Q Clear Time (g_c+I1), s		24.8		21.7	11.0	32.9		18.0				
Green Ext Time (p_c), s		11.3		1.2	0.2	9.7		1.6				

Intersection Summary												
HCM 6th Ctrl Delay			24.3									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	181	504	473	29	321	299	125	38	134	87
v/c Ratio	0.66	0.49	0.48	0.19	0.41	0.91	0.24	0.08	0.27	0.17
Control Delay	50.9	17.7	8.9	46.3	22.6	65.3	28.6	3.0	29.1	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.9	17.7	8.9	46.3	22.6	65.3	28.6	3.0	29.1	7.1
Queue Length 50th (ft)	109	220	85	17	141	175	59	0	64	0
Queue Length 95th (ft)	180	327	177	47	233	#342	112	11	119	36
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	374	1023	983	374	781	380	591	546	564	562
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.49	0.48	0.08	0.41	0.79	0.21	0.07	0.24	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	479	449	28	278	27	284	119	36	18	109	83
Future Volume (veh/h)	172	479	449	28	278	27	284	119	36	18	109	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	504	473	29	293	28	299	125	38	19	115	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	928	787	80	704	67	384	588	498	92	512	498
Arrive On Green	0.12	0.50	0.50	0.04	0.42	0.42	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	1870	1585	1781	1681	161	1180	1870	1585	157	1630	1585
Grp Volume(v), veh/h	181	504	473	29	0	321	299	125	38	134	0	87
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1841	1180	1870	1585	1787	0	1585
Q Serve(g_s), s	9.5	17.7	20.5	1.5	0.0	11.7	23.9	4.7	1.6	0.0	0.0	3.8
Cycle Q Clear(g_c), s	9.5	17.7	20.5	1.5	0.0	11.7	29.0	4.7	1.6	5.1	0.0	3.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	0.14		1.00
Lane Grp Cap(c), veh/h	218	928	787	80	0	771	384	588	498	605	0	498
V/C Ratio(X)	0.83	0.54	0.60	0.36	0.00	0.42	0.78	0.21	0.08	0.22	0.00	0.17
Avail Cap(c_a), veh/h	373	928	787	373	0	771	384	588	498	605	0	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.9	16.6	17.3	44.3	0.0	19.5	34.9	24.1	23.0	24.2	0.0	23.8
Incr Delay (d2), s/veh	7.9	2.3	3.4	2.7	0.0	1.7	9.8	0.2	0.1	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	8.0	7.9	0.7	0.0	5.3	7.8	2.1	0.6	2.3	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	18.9	20.6	47.0	0.0	21.2	44.7	24.2	23.1	24.4	0.0	23.9
LnGrp LOS	D	B	C	D	A	C	D	C	C	C	A	C
Approach Vol, veh/h		1158			350			462			221	
Approach Delay, s/veh		24.3			23.3			37.4			24.2	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	52.0		34.6	16.3	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	3.5	22.5		7.1	11.5	13.7		31.0				
Green Ext Time (p_c), s	0.0	5.1		0.8	0.3	2.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			26.9									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	303	805	297	122	361	206	256	1023	73	218	1219	108
v/c Ratio	0.97	0.66	0.49	0.45	0.41	0.29	0.85	0.97	0.11	0.79	1.20	0.21
Control Delay	96.4	38.2	25.5	60.1	41.2	17.8	75.7	64.1	7.5	64.7	142.0	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	38.2	25.5	60.1	41.2	17.8	75.7	64.1	7.5	64.7	142.0	19.6
Queue Length 50th (ft)	246	288	129	49	129	78	200	433	5	172	~661	32
Queue Length 95th (ft)	#429	373	224	79	177	130	#326	#613	35	254	#806	81
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	311	1220	605	604	874	759	325	1060	834	325	1012	507
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.66	0.49	0.20	0.41	0.27	0.79	0.97	0.09	0.67	1.20	0.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	781	288	118	350	200	248	992	71	211	1182	105
Future Volume (veh/h)	294	781	288	118	350	200	248	992	71	211	1182	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	303	805	297	122	361	206	256	1023	73	218	1219	108
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	1407	627	181	967	653	283	1035	544	249	967	431
Arrive On Green	0.18	0.40	0.40	0.05	0.27	0.27	0.16	0.29	0.29	0.05	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	303	805	297	122	361	206	256	1023	73	218	1219	108
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	21.1	22.1	17.4	4.3	10.3	11.0	17.6	35.8	4.0	15.2	34.0	7.9
Cycle Q Clear(g_c), s	21.1	22.1	17.4	4.3	10.3	11.0	17.6	35.8	4.0	15.2	34.0	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	1407	627	181	967	653	283	1035	544	249	967	431
V/C Ratio(X)	0.97	0.57	0.47	0.67	0.37	0.32	0.90	0.99	0.13	0.87	1.26	0.25
Avail Cap(c_a), veh/h	314	1407	627	608	967	653	328	1035	544	328	967	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	51.1	29.5	28.1	58.2	36.9	24.8	51.6	44.1	28.2	58.5	56.9	45.0
Incr Delay (d2), s/veh	41.7	1.7	2.6	4.3	1.1	1.3	24.9	25.4	0.5	16.3	124.9	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.1	9.9	7.1	2.0	4.7	4.4	9.8	19.1	1.6	8.4	33.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.8	31.2	30.6	62.5	38.0	26.1	76.5	69.5	28.8	74.9	181.8	46.2
LnGrp LOS	F	C	C	E	D	C	E	E	C	E	F	D
Approach Vol, veh/h		1405			689			1352			1545	
Approach Delay, s/veh		44.4			38.8			68.6			157.3	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.4	38.0	25.5	38.1	21.0	40.4	10.0	53.6
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	23.0	34.0	22.0	30.9	23.0	33.0	22.0	29.9
Max Q Clear Time (g_c+I1), s	19.6	36.0	23.1	13.0	17.2	37.8	6.3	24.1
Green Ext Time (p_c), s	0.2	0.0	0.0	3.0	0.3	0.0	0.3	3.2

Intersection Summary	
HCM 6th Ctrl Delay	85.1
HCM 6th LOS	F

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	8	45	11	23	2	99	86	10	2	66	0
Future Vol, veh/h	2	8	45	11	23	2	99	86	10	2	66	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	49	12	25	2	108	93	11	2	72	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.9	8.7	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	51%	4%	31%	3%
Vol Thru, %	44%	15%	64%	97%
Vol Right, %	5%	82%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	195	55	36	68
LT Vol	99	2	11	2
Through Vol	86	8	23	66
RT Vol	10	45	2	0
Lane Flow Rate	212	60	39	74
Geometry Grp	1	1	1	1
Degree of Util (X)	0.249	0.069	0.051	0.09
Departure Headway (Hd)	4.234	4.142	4.674	4.384
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	837	869	770	820
Service Time	2.318	2.148	2.68	2.394
HCM Lane V/C Ratio	0.253	0.069	0.051	0.09
HCM Control Delay	8.7	7.5	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.2	0.3

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	11	2	3	11	3	6	23	2	0	72	8
Future Vol, veh/h	2	11	2	3	11	3	6	23	2	0	72	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	12	2	3	12	3	7	25	2	0	78	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.2	7.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	13%	18%	0%
Vol Thru, %	74%	73%	65%	90%
Vol Right, %	6%	13%	18%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	15	17	80
LT Vol	6	2	3	0
Through Vol	23	11	11	72
RT Vol	2	2	3	8
Lane Flow Rate	34	16	18	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.019	0.021	0.096
Departure Headway (Hd)	4.058	4.103	4.084	3.958
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	880	866	870	905
Service Time	2.094	2.16	2.14	1.984
HCM Lane V/C Ratio	0.039	0.018	0.021	0.096
HCM Control Delay	7.3	7.2	7.2	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.3

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	313	224	1343
v/c Ratio	0.34	0.13	1.03
Control Delay	9.4	7.4	50.7
Queue Delay	0.0	0.0	0.0
Total Delay	9.4	7.4	50.7
Queue Length 50th (ft)	54	17	~217
Queue Length 95th (ft)	98	32	#351
Internal Link Dist (ft)	135	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1310
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.34	0.13	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	300	0	0	215	1180	109
Future Volume (veh/h)	300	0	0	215	1180	109
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	312	0	0	224	1335	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	312	0	0	224	1335	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	5.3	0.0	0.0	1.8	19.5	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.0	1.8	19.5	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.34	0.00	0.00	0.13	0.99	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	7.2	16.2	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.0	20.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	0.5	10.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.1	0.0	0.0	7.2	37.1	0.0
LnGrp LOS	A	A	A	A	D	A
Approach Vol, veh/h	312			224	1335	
Approach Delay, s/veh	9.1			7.2	37.1	
Approach LOS	A			A	D	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	23.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	7.3				3.8	21.5
Green Ext Time (p_c), s	0.3				0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	958	183	1197	334	11	1087	110	1072	353
v/c Ratio	0.63	0.86	0.69	0.75	0.02	0.67	0.43	0.79	0.68
Control Delay	34.4	88.4	27.4	85.5	20.6	6.0	60.9	47.9	32.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	88.4	27.4	85.5	20.6	6.0	60.9	47.9	32.6
Queue Length 50th (ft)	190	147	383	145	4	21	44	300	162
Queue Length 95th (ft)	m239	#273	463	197	m9	32	75	357	277
Internal Link Dist (ft)	538		219		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1524	219	1723	480	598	1631	260	1356	521
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.84	0.69	0.70	0.02	0.67	0.42	0.79	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	734	135	168	1082	19	307	10	1000	101	986	325
Future Volume (veh/h)	12	734	135	168	1082	19	307	10	1000	101	986	325
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	798	147	183	1176	21	334	11	1087	110	1072	353
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	1405	255	209	1763	31	394	597	1154	243	1407	437
Arrive On Green	0.23	0.23	0.23	0.12	0.49	0.49	0.11	0.32	0.32	0.07	0.28	0.28
Sat Flow, veh/h	27	4127	750	1781	3572	64	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	350	301	307	183	585	612	334	11	1087	110	1072	353
Grp Sat Flow(s),veh/h/ln	1788	1549	1567	1781	1777	1859	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	0.0	21.6	21.8	12.6	31.1	31.1	11.8	0.5	36.6	3.8	24.1	25.9
Cycle Q Clear(g_c), s	20.6	21.6	21.8	12.6	31.1	31.1	11.8	0.5	36.6	3.8	24.1	25.9
Prop In Lane	0.04		0.48	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	638	527	533	209	877	918	394	597	1154	243	1407	437
V/C Ratio(X)	0.55	0.57	0.58	0.88	0.67	0.67	0.85	0.02	0.94	0.45	0.76	0.81
Avail Cap(c_a), veh/h	638	527	533	221	877	918	484	597	1154	263	1407	437
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	40.1	40.2	54.3	23.9	23.9	54.3	29.1	41.4	55.8	41.5	42.2
Incr Delay (d2), s/veh	2.5	3.3	3.3	29.3	4.0	3.8	10.1	0.1	14.5	1.3	4.0	14.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	9.1	9.3	7.4	14.0	14.6	5.7	0.2	12.2	1.7	10.5	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	43.4	43.5	83.6	27.9	27.7	64.4	29.2	56.0	57.1	45.5	57.1
LnGrp LOS	D	D	D	F	C	C	E	C	E	E	D	E
Approach Vol, veh/h		958			1380			1432			1535	
Approach Delay, s/veh		43.0			35.2			57.7			49.0	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	45.0		66.7	18.8	39.5	19.2	47.5
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0
Max Green Setting (Gmax), s	9.5	39.9		61.0	17.5	* 32	15.5	41.0
Max Q Clear Time (g_c+I1), s	5.8	38.6		33.1	13.8	27.9	14.6	23.8
Green Ext Time (p_c), s	0.1	0.7		10.1	0.4	2.8	0.0	6.1

Intersection Summary		
HCM 6th Ctrl Delay		46.7
HCM 6th LOS		D

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	583	58	997	709	59	388	87	236	263	157
v/c Ratio	0.68	0.50	0.45	1.07	0.88	1.00	0.44	0.18	1.16	0.35	0.35
Control Delay	69.6	60.2	72.0	84.9	21.3	166.4	41.3	2.1	155.7	43.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	60.2	72.0	84.9	23.7	166.4	41.3	2.1	155.7	43.7	10.6
Queue Length 50th (ft)	122	262	41	~474	254	48	140	0	~225	96	8
Queue Length 95th (ft)	m190	323	m63	#684	#153	#142	189	10	#391	137	67
Internal Link Dist (ft)		930		538			448			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	288	1167	133	934	805	59	886	497	204	744	446
Starvation Cap Reductn	0	0	0	0	36	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.50	0.44	1.07	0.92	1.00	0.44	0.18	1.16	0.35	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	534	20	55	947	674	56	369	83	224	250	149
Future Volume (veh/h)	135	534	20	55	947	674	56	369	83	224	250	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	562	21	58	997	709	59	388	87	236	263	157
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	2124	79	111	2042	911	200	748	333	162	748	333
Arrive On Green	0.03	0.20	0.20	0.06	0.57	0.57	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	3493	130	1781	3554	1585	967	3554	1585	919	3554	1585
Grp Volume(v), veh/h	142	286	297	58	997	709	59	388	87	236	263	157
Grp Sat Flow(s),veh/h/ln	1781	1777	1847	1781	1777	1585	967	1777	1585	919	1777	1585
Q Serve(g_s), s	9.9	17.0	17.0	3.9	20.7	43.0	6.9	12.1	5.7	14.2	7.9	10.9
Cycle Q Clear(g_c), s	9.9	17.0	17.0	3.9	20.7	43.0	14.8	12.1	5.7	26.3	7.9	10.9
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	1080	1123	111	2042	911	200	748	333	162	748	333
V/C Ratio(X)	0.83	0.26	0.26	0.52	0.49	0.78	0.30	0.52	0.26	1.46	0.35	0.47
Avail Cap(c_a), veh/h	291	1080	1123	134	2042	911	239	890	397	162	748	333
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	26.4	26.4	56.8	15.7	20.5	48.4	43.7	41.2	57.9	42.1	43.3
Incr Delay (d2), s/veh	6.9	0.5	0.5	1.8	0.5	4.3	0.8	0.6	0.4	236.3	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.3	8.6	1.8	8.5	16.6	1.7	5.4	2.3	15.8	3.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.4	26.9	26.9	58.6	16.3	24.8	49.2	44.3	41.6	294.2	42.4	44.3
LnGrp LOS	E	C	C	E	B	C	D	D	D	F	D	D
Approach Vol, veh/h		725			1764			534			656	
Approach Delay, s/veh		34.6			21.1			44.4			133.4	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	80.6		32.0	16.6	76.4		32.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	9.4	38.4		* 26	20.4	27.4		* 31				
Max Q Clear Time (g_c+I1), s	5.9	19.0		28.3	11.9	45.0		16.8				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.2	0.0		2.7				

Intersection Summary			
HCM 6th Ctrl Delay		47.2	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	84	810	53	1212	107	121	42	135
v/c Ratio	0.56	0.45	0.48	0.72	0.71	0.54	0.14	0.95
Control Delay	69.1	22.6	80.8	11.9	76.9	59.7	0.9	109.0
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	22.9	80.8	11.9	76.9	59.7	0.9	109.0
Queue Length 50th (ft)	67	221	45	76	84	94	0	99
Queue Length 95th (ft)	118	335	m50	m96	140	148	0	#209
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	204	1805	134	1680	234	348	405	172
Starvation Cap Reductn	0	408	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.58	0.40	0.72	0.46	0.35	0.10	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	710	84	52	1162	25	105	119	41	10	91	31
Future Volume (veh/h)	82	710	84	52	1162	25	105	119	41	10	91	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	724	86	53	1186	26	107	121	42	10	93	32
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	2285	271	84	2495	55	187	240	203	39	165	54
Arrive On Green	0.06	0.71	0.71	0.09	1.00	1.00	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1781	3199	380	1781	3555	78	1266	1870	1585	62	1283	418
Grp Volume(v), veh/h	84	402	408	53	593	619	107	121	42	135	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1802	1781	1777	1856	1266	1870	1585	1762	0	0
Q Serve(g_s), s	5.8	10.4	10.5	3.6	0.0	0.0	4.7	7.5	3.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	5.8	10.4	10.5	3.6	0.0	0.0	13.6	7.5	3.0	8.9	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.04	1.00		1.00	0.07		0.24
Lane Grp Cap(c), veh/h	106	1269	1287	84	1247	1303	187	240	203	257	0	0
V/C Ratio(X)	0.79	0.32	0.32	0.63	0.48	0.48	0.57	0.50	0.21	0.52	0.00	0.00
Avail Cap(c_a), veh/h	205	1269	1287	134	1247	1303	261	350	297	400	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.16	0.16	0.16	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	58.0	6.6	6.6	55.6	0.0	0.0	54.2	50.8	48.8	51.3	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.4	0.4	0.5	0.2	0.2	1.0	0.6	0.2	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.9	4.0	1.6	0.1	0.1	3.4	3.6	1.2	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	7.0	7.0	56.0	0.2	0.2	55.2	51.4	49.0	52.0	0.0	0.0
LnGrp LOS	E	A	A	E	A	A	E	D	D	D	A	A
Approach Vol, veh/h		894			1265			270			135	
Approach Delay, s/veh		12.1			2.5			52.5			52.0	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	92.3		20.6	10.5	93.9		20.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	14.4	42.4		23.4	9.4	47.4		26.4				
Max Q Clear Time (g_c+I1), s	7.8	2.0		15.6	5.6	12.5		10.9				
Green Ext Time (p_c), s	0.0	11.6		0.4	0.0	6.3		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		13.7	
HCM 6th LOS		B	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	474	341	486	443	75	1290	400	279	1086
v/c Ratio	0.90	0.44	0.60	0.81	0.52	0.96	0.56	0.68	0.71
Control Delay	74.5	46.5	50.0	34.0	71.8	57.6	19.8	64.7	34.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.5	46.5	50.0	34.0	71.8	57.6	19.8	64.7	34.6
Queue Length 50th (ft)	208	131	200	171	63	571	138	120	408
Queue Length 95th (ft)	#314	186	269	#353	116	#766	254	168	517
Internal Link Dist (ft)	1368		469			1567			283
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	551	780	804	549	194	1341	719	520	1529
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.44	0.60	0.81	0.39	0.96	0.56	0.54	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	268	53	327	467	425	72	1238	384	268	922	121
Future Volume (veh/h)	134	268	53	327	467	425	72	1238	384	268	922	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	279	55	341	486	443	75	1290	400	279	960	126
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	344	70	546	561	250	97	1559	695	352	1536	202
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.44	0.44	0.10	0.49	0.49
Sat Flow, veh/h	1021	2151	439	3456	3554	1585	1781	3554	1585	3456	3158	414
Grp Volume(v), veh/h	250	0	224	341	486	443	75	1290	400	279	540	546
Grp Sat Flow(s),veh/h/ln	1819	0	1791	1728	1777	1585	1781	1777	1585	1728	1777	1796
Q Serve(g_s), s	15.2	0.0	13.7	10.5	15.2	18.0	4.7	36.4	21.6	9.0	25.5	25.6
Cycle Q Clear(g_c), s	15.2	0.0	13.7	10.5	15.2	18.0	4.7	36.4	21.6	9.0	25.5	25.6
Prop In Lane	0.56		0.25	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	291	0	287	546	561	250	97	1559	695	352	864	874
V/C Ratio(X)	0.86	0.00	0.78	0.62	0.87	1.77	0.78	0.83	0.58	0.79	0.62	0.63
Avail Cap(c_a), veh/h	334	0	329	546	561	250	227	1559	695	607	864	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	0.0	46.0	44.8	46.8	48.0	53.2	28.2	24.0	50.0	21.6	21.6
Incr Delay (d2), s/veh	17.6	0.0	10.3	5.3	16.3	362.0	12.4	5.2	3.4	4.0	3.4	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	7.0	4.9	8.0	32.3	2.4	16.0	8.5	4.0	11.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	0.0	56.3	50.1	63.1	410.0	65.7	33.4	27.4	54.0	25.0	25.0
LnGrp LOS	E	A	E	D	E	F	E	C	C	D	C	C
Approach Vol, veh/h		474			1270			1765			1365	
Approach Delay, s/veh		60.4			180.6			33.4			30.9	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	59.4		22.0	16.1	54.0		21.8				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	6.7	27.6		20.0	11.0	38.4		17.2				
Green Ext Time (p_c), s	0.1	5.6		0.0	0.6	7.6		1.0				

Intersection Summary			
HCM 6th Ctrl Delay		73.7	
HCM 6th LOS		E	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	214	51	95	45	89	104	119	911	26	54	957	371
v/c Ratio	0.35	0.07	0.13	0.08	0.14	0.16	0.64	0.51	0.04	0.45	0.64	0.61
Control Delay	20.9	25.6	1.1	18.0	29.3	1.9	69.4	34.0	0.1	50.3	62.9	47.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	25.6	1.1	18.0	29.3	1.9	69.4	34.0	0.1	50.3	62.9	47.5
Queue Length 50th (ft)	99	26	0	19	50	0	93	220	0	46	296	233
Queue Length 95th (ft)	153	55	8	41	90	15	156	265	0	m59	350	m318
Internal Link Dist (ft)		299			401			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	626	738	716	680	643	643	225	1784	620	126	1494	612
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.07	0.13	0.07	0.14	0.16	0.53	0.51	0.04	0.43	0.64	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	49	91	43	85	100	114	875	25	52	919	356
Future Volume (veh/h)	205	49	91	43	85	100	114	875	25	52	919	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	214	51	95	45	89	104	119	911	26	54	957	371
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	623	757	642	622	697	591	145	1671	519	97	1532	476
Arrive On Green	0.09	0.40	0.40	0.06	0.37	0.37	0.08	0.33	0.33	0.05	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	214	51	95	45	89	104	119	911	26	54	957	371
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	9.0	2.1	4.7	1.8	3.9	5.5	8.2	18.3	1.4	3.7	20.2	26.7
Cycle Q Clear(g_c), s	9.0	2.1	4.7	1.8	3.9	5.5	8.2	18.3	1.4	3.7	20.2	26.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	623	757	642	622	697	591	145	1671	519	97	1532	476
V/C Ratio(X)	0.34	0.07	0.15	0.07	0.13	0.18	0.82	0.55	0.05	0.56	0.62	0.78
Avail Cap(c_a), veh/h	653	757	642	739	697	591	227	1671	519	127	1532	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.50	0.50
Uniform Delay (d), s/veh	19.9	22.8	23.5	20.9	25.8	26.3	56.5	34.4	28.8	57.7	37.7	40.0
Incr Delay (d2), s/veh	0.3	0.2	0.5	0.0	0.4	0.6	12.6	1.3	0.2	2.5	1.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	1.0	1.9	0.8	1.8	2.2	4.2	7.7	0.6	1.7	8.5	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	22.9	24.0	20.9	26.2	27.0	69.1	35.7	28.9	60.2	38.7	46.3
LnGrp LOS	C	C	C	C	C	C	E	D	C	E	D	D
Approach Vol, veh/h		360			238			1056			1382	
Approach Delay, s/veh		21.6			25.5			39.3			41.6	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	42.6	15.8	51.3	11.9	46.0	11.8	55.3
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	15.9	33.9	* 13	* 42	8.9	40.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	10.2	28.7	11.0	7.5	5.7	20.3	3.8	6.7
Green Ext Time (p_c), s	0.1	3.2	0.1	0.8	0.0	6.4	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	324	487	43	118	32	27	249
v/c Ratio	1.16dl	0.52	0.29	0.25	0.07	0.19	0.57
Control Delay	33.5	30.7	45.5	29.9	0.3	44.2	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	30.7	45.5	29.9	0.3	44.2	27.3
Queue Length 50th (ft)	86	130	25	49	0	15	88
Queue Length 95th (ft)	137	186	58	109	0	42	173
Internal Link Dist (ft)	447	490		392			777
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	557	945	316	471	488	316	440
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.52	0.14	0.25	0.07	0.09	0.57

Intersection Summary

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	173	34	19	412	31	41	112	30	26	82	155
Future Volume (veh/h)	101	173	34	19	412	31	41	112	30	26	82	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	106	182	36	20	434	33	43	118	32	27	86	163
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	297	540	110	38	861	69	91	433	367	68	126	240
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.05	0.23	0.23	0.04	0.22	0.22
Sat Flow, veh/h	1130	2059	420	145	3280	262	1781	1870	1585	1781	578	1095
Grp Volume(v), veh/h	170	0	154	257	0	230	43	118	32	27	0	249
Grp Sat Flow(s),veh/h/ln	1814	0	1795	1863	0	1823	1781	1870	1585	1781	0	1673
Q Serve(g_s), s	7.0	0.0	6.3	10.8	0.0	9.7	2.1	4.7	1.4	1.4	0.0	12.5
Cycle Q Clear(g_c), s	7.0	0.0	6.3	10.8	0.0	9.7	2.1	4.7	1.4	1.4	0.0	12.5
Prop In Lane	0.62		0.23	0.08		0.14	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	476	0	471	489	0	478	91	433	367	68	0	366
V/C Ratio(X)	0.36	0.00	0.33	0.53	0.00	0.48	0.47	0.27	0.09	0.40	0.00	0.68
Avail Cap(c_a), veh/h	476	0	471	489	0	478	312	433	367	312	0	366
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	0.0	27.2	28.9	0.0	28.5	42.2	28.8	27.6	43.0	0.0	32.8
Incr Delay (d2), s/veh	2.1	0.0	1.8	4.0	0.0	3.4	1.4	1.5	0.5	1.4	0.0	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	2.9	5.3	0.0	4.6	1.0	2.3	0.6	0.6	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	0.0	29.1	32.9	0.0	31.9	43.6	30.4	28.0	44.4	0.0	42.6
LnGrp LOS	C	A	C	C	A	C	D	C	C	D	A	D
Approach Vol, veh/h		324			487			193			276	
Approach Delay, s/veh		29.3			32.4			32.9			42.8	
Approach LOS		C			C			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	8.2	25.9		28.7	9.4	24.7				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		9.0	3.4	6.7		12.8	4.1	14.5				
Green Ext Time (p_c), s		1.1	0.0	0.3		1.5	0.0	0.5				

Intersection Summary	
HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	52	142	170	535	1548	120	100	1334	102
v/c Ratio	0.47	0.17	0.58	0.63	0.81	0.13	0.57	0.54	0.09
Control Delay	57.1	30.7	51.0	42.4	20.0	9.6	66.1	10.3	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	30.7	51.0	42.4	20.0	9.6	66.1	10.3	3.9
Queue Length 50th (ft)	36	38	122	186	269	16	78	250	14
Queue Length 95th (ft)	83	66	201	248	m286	m20	132	301	32
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	110	839	294	845	1919	923	240	2463	1114
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.17	0.58	0.63	0.81	0.13	0.42	0.54	0.09

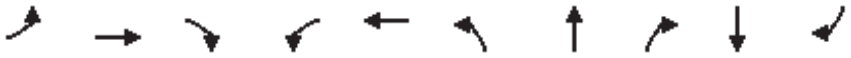
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	109	32	168	372	157	8	1525	119	99	1321	101
Future Volume (veh/h)	51	109	32	168	372	157	8	1525	119	99	1321	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	110	32	170	376	159	8	1540	120	100	1334	102
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	836	235	400	746	311	32	1854	850	125	2239	999
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.54	0.54	0.54	0.07	0.63	0.63
Sat Flow, veh/h	870	2740	769	1246	2445	1019	6	3459	1585	1781	3554	1585
Grp Volume(v), veh/h	52	70	72	170	272	263	828	720	120	100	1334	102
Grp Sat Flow(s),veh/h/ln	870	1777	1732	1246	1777	1687	1847	1617	1585	1781	1777	1585
Q Serve(g_s), s	6.5	3.6	3.8	14.3	15.7	16.1	1.0	46.6	4.8	6.9	27.8	3.2
Cycle Q Clear(g_c), s	22.6	3.6	3.8	18.1	15.7	16.1	46.1	46.6	4.8	6.9	27.8	3.2
Prop In Lane	1.00		0.44	1.00		0.60	0.01		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	542	529	400	542	515	1019	867	850	125	2239	999
V/C Ratio(X)	0.25	0.13	0.14	0.42	0.50	0.51	0.81	0.83	0.14	0.80	0.60	0.10
Avail Cap(c_a), veh/h	211	542	529	400	542	515	1019	867	850	242	2239	999
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	0.30	0.30	0.30	0.72	0.72	0.72
Uniform Delay (d), s/veh	45.1	31.4	31.5	38.0	35.6	35.8	24.1	24.3	14.6	57.3	13.7	9.1
Incr Delay (d2), s/veh	2.8	0.5	0.5	2.8	2.8	3.1	2.2	2.9	0.1	8.3	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.6	1.7	4.7	7.2	7.1	20.0	17.6	1.7	3.4	10.7	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	31.9	32.0	40.9	38.5	38.9	26.4	27.2	14.7	65.6	14.5	9.3
LnGrp LOS	D	C	C	D	D	D	C	C	B	E	B	A
Approach Vol, veh/h		194			705			1668			1536	
Approach Delay, s/veh		36.2			39.2			25.9			17.5	
Approach LOS		D			D			C			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		82.8		42.2	11.8	71.0		42.2				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		68.0		29.9	17.0	67.0		25.0				
Max Q Clear Time (g_c+I1), s		29.8		20.1	8.9	48.6		24.6				
Green Ext Time (p_c), s		13.7		2.8	0.1	11.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			25.5									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	115	287	293	61	488	380	161	49	190	230
v/c Ratio	0.54	0.33	0.33	0.35	0.63	1.14	0.27	0.09	0.35	0.35
Control Delay	49.1	18.3	3.7	46.6	26.7	124.6	26.8	4.7	28.0	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	18.3	3.7	46.6	26.7	124.6	26.8	4.7	28.0	5.2
Queue Length 50th (ft)	66	109	5	35	226	~270	72	0	88	0
Queue Length 95th (ft)	121	182	53	76	361	#475	133	19	157	54
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	371	875	890	371	780	334	586	543	549	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.33	0.33	0.16	0.63	1.14	0.27	0.09	0.35	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	278	284	59	464	10	369	156	48	30	154	223
Future Volume (veh/h)	112	278	284	59	464	10	369	156	48	30	154	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	287	293	61	478	10	380	161	49	31	159	230
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	845	716	123	799	17	330	614	520	108	515	520
Arrive On Green	0.08	0.45	0.45	0.07	0.44	0.44	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1781	1825	38	995	1870	1585	190	1568	1585
Grp Volume(v), veh/h	115	287	293	61	0	488	380	161	49	190	0	230
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1863	995	1870	1585	1757	0	1585
Q Serve(g_s), s	5.8	9.1	11.4	3.0	0.0	18.2	23.1	5.8	2.0	0.0	0.0	10.4
Cycle Q Clear(g_c), s	5.8	9.1	11.4	3.0	0.0	18.2	30.0	5.8	2.0	6.9	0.0	10.4
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.16		1.00
Lane Grp Cap(c), veh/h	147	845	716	123	0	816	330	614	520	623	0	520
V/C Ratio(X)	0.78	0.34	0.41	0.50	0.00	0.60	1.15	0.26	0.09	0.31	0.00	0.44
Avail Cap(c_a), veh/h	390	845	716	390	0	816	330	614	520	623	0	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	16.2	16.9	41.0	0.0	19.6	36.9	22.5	21.3	22.9	0.0	24.1
Incr Delay (d2), s/veh	8.6	1.1	1.7	3.1	0.0	3.2	97.4	0.2	0.1	0.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.1	4.4	1.4	0.0	8.4	16.4	2.6	0.7	3.1	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	17.3	18.6	44.1	0.0	22.8	134.3	22.8	21.3	23.2	0.0	24.7
LnGrp LOS	D	B	B	D	A	C	F	C	C	C	A	C
Approach Vol, veh/h		695			549			590			420	
Approach Delay, s/veh		23.2			25.2			94.5			24.0	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	45.9		34.6	12.2	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	5.0	13.4		12.4	7.8	20.2		32.0				
Green Ext Time (p_c), s	0.1	3.0		1.2	0.2	3.2		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		42.5	
HCM 6th LOS		D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	240	372	193	240	737	212	253	1239	114	230	1172	223
v/c Ratio	1.03	0.40	0.38	0.65	0.87	0.31	0.86	0.99	0.14	0.85	0.97	0.34
Control Delay	119.9	39.9	16.2	61.7	58.0	20.1	76.8	62.6	5.9	74.1	69.2	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.9	39.9	16.2	61.7	58.0	20.1	76.8	62.6	5.9	74.1	69.2	18.7
Queue Length 50th (ft)	~207	131	41	96	303	88	198	~557	12	184	~474	44
Queue Length 95th (ft)	#374	182	110	139	#403	147	#327	#695	43	#309	#646	113
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	233	930	510	425	846	712	318	1257	851	290	1207	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.40	0.38	0.56	0.87	0.30	0.80	0.99	0.13	0.79	0.97	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	365	189	235	722	208	248	1214	112	225	1149	219
Future Volume (veh/h)	235	365	189	235	722	208	248	1214	112	225	1149	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	372	193	240	737	212	253	1239	114	230	1172	223
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1091	487	301	931	646	280	1207	676	259	1166	520
Arrive On Green	0.13	0.31	0.31	0.09	0.26	0.26	0.16	0.34	0.34	0.05	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	240	372	193	240	737	212	253	1239	114	230	1172	223
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.5	10.1	12.0	8.5	24.1	11.4	17.4	42.5	5.6	16.0	41.0	16.4
Cycle Q Clear(g_c), s	16.5	10.1	12.0	8.5	24.1	11.4	17.4	42.5	5.6	16.0	41.0	16.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	1091	487	301	931	646	280	1207	676	259	1166	520
V/C Ratio(X)	1.02	0.34	0.40	0.80	0.79	0.33	0.90	1.03	0.17	0.89	1.01	0.43
Avail Cap(c_a), veh/h	235	1091	487	429	931	646	321	1207	676	292	1166	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	54.2	33.5	34.2	56.0	43.0	25.3	51.7	41.3	22.1	58.5	55.7	44.8
Incr Delay (d2), s/veh	64.1	0.9	2.4	6.8	6.8	1.4	25.4	32.9	0.5	21.0	25.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	4.6	5.0	4.0	11.6	4.6	9.7	23.6	0.1	9.2	23.6	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	118.4	34.4	36.6	62.8	49.8	26.7	77.1	74.2	22.7	79.5	80.9	46.9
LnGrp LOS	F	C	D	E	D	C	E	F	C	E	F	D
Approach Vol, veh/h		805			1189			1606			1625	
Approach Delay, s/veh		60.0			48.3			71.0			76.1	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.2	45.0	20.0	36.8	21.7	46.5	14.4	42.5
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	22.5	41.0	16.5	29.9	20.5	41.0	15.5	29.4
Max Q Clear Time (g_c+I1), s	19.4	43.0	18.5	26.1	18.0	44.5	10.5	14.0
Green Ext Time (p_c), s	0.2	0.0	0.0	2.0	0.2	0.0	0.4	2.9

Intersection Summary	
HCM 6th Ctrl Delay	65.7
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	6	61	10	6	5	57	96	14	1	51	0
Future Vol, veh/h	1	6	61	10	6	5	57	96	14	1	51	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	7	66	11	7	5	62	104	15	1	55	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.6	8.3	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	1%	48%	2%
Vol Thru, %	57%	9%	29%	98%
Vol Right, %	8%	90%	24%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	68	21	52
LT Vol	57	1	10	1
Through Vol	96	6	6	51
RT Vol	14	61	5	0
Lane Flow Rate	182	74	23	57
Geometry Grp	1	1	1	1
Degree of Util (X)	0.21	0.081	0.029	0.067
Departure Headway (Hd)	4.163	3.956	4.495	4.246
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	855	911	801	831
Service Time	2.225	1.957	2.498	2.337
HCM Lane V/C Ratio	0.213	0.081	0.029	0.069
HCM Control Delay	8.3	7.3	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.3	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	14	8	1	10	8	4	29	3	6	31	4
Future Vol, veh/h	5	14	8	1	10	8	4	29	3	6	31	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	15	9	1	11	9	4	32	3	7	34	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7	7.2	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	19%	5%	15%
Vol Thru, %	81%	52%	53%	76%
Vol Right, %	8%	30%	42%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	27	19	41
LT Vol	4	5	1	6
Through Vol	29	14	10	31
RT Vol	3	8	8	4
Lane Flow Rate	39	29	21	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.032	0.022	0.05
Departure Headway (Hd)	4.026	3.955	3.86	4.02
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	889	902	923	890
Service Time	2.054	1.995	1.902	2.048
HCM Lane V/C Ratio	0.044	0.032	0.023	0.051
HCM Control Delay	7.2	7.1	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.2

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	170	338	1389
v/c Ratio	0.18	0.19	1.06
Control Delay	8.1	7.8	62.3
Queue Delay	0.0	0.0	0.0
Total Delay	8.1	7.8	62.3
Queue Length 50th (ft)	27	28	~254
Queue Length 95th (ft)	54	46	#369
Internal Link Dist (ft)	200	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1309
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.18	0.19	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	155	0	0	308	1167	97
Future Volume (veh/h)	155	0	0	308	1167	97
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	170	0	0	338	1382	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	170	0	0	338	1382	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	2.7	0.0	0.0	2.8	20.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	2.8	20.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.18	0.00	0.00	0.19	1.02	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.4	0.0	0.0	7.4	16.3	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	29.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.8	12.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.8	0.0	0.0	7.5	46.0	0.0
LnGrp LOS	A	A	A	A	F	A
Approach Vol, veh/h	170			338	1382	
Approach Delay, s/veh	7.8			7.5	46.0	
Approach LOS	A			A	D	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	23.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	4.7				4.8	22.0
Green Ext Time (p_c), s	0.2				0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1490	289	1030	125	14	770	120	1160	302
v/c Ratio	0.93	1.31	0.56	0.45	0.03	0.53	0.44	0.82	0.59
Control Delay	46.4	207.7	20.5	49.3	45.1	30.8	56.1	45.1	28.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	207.7	20.5	49.3	45.1	30.8	56.1	45.1	28.7
Queue Length 50th (ft)	419	~278	265	50	10	135	44	298	128
Queue Length 95th (ft)	m#458	#452	328	81	m27	189	75	355	223
Internal Link Dist (ft)	538		243		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1607	221	1827	281	515	1445	281	1411	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	1.31	0.56	0.44	0.03	0.53	0.43	0.82	0.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1296	125	280	984	16	121	14	747	116	1125	293
Future Volume (veh/h)	24	1296	125	280	984	16	121	14	747	116	1125	293
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	1336	129	289	1014	16	125	14	770	120	1160	302
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1598	153	223	1869	29	263	516	998	263	1409	437
Arrive On Green	0.12	0.12	0.12	0.13	0.52	0.52	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	46	4461	428	1781	3581	56	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	532	467	490	289	503	527	125	14	770	120	1160	302
Grp Sat Flow(s),veh/h/ln	1760	1549	1625	1781	1777	1860	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	16.5	34.3	34.3	14.5	21.9	21.9	4.0	0.6	22.7	3.9	24.7	19.8
Cycle Q Clear(g_c), s	34.0	34.3	34.3	14.5	21.9	21.9	4.0	0.6	22.7	3.9	24.7	19.8
Prop In Lane	0.05		0.26	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	663	555	582	223	928	971	263	516	998	263	1409	437
V/C Ratio(X)	0.80	0.84	0.84	1.30	0.54	0.54	0.47	0.03	0.77	0.46	0.82	0.69
Avail Cap(c_a), veh/h	663	555	582	223	928	971	283	516	998	283	1409	437
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	0.37	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	47.9	47.9	50.8	18.5	18.5	51.4	30.6	38.6	51.3	39.4	37.6
Incr Delay (d2), s/veh	3.9	5.9	5.7	163.0	2.3	2.2	1.3	0.1	5.5	1.2	5.6	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.0	15.2	15.9	16.6	9.5	10.0	1.8	0.3	7.1	1.7	10.8	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	53.8	53.6	213.8	20.8	20.7	52.6	30.7	44.1	52.5	44.9	46.2
LnGrp LOS	D	D	D	F	C	C	D	C	D	D	D	D
Approach Vol, veh/h		1490			1319			909			1582	
Approach Delay, s/veh		52.8			63.0			45.1			45.8	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	37.1		65.6	13.3	37.1	19.0	46.6				
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0				
Max Green Setting (Gmax), s	9.5	31.9		60.0	9.5	* 32	14.5	41.0				
Max Q Clear Time (g_c+I1), s	5.9	24.7		23.9	6.0	26.7	16.5	36.3				
Green Ext Time (p_c), s	0.1	2.1		8.8	0.1	3.6	0.0	3.5				

Intersection Summary			
HCM 6th Ctrl Delay		51.9	
HCM 6th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	89	1213	94	937	480	18	157	106	248	235	116
v/c Ratio	0.61	0.93	0.59	0.70	0.54	0.28	0.37	0.37	0.82	0.27	0.24
Control Delay	81.1	13.1	56.8	37.5	14.0	54.3	47.8	11.6	63.0	35.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.1	13.1	56.8	37.5	14.0	54.3	47.8	11.6	63.0	35.8	7.7
Queue Length 50th (ft)	72	51	70	347	122	13	58	0	167	71	0
Queue Length 95th (ft)	m67	m#54	m127	434	196	34	82	46	#341	115	48
Internal Link Dist (ft)		930		538			474			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	148	1311	173	1338	897	111	741	415	307	895	487
Starvation Cap Reductn	0	0	0	0	18	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.93	0.54	0.70	0.55	0.16	0.21	0.26	0.81	0.26	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	1132	8	88	881	451	17	148	100	233	221	109
Future Volume (veh/h)	84	1132	8	88	881	451	17	148	100	233	221	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1204	9	94	937	480	18	157	106	248	235	116
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	2095	16	132	2062	920	230	775	346	265	775	346
Arrive On Green	0.15	1.00	1.00	0.07	0.58	0.58	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3615	27	1781	3554	1585	1030	3554	1585	1116	3554	1585
Grp Volume(v), veh/h	89	592	621	94	937	480	18	157	106	248	235	116
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1585	1030	1777	1585	1116	1777	1585
Q Serve(g_s), s	5.5	0.0	0.0	6.0	17.4	21.1	1.7	4.2	6.5	21.1	6.4	7.2
Cycle Q Clear(g_c), s	5.5	0.0	0.0	6.0	17.4	21.1	8.2	4.2	6.5	25.3	6.4	7.2
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1030	1081	132	2062	920	230	775	346	265	775	346
V/C Ratio(X)	0.68	0.57	0.57	0.71	0.45	0.52	0.08	0.20	0.31	0.94	0.30	0.34
Avail Cap(c_a), veh/h	144	1030	1081	175	2062	920	230	775	346	265	775	346
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	0.0	52.5	13.9	14.7	41.4	37.1	38.0	49.4	38.0	38.3
Incr Delay (d2), s/veh	0.9	0.2	0.2	5.9	0.6	1.7	0.1	0.1	0.5	38.1	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.1	0.1	2.9	7.1	7.9	0.5	1.8	2.6	10.1	2.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	0.2	0.2	58.4	14.5	16.4	41.5	37.2	38.5	87.5	38.2	38.8
LnGrp LOS	D	A	A	E	B	B	D	D	D	F	D	D
Approach Vol, veh/h		1302			1511			281			599	
Approach Delay, s/veh		3.6			17.8			38.0			58.7	
Approach LOS		A			B			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.2	71.8		31.0	13.1	71.9		31.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	11.4	35.4		* 25	9.4	37.4		* 24				
Max Q Clear Time (g_c+I1), s	8.0	2.0		27.3	7.5	23.1		10.2				
Green Ext Time (p_c), s	0.0	8.8		0.0	0.0	6.4		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	21.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	82	1320	203	809	129	67	81	167
v/c Ratio	0.59	1.14	0.82	0.56	0.75	0.25	0.26	1.16
Control Delay	68.7	108.7	61.7	52.1	72.2	44.5	6.5	162.0
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.7	108.8	61.7	52.1	72.2	44.5	6.5	162.0
Queue Length 50th (ft)	60	~604	162	335	94	45	0	~139
Queue Length 95th (ft)	#120	#744	m#355	404	153	83	28	#281
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	151	1161	248	1457	244	375	400	144
Starvation Cap Reductn	0	21	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	1.16	0.82	0.56	0.53	0.18	0.20	1.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	1081	120	185	724	12	117	61	74	20	90	42
Future Volume (veh/h)	75	1081	120	185	724	12	117	61	74	20	90	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	1188	132	203	796	13	129	67	81	22	99	46
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	2072	230	144	2380	39	213	295	250	56	175	74
Arrive On Green	0.06	0.64	0.64	0.03	0.22	0.22	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3225	358	1781	3578	58	1243	1870	1585	134	1110	473
Grp Volume(v), veh/h	82	653	667	203	395	414	129	67	81	167	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1806	1781	1777	1860	1243	1870	1585	1717	0	0
Q Serve(g_s), s	5.3	24.1	24.3	9.4	21.7	21.7	5.7	3.6	5.3	3.2	0.0	0.0
Cycle Q Clear(g_c), s	5.3	24.1	24.3	9.4	21.7	21.7	16.0	3.6	5.3	10.3	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.03	1.00		1.00	0.13		0.28
Lane Grp Cap(c), veh/h	104	1142	1160	144	1182	1237	213	295	250	306	0	0
V/C Ratio(X)	0.79	0.57	0.57	1.41	0.33	0.33	0.61	0.23	0.32	0.55	0.00	0.00
Avail Cap(c_a), veh/h	144	1142	1160	144	1182	1237	268	377	320	423	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.40	0.40	0.40	0.72	0.72	0.72	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	53.9	11.7	11.8	56.4	23.6	23.6	48.9	42.7	43.4	45.5	0.0	0.0
Incr Delay (d2), s/veh	5.1	0.8	0.8	209.9	0.5	0.5	1.0	0.1	0.3	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	9.4	9.6	12.9	10.5	11.0	3.7	1.7	2.1	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	12.6	12.6	266.4	24.2	24.2	49.9	42.8	43.7	46.0	0.0	0.0
LnGrp LOS	E	B	B	F	C	C	D	D	D	D	A	A
Approach Vol, veh/h		1402			1012			277			167	
Approach Delay, s/veh		15.3			72.8			46.4			46.0	
Approach LOS		B			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	81.8		22.9	14.0	79.1		22.9				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	9.4	38.4		23.4	9.4	38.4		26.4				
Max Q Clear Time (g_c+I1), s	7.3	23.7		18.0	11.4	26.3		12.3				
Green Ext Time (p_c), s	0.0	4.7		0.3	0.0	7.2		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		40.4	
HCM 6th LOS		D	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	577	379	344	263	66	892	564	365	1169
v/c Ratio	1.06	0.50	0.44	0.52	0.49	0.68	0.68	0.79	0.75
Control Delay	110.4	49.0	47.7	15.5	71.8	39.4	15.4	69.7	35.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.4	49.0	47.7	15.5	71.8	39.4	15.4	69.7	35.9
Queue Length 50th (ft)	~298	153	140	42	57	352	130	162	454
Queue Length 95th (ft)	#423	206	190	130	106	430	273	218	574
Internal Link Dist (ft)	1368		469			1567			427
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	542	761	784	510	189	1308	828	507	1561
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.50	0.44	0.52	0.35	0.68	0.68	0.72	0.75

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	442	31	364	330	252	63	856	541	350	1047	75
Future Volume (veh/h)	82	442	31	364	330	252	63	856	541	350	1047	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	460	32	379	344	262	66	892	564	365	1091	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	513	37	518	533	238	85	1480	660	433	1662	119
Arrive On Green	0.17	0.17	0.17	0.15	0.15	0.15	0.05	0.42	0.42	0.13	0.49	0.49
Sat Flow, veh/h	518	2945	214	3456	3554	1585	1781	3554	1585	3456	3364	240
Grp Volume(v), veh/h	303	0	274	379	344	262	66	892	564	365	576	593
Grp Sat Flow(s),veh/h/ln	1844	0	1832	1728	1777	1585	1781	1777	1585	1728	1777	1827
Q Serve(g_s), s	19.5	0.0	17.4	12.6	10.9	18.0	4.4	23.5	38.7	12.4	29.1	29.2
Cycle Q Clear(g_c), s	19.5	0.0	17.4	12.6	10.9	18.0	4.4	23.5	38.7	12.4	29.1	29.2
Prop In Lane	0.28		0.12	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	321	0	319	518	533	238	85	1480	660	433	878	903
V/C Ratio(X)	0.94	0.00	0.86	0.73	0.65	1.10	0.77	0.60	0.85	0.84	0.66	0.66
Avail Cap(c_a), veh/h	321	0	319	518	533	238	215	1480	660	576	878	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	0.0	48.1	48.7	48.0	51.0	56.5	27.3	31.7	51.3	22.7	22.8
Incr Delay (d2), s/veh	35.5	0.0	20.4	8.8	5.9	88.5	13.8	1.8	13.3	8.5	3.8	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	0.0	9.8	6.1	5.3	13.0	2.3	10.1	16.8	5.8	12.7	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.5	0.0	68.5	57.5	54.0	139.6	70.3	29.1	45.0	59.8	26.6	26.5
LnGrp LOS	F	A	E	E	D	F	E	C	D	E	C	C
Approach Vol, veh/h		577			985			1522			1534	
Approach Delay, s/veh		76.9			78.1			36.8			34.4	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	63.3		22.0	19.6	54.0		24.5				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	6.4	31.2		20.0	14.4	40.7		21.5				
Green Ext Time (p_c), s	0.1	4.8		0.0	0.7	5.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		49.8	
HCM 6th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	178	81	204	26	38	63	82	579	45	73	1332	286
v/c Ratio	0.26	0.10	0.25	0.04	0.05	0.09	0.52	0.38	0.08	0.56	0.92	0.53
Control Delay	16.0	20.8	3.8	14.2	23.9	0.9	62.4	33.8	0.3	75.5	39.9	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	20.8	3.8	14.2	23.9	0.9	62.4	33.8	0.3	75.5	39.9	19.7
Queue Length 50th (ft)	68	37	0	9	18	0	59	129	0	58	~190	52
Queue Length 95th (ft)	110	70	46	24	42	5	111	166	0	m68	m#423	m93
Internal Link Dist (ft)		405			458			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	699	839	825	727	708	671	181	1524	550	135	1451	538
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.10	0.25	0.04	0.05	0.09	0.45	0.38	0.08	0.54	0.92	0.53

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	77	194	25	36	60	78	550	43	69	1265	272
Future Volume (veh/h)	169	77	194	25	36	60	78	550	43	69	1265	272
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	81	204	26	38	63	82	579	45	73	1332	286
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	723	841	713	596	779	660	114	1404	436	111	1396	433
Arrive On Green	0.08	0.45	0.45	0.04	0.42	0.42	0.06	0.28	0.28	0.06	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	178	81	204	26	38	63	82	579	45	73	1332	286
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.4	2.9	9.4	0.9	1.4	2.8	5.2	10.8	2.5	4.6	29.7	18.6
Cycle Q Clear(g_c), s	6.4	2.9	9.4	0.9	1.4	2.8	5.2	10.8	2.5	4.6	29.7	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	723	841	713	596	779	660	114	1404	436	111	1396	433
V/C Ratio(X)	0.25	0.10	0.29	0.04	0.05	0.10	0.72	0.41	0.10	0.66	0.95	0.66
Avail Cap(c_a), veh/h	789	841	713	753	779	660	183	1404	436	137	1396	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.27	0.27	0.27
Uniform Delay (d), s/veh	15.9	18.4	20.2	17.1	20.2	20.6	53.3	34.4	31.4	53.2	41.4	37.4
Incr Delay (d2), s/veh	0.2	0.2	1.0	0.0	0.1	0.3	8.2	0.9	0.5	2.2	5.7	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.3	3.7	0.4	0.6	1.1	2.6	4.5	1.0	2.1	12.9	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	18.6	21.2	17.2	20.3	20.9	61.4	35.3	31.9	55.4	47.1	39.5
LnGrp LOS	B	B	C	B	C	C	E	D	C	E	D	D
Approach Vol, veh/h		463			127			706			1691	
Approach Delay, s/veh		18.8			19.9			38.1			46.2	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	36.8	13.7	53.0	12.3	37.0	9.8	56.9
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	11.9	28.9	* 13	* 42	8.9	31.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	7.2	31.7	8.4	4.8	6.6	12.8	2.9	11.4
Green Ext Time (p_c), s	0.1	0.0	0.2	0.4	0.0	3.8	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	774	255	17	122	18	36	346
v/c Ratio	1.64dl	0.27	0.12	0.29	0.04	0.25	0.73
Control Delay	253.3	26.6	43.1	32.7	0.2	44.7	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	253.3	26.6	43.1	32.7	0.2	44.7	36.5
Queue Length 50th (ft)	~345	61	10	61	0	21	137
Queue Length 95th (ft)	#476	96	31	114	0	51	#307
Internal Link Dist (ft)	447	311		392			959
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	523	941	317	417	446	317	476
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.48	0.27	0.05	0.29	0.04	0.11	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	484	78	24	181	24	15	110	16	32	132	179
Future Volume (veh/h)	134	484	78	24	181	24	15	110	16	32	132	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	538	87	27	201	27	17	122	18	36	147	199
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	668	113	98	758	106	48	411	348	82	172	233
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.03	0.22	0.22	0.05	0.24	0.24
Sat Flow, veh/h	668	2534	428	372	2875	402	1781	1870	1585	1781	720	975
Grp Volume(v), veh/h	410	0	364	134	0	121	17	122	18	36	0	346
Grp Sat Flow(s),veh/h/ln	1837	0	1793	1852	0	1798	1781	1870	1585	1781	0	1695
Q Serve(g_s), s	19.2	0.0	17.1	5.2	0.0	4.8	0.9	5.0	0.8	1.8	0.0	17.8
Cycle Q Clear(g_c), s	19.2	0.0	17.1	5.2	0.0	4.8	0.9	5.0	0.8	1.8	0.0	17.8
Prop In Lane	0.36		0.24	0.20		0.22	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	485	0	473	488	0	474	48	411	348	82	0	405
V/C Ratio(X)	0.85	0.00	0.77	0.28	0.00	0.25	0.36	0.30	0.05	0.44	0.00	0.85
Avail Cap(c_a), veh/h	485	0	473	488	0	474	313	411	348	313	0	405
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	30.9	26.6	0.0	26.4	43.5	29.6	28.0	42.3	0.0	33.1
Incr Delay (d2), s/veh	16.4	0.0	11.5	1.4	0.0	1.3	1.7	1.8	0.3	1.4	0.0	20.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	0.0	8.7	2.5	0.0	2.2	0.4	2.4	0.3	0.8	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	0.0	42.4	28.0	0.0	27.7	45.1	31.5	28.3	43.6	0.0	53.1
LnGrp LOS	D	A	D	C	A	C	D	C	C	D	A	D
Approach Vol, veh/h		774			255			157			382	
Approach Delay, s/veh		45.5			27.9			32.6			52.2	
Approach LOS		D			C			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	8.9	24.7		28.7	7.1	26.4				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		21.2	3.8	7.0		7.2	2.9	19.8				
Green Ext Time (p_c), s		1.0	0.0	0.3		0.8	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	407	94	268	1161	178	131	1146	116
v/c Ratio	0.44	0.48	0.58	0.32	0.62	0.20	0.64	0.47	0.10
Control Delay	47.8	42.9	58.4	37.4	6.5	1.6	66.4	9.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	42.9	58.4	37.4	6.5	1.6	66.4	9.3	3.6
Queue Length 50th (ft)	69	148	68	87	76	3	103	198	14
Queue Length 95th (ft)	127	200	#132	127	m83	m5	163	241	33
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	226	843	161	839	1873	912	297	2463	1118
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.48	0.58	0.32	0.62	0.20	0.44	0.47	0.10

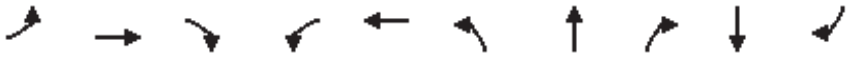
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	382	17	92	216	47	4	1134	174	128	1123	114
Future Volume (veh/h)	98	382	17	92	216	47	4	1134	174	128	1123	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	390	17	94	220	48	4	1157	178	131	1146	116
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	1104	48	284	927	198	30	1752	799	159	2193	978
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.09	0.62	0.62
Sat Flow, veh/h	1111	3469	151	978	2912	623	3	3476	1585	1781	3554	1585
Grp Volume(v), veh/h	100	199	208	94	133	135	622	539	178	131	1146	116
Grp Sat Flow(s),veh/h/ln	1111	1777	1843	978	1777	1758	1862	1617	1585	1781	1777	1585
Q Serve(g_s), s	9.1	10.8	10.8	10.2	6.9	7.1	0.0	31.0	7.8	9.0	22.8	3.8
Cycle Q Clear(g_c), s	16.2	10.8	10.8	21.0	6.9	7.1	30.9	31.0	7.8	9.0	22.8	3.8
Prop In Lane	1.00		0.08	1.00		0.35	0.01		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	565	586	284	565	559	967	815	799	159	2193	978
V/C Ratio(X)	0.29	0.35	0.35	0.33	0.23	0.24	0.64	0.66	0.22	0.83	0.52	0.12
Avail Cap(c_a), veh/h	348	565	586	284	565	559	967	815	799	299	2193	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	0.32	0.32	0.32	0.67	0.67	0.67
Uniform Delay (d), s/veh	37.5	32.7	32.7	40.8	31.4	31.5	23.0	23.1	17.3	56.0	13.5	9.9
Incr Delay (d2), s/veh	2.1	1.7	1.7	3.0	0.9	1.0	1.1	1.4	0.2	7.2	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.9	5.1	2.7	3.1	3.2	13.4	11.7	2.9	4.3	8.8	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	34.4	34.4	43.8	32.3	32.5	24.1	24.4	17.5	63.1	14.1	10.1
LnGrp LOS	D	C	C	D	C	C	C	C	B	E	B	B
Approach Vol, veh/h		507			362			1339			1393	
Approach Delay, s/veh		35.4			35.4			23.4			18.4	
Approach LOS		D			D			C			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		81.1		43.9	14.1	67.0		43.9				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		67.0		29.9	21.0	63.0		25.4				
Max Q Clear Time (g_c+I1), s		24.8		23.0	11.0	33.0		18.2				
Green Ext Time (p_c), s		11.3		1.1	0.2	9.8		1.6				

Intersection Summary												
HCM 6th Ctrl Delay			24.4									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	207	504	473	29	321	299	138	38	137	87
v/c Ratio	0.72	0.49	0.48	0.19	0.42	0.90	0.26	0.08	0.28	0.17
Control Delay	53.5	17.8	8.9	47.0	23.6	64.9	29.3	3.0	29.5	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	17.8	8.9	47.0	23.6	64.9	29.3	3.0	29.5	7.1
Queue Length 50th (ft)	127	220	85	18	145	180	67	0	67	0
Queue Length 95th (ft)	204	327	177	47	233	#345	122	11	121	36
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	366	1020	981	366	762	368	577	535	550	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.49	0.48	0.08	0.42	0.81	0.24	0.07	0.25	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	479	449	28	278	27	284	131	36	18	112	83
Future Volume (veh/h)	197	479	449	28	278	27	284	131	36	18	112	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	504	473	29	293	28	299	138	38	19	118	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	943	799	80	692	66	374	578	490	89	505	490
Arrive On Green	0.14	0.50	0.50	0.04	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	1870	1585	1781	1681	161	1177	1870	1585	152	1635	1585
Grp Volume(v), veh/h	207	504	473	29	0	321	299	138	38	137	0	87
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1841	1177	1870	1585	1787	0	1585
Q Serve(g_s), s	11.0	17.8	20.5	1.5	0.0	12.1	24.7	5.3	1.6	0.0	0.0	3.9
Cycle Q Clear(g_c), s	11.0	17.8	20.5	1.5	0.0	12.1	30.0	5.3	1.6	5.3	0.0	3.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	0.14		1.00
Lane Grp Cap(c), veh/h	244	943	799	80	0	759	374	578	490	594	0	490
V/C Ratio(X)	0.85	0.53	0.59	0.36	0.00	0.42	0.80	0.24	0.08	0.23	0.00	0.18
Avail Cap(c_a), veh/h	367	943	799	367	0	759	374	578	490	594	0	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.9	16.3	17.0	45.0	0.0	20.3	36.2	25.0	23.8	25.0	0.0	24.5
Incr Delay (d2), s/veh	11.3	2.2	3.2	2.8	0.0	1.7	11.7	0.2	0.1	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	8.0	7.9	0.7	0.0	5.5	8.2	2.4	0.6	2.4	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	18.5	20.2	47.8	0.0	22.1	47.9	25.2	23.8	25.2	0.0	24.7
LnGrp LOS	D	B	C	D	A	C	D	C	C	C	A	C
Approach Vol, veh/h		1184			350			475			224	
Approach Delay, s/veh		25.1			24.2			39.4			25.0	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	53.6		34.6	17.9	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	3.5	22.5		7.3	13.0	14.1		32.0				
Green Ext Time (p_c), s	0.0	5.1		0.8	0.3	2.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		28.0	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	318	818	297	122	361	206	256	1037	86	218	1225	111
v/c Ratio	1.02	0.67	0.49	0.45	0.41	0.29	0.85	0.98	0.12	0.79	1.21	0.22
Control Delay	107.6	38.6	25.6	60.1	41.2	18.4	75.7	66.7	7.4	64.8	144.4	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.6	38.6	25.6	60.1	41.2	18.4	75.7	66.7	7.4	64.8	144.4	19.5
Queue Length 50th (ft)	~273	295	130	49	129	81	200	~444	6	172	~667	33
Queue Length 95th (ft)	#458	380	225	79	177	133	#326	#626	39	255	#813	81
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	311	1220	604	604	874	757	325	1060	839	325	1012	508
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.67	0.49	0.20	0.41	0.27	0.79	0.98	0.10	0.67	1.21	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	308	793	288	118	350	200	248	1006	83	211	1188	108
Future Volume (veh/h)	308	793	288	118	350	200	248	1006	83	211	1188	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	318	818	297	122	361	206	256	1037	86	218	1225	111
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	1407	627	181	967	653	283	1035	544	249	967	431
Arrive On Green	0.18	0.40	0.40	0.05	0.27	0.27	0.16	0.29	0.29	0.05	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	318	818	297	122	361	206	256	1037	86	218	1225	111
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	22.0	22.6	17.4	4.3	10.3	11.0	17.6	36.4	4.7	15.2	34.0	8.2
Cycle Q Clear(g_c), s	22.0	22.6	17.4	4.3	10.3	11.0	17.6	36.4	4.7	15.2	34.0	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	1407	627	181	967	653	283	1035	544	249	967	431
V/C Ratio(X)	1.01	0.58	0.47	0.67	0.37	0.32	0.90	1.00	0.16	0.87	1.27	0.26
Avail Cap(c_a), veh/h	314	1407	627	608	967	653	328	1035	544	328	967	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	51.5	29.6	28.1	58.2	36.9	24.8	51.6	44.3	28.5	58.5	56.9	45.1
Incr Delay (d2), s/veh	54.5	1.8	2.6	4.3	1.1	1.3	24.9	28.5	0.6	16.3	127.6	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	10.1	7.1	2.0	4.7	4.4	9.8	19.8	1.9	8.4	33.4	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.0	31.4	30.6	62.5	38.0	26.1	76.5	72.8	29.1	74.9	184.5	46.4
LnGrp LOS	F	C	C	E	D	C	E	F	C	E	F	D
Approach Vol, veh/h		1433			689			1379			1554	
Approach Delay, s/veh		47.8			38.8			70.8			159.3	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.4	38.0	25.5	38.1	21.0	40.4	10.0	53.6
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	23.0	34.0	22.0	30.9	23.0	33.0	22.0	29.9
Max Q Clear Time (g_c+I1), s	19.6	36.0	24.0	13.0	17.2	38.4	6.3	24.6
Green Ext Time (p_c), s	0.2	0.0	0.0	3.0	0.3	0.0	0.3	3.0

Intersection Summary	
HCM 6th Ctrl Delay	87.1
HCM 6th LOS	F

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	8	45	11	23	2	99	87	10	2	67	0
Future Vol, veh/h	2	8	45	11	23	2	99	87	10	2	67	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	49	12	25	2	108	95	11	2	73	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.9	8.8	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	51%	4%	31%	3%
Vol Thru, %	44%	15%	64%	97%
Vol Right, %	5%	82%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	55	36	69
LT Vol	99	2	11	2
Through Vol	87	8	23	67
RT Vol	10	45	2	0
Lane Flow Rate	213	60	39	75
Geometry Grp	1	1	1	1
Degree of Util (X)	0.251	0.069	0.051	0.091
Departure Headway (Hd)	4.234	4.148	4.679	4.385
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	837	867	769	820
Service Time	2.318	2.153	2.686	2.396
HCM Lane V/C Ratio	0.254	0.069	0.051	0.091
HCM Control Delay	8.8	7.5	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.2	0.3

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	14	2	3	12	3	6	23	2	0	72	8
Future Vol, veh/h	2	14	2	3	12	3	6	23	2	0	72	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	15	2	3	13	3	7	25	2	0	78	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.2	7.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	11%	17%	0%
Vol Thru, %	74%	78%	67%	90%
Vol Right, %	6%	11%	17%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	18	18	80
LT Vol	6	2	3	0
Through Vol	23	14	12	72
RT Vol	2	2	3	8
Lane Flow Rate	34	20	20	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.022	0.022	0.096
Departure Headway (Hd)	4.066	4.113	4.09	3.966
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	878	864	868	903
Service Time	2.102	2.169	2.147	1.992
HCM Lane V/C Ratio	0.039	0.023	0.023	0.096
HCM Control Delay	7.3	7.3	7.2	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.3

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	1	18	12	1	14	76	208	8	9	227	157
Future Vol, veh/h	31	1	18	12	1	14	76	208	8	9	227	157
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	1	20	13	1	15	83	226	9	10	247	171

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	758	754	333	760	835	231	418	0	0	235	0	0
Stage 1	353	353	-	397	397	-	-	-	-	-	-	-
Stage 2	405	401	-	363	438	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	324	338	709	323	304	808	1141	-	-	1332	-	-
Stage 1	664	631	-	629	603	-	-	-	-	-	-	-
Stage 2	622	601	-	656	579	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	298	311	709	294	280	808	1141	-	-	1332	-	-
Mov Cap-2 Maneuver	298	311	-	294	280	-	-	-	-	-	-	-
Stage 1	616	626	-	583	559	-	-	-	-	-	-	-
Stage 2	565	557	-	632	574	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	13.8	2.2	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1141	-	-	377	437	1332	-	-
HCM Lane V/C Ratio	0.072	-	-	0.144	0.067	0.007	-	-
HCM Control Delay (s)	8.4	-	-	16.2	13.8	7.7	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1	4	282	249	9
Future Vol, veh/h	2	1	4	282	249	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	4	307	271	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	591	276	281	0	-	0
Stage 1	276	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	470	763	1282	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	469	763	1282	-	-	-
Mov Cap-2 Maneuver	558	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	740	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1282	-	613	-	-
HCM Lane V/C Ratio	0.003	-	0.005	-	-
HCM Control Delay (s)	7.8	-	10.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	313	224	1361
v/c Ratio	0.34	0.13	1.04
Control Delay	9.4	7.4	55.2
Queue Delay	0.0	0.0	0.0
Total Delay	9.4	7.4	55.2
Queue Length 50th (ft)	54	17	~244
Queue Length 95th (ft)	98	32	#358
Internal Link Dist (ft)	135	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1309
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.34	0.13	1.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	300	0	0	215	1197	109
Future Volume (veh/h)	300	0	0	215	1197	109
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	312	0	0	224	1353	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	312	0	0	224	1353	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	5.3	0.0	0.0	1.8	20.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.0	1.8	20.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.34	0.00	0.00	0.13	1.00	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	7.2	16.3	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.0	24.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	0.5	11.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.1	0.0	0.0	7.2	40.4	0.0
LnGrp LOS	A	A	A	A	D	A
Approach Vol, veh/h	312			224	1353	
Approach Delay, s/veh	9.1			7.2	40.4	
Approach LOS	A			A	D	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		29.6				29.6	23.0
Change Period (Y+Rc), s		3.6				3.6	3.0
Max Green Setting (Gmax), s		26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s		7.3				3.8	22.0
Green Ext Time (p_c), s		0.3				0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1106	183	1216	334	11	1087	110	1072	372
v/c Ratio	0.72	0.86	0.71	0.75	0.02	0.67	0.43	0.79	0.71
Control Delay	41.2	88.4	27.8	85.5	20.6	6.5	60.9	47.9	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	88.4	27.8	85.5	20.6	6.5	60.9	47.9	35.0
Queue Length 50th (ft)	243	147	392	145	4	21	44	300	179
Queue Length 95th (ft)	m290	#273	475	197	m9	36	75	357	300
Internal Link Dist (ft)	538		219		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1527	219	1723	480	598	1612	260	1356	521
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.84	0.71	0.70	0.02	0.67	0.42	0.79	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	870	135	168	1099	19	307	10	1000	101	986	342
Future Volume (veh/h)	12	870	135	168	1099	19	307	10	1000	101	986	342
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	946	147	183	1195	21	334	11	1087	110	1072	372
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	1447	223	209	1764	31	394	597	1154	243	1407	437
Arrive On Green	0.23	0.23	0.23	0.12	0.49	0.49	0.11	0.32	0.32	0.07	0.28	0.28
Sat Flow, veh/h	24	4251	654	1781	3573	63	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	403	347	356	183	594	622	334	11	1087	110	1072	372
Grp Sat Flow(s),veh/h/ln	1796	1549	1584	1781	1777	1859	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	0.6	25.4	25.5	12.6	31.8	31.8	11.8	0.5	36.6	3.8	24.1	27.8
Cycle Q Clear(g_c), s	24.4	25.4	25.5	12.6	31.8	31.8	11.8	0.5	36.6	3.8	24.1	27.8
Prop In Lane	0.03		0.41	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	641	527	539	209	877	918	394	597	1154	243	1407	437
V/C Ratio(X)	0.63	0.66	0.66	0.88	0.68	0.68	0.85	0.02	0.94	0.45	0.76	0.85
Avail Cap(c_a), veh/h	641	527	539	221	877	918	484	597	1154	263	1407	437
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	41.6	41.7	54.3	24.1	24.1	54.3	29.1	41.4	55.8	41.5	42.9
Incr Delay (d2), s/veh	3.0	4.1	4.1	29.3	4.2	4.0	10.1	0.1	14.5	1.3	4.0	18.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	10.8	11.1	7.4	14.4	15.0	5.7	0.2	12.2	1.7	10.5	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	45.8	45.8	83.6	28.3	28.1	64.4	29.2	56.0	57.1	45.5	61.4
LnGrp LOS	D	D	D	F	C	C	E	C	E	E	D	E
Approach Vol, veh/h		1106			1399			1432			1554	
Approach Delay, s/veh		45.2			35.4			57.7			50.1	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	45.0		66.7	18.8	39.5	19.2	47.5				
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0				
Max Green Setting (Gmax), s	9.5	39.9		61.0	17.5	* 32	15.5	41.0				
Max Q Clear Time (g_c+I1), s	5.8	38.6		33.8	13.8	29.8	14.6	27.5				
Green Ext Time (p_c), s	0.1	0.7		10.2	0.4	1.6	0.0	6.2				

Intersection Summary			
HCM 6th Ctrl Delay		47.4	
HCM 6th LOS		D	

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	716	58	1033	709	59	388	98	236	263	157
v/c Ratio	0.68	0.61	0.45	1.11	0.88	1.00	0.44	0.20	1.16	0.35	0.35
Control Delay	67.5	58.6	71.7	97.9	20.9	166.4	41.3	3.2	155.7	43.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.5	58.6	71.7	97.9	23.2	166.4	41.3	3.2	155.7	43.7	10.6
Queue Length 50th (ft)	121	316	41	~507	251	48	140	0	~225	96	8
Queue Length 95th (ft)	m189	383	m63	#717	#444	#142	189	20	#391	137	67
Internal Link Dist (ft)		930		538			448			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	288	1167	133	934	805	59	886	497	204	744	446
Starvation Cap Reductn	0	0	0	0	36	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.61	0.44	1.11	0.92	1.00	0.44	0.20	1.16	0.35	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	660	20	55	981	674	56	369	93	224	250	149
Future Volume (veh/h)	135	660	20	55	981	674	56	369	93	224	250	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	695	21	58	1033	709	59	388	98	236	263	157
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	2141	65	111	2042	911	200	748	333	161	748	333
Arrive On Green	0.03	0.20	0.20	0.06	0.57	0.57	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	3522	106	1781	3554	1585	967	3554	1585	910	3554	1585
Grp Volume(v), veh/h	142	351	365	58	1033	709	59	388	98	236	263	157
Grp Sat Flow(s),veh/h/ln	1781	1777	1851	1781	1777	1585	967	1777	1585	910	1777	1585
Q Serve(g_s), s	9.9	21.1	21.1	3.9	21.8	43.0	6.9	12.1	6.5	14.2	7.9	10.9
Cycle Q Clear(g_c), s	9.9	21.1	21.1	3.9	21.8	43.0	14.8	12.1	6.5	26.3	7.9	10.9
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	1080	1126	111	2042	911	200	748	333	161	748	333
V/C Ratio(X)	0.83	0.32	0.32	0.52	0.51	0.78	0.30	0.52	0.29	1.47	0.35	0.47
Avail Cap(c_a), veh/h	291	1080	1126	134	2042	911	239	890	397	161	748	333
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	28.0	28.0	56.8	16.0	20.5	48.4	43.7	41.5	57.9	42.1	43.3
Incr Delay (d2), s/veh	6.6	0.7	0.7	1.8	0.6	4.2	0.8	0.6	0.5	240.4	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	10.3	10.7	1.8	9.0	16.6	1.7	5.4	2.6	15.9	3.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.1	28.7	28.7	58.6	16.5	24.7	49.2	44.3	42.0	298.4	42.4	44.3
LnGrp LOS	E	C	C	E	B	C	D	D	D	F	D	D
Approach Vol, veh/h		858			1800			545			656	
Approach Delay, s/veh		34.9			21.1			44.4			134.9	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	80.6		32.0	16.6	76.4		32.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	9.4	38.4		* 26	20.4	27.4		* 31				
Max Q Clear Time (g_c+I1), s	5.9	23.1		28.3	11.9	45.0		16.8				
Green Ext Time (p_c), s	0.0	3.5		0.0	0.2	0.0		2.7				

Intersection Summary												
HCM 6th Ctrl Delay			46.8									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	84	822	88	1212	153	122	170	135
v/c Ratio	0.57	0.51	0.73	0.77	0.82	0.44	0.45	0.95
Control Delay	69.5	26.7	88.4	12.1	81.9	52.2	10.3	109.0
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.5	27.1	88.4	12.1	81.9	52.2	10.3	109.0
Queue Length 50th (ft)	67	252	75	77	120	90	0	99
Queue Length 95th (ft)	118	345	m80	m86	#195	147	61	#209
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	203	1613	134	1576	234	348	434	172
Starvation Cap Reductn	0	299	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.63	0.66	0.77	0.65	0.35	0.39	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	710	96	86	1162	25	150	120	167	10	91	31
Future Volume (veh/h)	82	710	96	86	1162	25	150	120	167	10	91	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	724	98	88	1186	26	153	122	170	10	93	32
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	2098	284	109	2378	52	232	302	256	40	207	67
Arrive On Green	0.06	0.67	0.67	0.12	1.00	1.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3145	425	1781	3555	78	1266	1870	1585	58	1281	416
Grp Volume(v), veh/h	84	409	413	88	593	619	153	122	170	135	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1794	1781	1777	1856	1266	1870	1585	1754	0	0
Q Serve(g_s), s	5.8	12.4	12.5	6.0	0.0	0.0	9.2	7.3	12.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.8	12.4	12.5	6.0	0.0	0.0	17.7	7.3	12.6	8.5	0.0	0.0
Prop In Lane	1.00		0.24	1.00		0.04	1.00		1.00	0.07		0.24
Lane Grp Cap(c), veh/h	106	1185	1197	109	1188	1241	232	302	256	314	0	0
V/C Ratio(X)	0.79	0.34	0.35	0.81	0.50	0.50	0.66	0.40	0.66	0.43	0.00	0.00
Avail Cap(c_a), veh/h	205	1185	1197	134	1188	1241	265	350	297	399	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	58.0	9.0	9.0	54.1	0.0	0.0	52.3	47.0	49.2	47.5	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.5	0.5	2.3	0.1	0.1	3.3	0.3	2.9	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.9	4.9	2.7	0.0	0.0	4.9	3.4	5.2	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	9.5	9.5	56.4	0.1	0.1	55.6	47.3	52.2	47.9	0.0	0.0
LnGrp LOS	E	A	A	E	A	A	E	D	D	D	A	A
Approach Vol, veh/h		906			1300			445			135	
Approach Delay, s/veh		14.3			3.9			52.0			47.9	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	88.2		24.8	12.2	88.0		24.8				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	14.4	42.4		23.4	9.4	47.4		26.4				
Max Q Clear Time (g_c+I1), s	7.8	2.0		19.7	8.0	14.5		10.5				
Green Ext Time (p_c), s	0.0	11.6		0.4	0.0	6.4		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		17.1	
HCM 6th LOS		B	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	476	341	494	482	75	1292	401	290	1086
v/c Ratio	0.90	0.44	0.62	0.86	0.52	0.97	0.56	0.69	0.71
Control Delay	75.2	46.7	50.5	38.5	72.0	58.6	20.0	65.1	34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.2	46.7	50.5	38.5	72.0	58.6	20.0	65.1	34.5
Queue Length 50th (ft)	210	131	204	198	63	576	140	125	409
Queue Length 95th (ft)	#315	186	273	#406	116	#768	256	175	517
Internal Link Dist (ft)	1368		469			1567			283
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	550	778	802	561	194	1337	717	519	1527
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.44	0.62	0.86	0.39	0.97	0.56	0.56	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	270	53	327	474	463	72	1240	385	278	922	121
Future Volume (veh/h)	134	270	53	327	474	463	72	1240	385	278	922	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	281	55	341	494	482	75	1292	401	290	960	126
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	346	70	543	559	249	97	1552	692	363	1540	202
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.44	0.44	0.11	0.49	0.49
Sat Flow, veh/h	1017	2157	437	3456	3554	1585	1781	3554	1585	3456	3158	414
Grp Volume(v), veh/h	251	0	225	341	494	482	75	1292	401	290	540	546
Grp Sat Flow(s),veh/h/ln	1820	0	1792	1728	1777	1585	1781	1777	1585	1728	1777	1796
Q Serve(g_s), s	15.4	0.0	13.8	10.6	15.6	18.0	4.8	36.8	21.8	9.4	25.6	25.6
Cycle Q Clear(g_c), s	15.4	0.0	13.8	10.6	15.6	18.0	4.8	36.8	21.8	9.4	25.6	25.6
Prop In Lane	0.56		0.24	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	292	0	287	543	559	249	97	1552	692	363	866	876
V/C Ratio(X)	0.86	0.00	0.78	0.63	0.88	1.93	0.78	0.83	0.58	0.80	0.62	0.62
Avail Cap(c_a), veh/h	332	0	327	543	559	249	226	1552	692	604	866	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	46.2	45.1	47.2	48.2	53.5	28.5	24.3	50.0	21.6	21.6
Incr Delay (d2), s/veh	18.0	0.0	10.6	5.4	18.2	434.8	12.5	5.4	3.5	4.1	3.4	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.0	7.0	5.0	8.3	37.2	2.4	16.2	8.6	4.2	11.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.8	0.0	56.7	50.5	65.4	483.0	65.9	33.9	27.8	54.1	25.0	24.9
LnGrp LOS	E	A	E	D	E	F	E	C	C	D	C	C
Approach Vol, veh/h		476			1317			1768			1376	
Approach Delay, s/veh		61.0			214.4			33.9			31.1	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	59.8		22.0	16.5	54.0		21.9				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	6.8	27.6		20.0	11.4	38.8		17.4				
Green Ext Time (p_c), s	0.1	5.5		0.0	0.6	7.4		1.0				

Intersection Summary			
HCM 6th Ctrl Delay		83.9	
HCM 6th LOS		F	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	214	51	109	45	89	104	122	911	26	54	957	371
v/c Ratio	0.35	0.07	0.15	0.08	0.14	0.16	0.66	0.51	0.04	0.45	0.64	0.61
Control Delay	20.9	25.6	2.0	18.0	29.3	1.9	69.9	34.0	0.1	50.4	62.9	47.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	25.6	2.0	18.0	29.3	1.9	69.9	34.0	0.1	50.4	62.9	47.5
Queue Length 50th (ft)	99	26	0	19	50	0	96	220	0	46	297	233
Queue Length 95th (ft)	153	55	17	41	90	15	160	265	0	m58	350	m318
Internal Link Dist (ft)		299			401			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	626	738	716	680	643	643	225	1784	620	126	1489	611
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.07	0.15	0.07	0.14	0.16	0.54	0.51	0.04	0.43	0.64	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	49	105	43	85	100	117	875	25	52	919	356
Future Volume (veh/h)	205	49	105	43	85	100	117	875	25	52	919	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	214	51	109	45	89	104	122	911	26	54	957	371
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	623	757	642	616	697	591	148	1671	519	97	1523	473
Arrive On Green	0.09	0.40	0.40	0.06	0.37	0.37	0.08	0.33	0.33	0.05	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	214	51	109	45	89	104	122	911	26	54	957	371
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	9.0	2.1	5.5	1.8	3.9	5.5	8.4	18.3	1.4	3.7	20.2	26.8
Cycle Q Clear(g_c), s	9.0	2.1	5.5	1.8	3.9	5.5	8.4	18.3	1.4	3.7	20.2	26.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	623	757	642	616	697	591	148	1671	519	97	1523	473
V/C Ratio(X)	0.34	0.07	0.17	0.07	0.13	0.18	0.82	0.55	0.05	0.56	0.63	0.78
Avail Cap(c_a), veh/h	653	757	642	733	697	591	227	1671	519	127	1523	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.50	0.50
Uniform Delay (d), s/veh	19.9	22.8	23.8	20.9	25.8	26.3	56.4	34.4	28.8	57.7	37.9	40.2
Incr Delay (d2), s/veh	0.3	0.2	0.6	0.0	0.4	0.6	13.4	1.3	0.2	2.5	1.0	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	1.0	2.2	0.8	1.8	2.2	4.3	7.7	0.6	1.7	8.5	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	22.9	24.3	20.9	26.2	27.0	69.8	35.7	28.9	60.2	38.9	46.7
LnGrp LOS	C	C	C	C	C	C	E	D	C	E	D	D
Approach Vol, veh/h		374			238			1059			1382	
Approach Delay, s/veh		21.8			25.5			39.5			41.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	42.4	15.8	51.3	11.9	46.0	11.8	55.3
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	15.9	33.9	* 13	* 42	8.9	40.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	10.4	28.8	11.0	7.5	5.7	20.3	3.8	7.5
Green Ext Time (p_c), s	0.1	3.2	0.1	0.8	0.0	6.4	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	333	490	43	128	32	42	333
v/c Ratio	1.26dl	0.52	0.29	0.31	0.07	0.28	0.74
Control Delay	33.7	30.8	45.5	33.0	0.3	45.4	34.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	30.8	45.5	33.0	0.3	45.4	34.9
Queue Length 50th (ft)	88	131	25	65	0	24	132
Queue Length 95th (ft)	141	187	58	120	0	57	#271
Internal Link Dist (ft)	447	490		392			959
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	563	944	316	417	446	316	450
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.52	0.14	0.31	0.07	0.13	0.74

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	173	34	19	412	34	41	122	30	40	96	220
Future Volume (veh/h)	109	173	34	19	412	34	41	122	30	40	96	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	182	36	20	434	36	43	128	32	42	101	232
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	527	107	38	854	74	91	410	348	89	110	253
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.05	0.22	0.22	0.05	0.22	0.22
Sat Flow, veh/h	1192	2007	409	144	3255	283	1781	1870	1585	1781	504	1158
Grp Volume(v), veh/h	175	0	158	259	0	231	43	128	32	42	0	333
Grp Sat Flow(s),veh/h/ln	1811	0	1797	1863	0	1819	1781	1870	1585	1781	0	1662
Q Serve(g_s), s	7.2	0.0	6.5	10.9	0.0	9.8	2.1	5.2	1.5	2.1	0.0	17.9
Cycle Q Clear(g_c), s	7.2	0.0	6.5	10.9	0.0	9.8	2.1	5.2	1.5	2.1	0.0	17.9
Prop In Lane	0.66		0.23	0.08		0.16	1.00		1.00	1.00		0.70
Lane Grp Cap(c), veh/h	475	0	472	489	0	477	91	410	348	89	0	363
V/C Ratio(X)	0.37	0.00	0.34	0.53	0.00	0.48	0.47	0.31	0.09	0.47	0.00	0.92
Avail Cap(c_a), veh/h	475	0	472	489	0	477	312	410	348	312	0	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	27.3	28.9	0.0	28.5	42.2	29.9	28.4	42.2	0.0	34.9
Incr Delay (d2), s/veh	2.2	0.0	1.9	4.1	0.0	3.5	1.4	2.0	0.5	1.4	0.0	30.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	3.0	5.3	0.0	4.7	1.0	2.6	0.6	0.9	0.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	0.0	29.2	32.9	0.0	32.0	43.6	31.9	29.0	43.7	0.0	65.0
LnGrp LOS	C	A	C	C	A	C	D	C	C	D	A	E
Approach Vol, veh/h		333			490			203			375	
Approach Delay, s/veh		29.5			32.5			33.9			62.6	
Approach LOS		C			C			C			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	9.3	24.8		28.7	9.4	24.7				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		9.2	4.1	7.2		12.9	4.1	19.9				
Green Ext Time (p_c), s		1.1	0.0	0.4		1.5	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

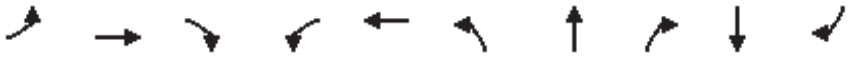
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	52	143	212	558	1549	127	100	1334	102
v/c Ratio	0.51	0.17	0.72	0.66	0.81	0.14	0.57	0.54	0.09
Control Delay	61.0	30.8	59.2	43.6	20.0	9.6	66.1	10.3	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	30.8	59.2	43.6	20.0	9.6	66.1	10.3	3.9
Queue Length 50th (ft)	37	38	159	198	270	17	78	250	14
Queue Length 95th (ft)	#87	67	#269	262	m283	m21	132	301	32
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	102	839	293	845	1919	924	240	2463	1114
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.17	0.72	0.66	0.81	0.14	0.42	0.54	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	110	32	210	393	159	8	1526	126	99	1321	101
Future Volume (veh/h)	51	110	32	210	393	159	8	1526	126	99	1321	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	111	32	212	397	161	8	1541	127	100	1334	102
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	838	233	400	756	303	32	1854	850	125	2239	999
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.54	0.54	0.54	0.07	0.63	0.63
Sat Flow, veh/h	851	2746	764	1245	2477	992	6	3459	1585	1781	3554	1585
Grp Volume(v), veh/h	52	70	73	212	283	275	829	720	127	100	1334	102
Grp Sat Flow(s),veh/h/ln	851	1777	1733	1245	1777	1692	1848	1617	1585	1781	1777	1585
Q Serve(g_s), s	6.7	3.6	3.8	18.6	16.5	16.8	1.1	46.6	5.1	6.9	27.8	3.2
Cycle Q Clear(g_c), s	23.6	3.6	3.8	22.4	16.5	16.8	46.2	46.6	5.1	6.9	27.8	3.2
Prop In Lane	1.00		0.44	1.00		0.59	0.01		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	542	529	400	542	516	1019	867	850	125	2239	999
V/C Ratio(X)	0.26	0.13	0.14	0.53	0.52	0.53	0.81	0.83	0.15	0.80	0.60	0.10
Avail Cap(c_a), veh/h	203	542	529	400	542	516	1019	867	850	242	2239	999
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	0.29	0.29	0.29	0.72	0.72	0.72
Uniform Delay (d), s/veh	45.8	31.4	31.5	39.6	35.9	36.0	24.2	24.3	14.6	57.3	13.7	9.1
Incr Delay (d2), s/veh	3.0	0.5	0.5	4.3	3.1	3.4	2.2	2.9	0.1	8.3	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.6	1.7	6.2	7.6	7.4	20.0	17.6	1.8	3.4	10.7	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	31.9	32.0	43.9	39.0	39.4	26.3	27.1	14.7	65.6	14.5	9.3
LnGrp LOS	D	C	C	D	D	D	C	C	B	E	B	A
Approach Vol, veh/h		195			770			1676			1536	
Approach Delay, s/veh		36.5			40.5			25.8			17.5	
Approach LOS		D			D			C			B	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		82.8		42.2	11.8	71.0		42.2				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		68.0		29.9	17.0	67.0		25.0				
Max Q Clear Time (g_c+I1), s		29.8		24.4	8.9	48.6		25.6				
Green Ext Time (p_c), s		13.7		2.1	0.1	11.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.0									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	123	287	293	61	488	380	164	49	204	230
v/c Ratio	0.56	0.33	0.33	0.35	0.63	1.19	0.28	0.09	0.37	0.35
Control Delay	49.4	18.2	3.7	47.0	27.0	145.1	27.2	4.8	28.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	18.2	3.7	47.0	27.0	145.1	27.2	4.8	28.7	5.3
Queue Length 50th (ft)	71	110	5	36	228	~281	75	0	96	0
Queue Length 95th (ft)	128	182	53	77	366	#488	136	19	169	54
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	369	880	894	369	776	319	584	540	548	654
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.33	0.33	0.17	0.63	1.19	0.28	0.09	0.37	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	278	284	59	464	10	369	159	48	30	168	223
Future Volume (veh/h)	119	278	284	59	464	10	369	159	48	30	168	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	287	293	61	478	10	380	164	49	31	173	230
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	850	720	122	795	17	318	611	518	101	521	518
Arrive On Green	0.09	0.45	0.45	0.07	0.44	0.44	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1781	1825	38	982	1870	1585	172	1595	1585
Grp Volume(v), veh/h	123	287	293	61	0	488	380	164	49	204	0	230
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1863	982	1870	1585	1767	0	1585
Q Serve(g_s), s	6.2	9.1	11.4	3.0	0.0	18.4	22.4	5.9	2.0	0.0	0.0	10.5
Cycle Q Clear(g_c), s	6.2	9.1	11.4	3.0	0.0	18.4	30.0	5.9	2.0	7.6	0.0	10.5
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.15		1.00
Lane Grp Cap(c), veh/h	157	850	720	122	0	811	318	611	518	622	0	518
V/C Ratio(X)	0.79	0.34	0.41	0.50	0.00	0.60	1.19	0.27	0.09	0.33	0.00	0.44
Avail Cap(c_a), veh/h	388	850	720	388	0	811	318	611	518	622	0	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	16.1	16.8	41.3	0.0	19.8	37.5	22.8	21.5	23.4	0.0	24.4
Incr Delay (d2), s/veh	8.4	1.1	1.7	3.1	0.0	3.3	114.2	0.2	0.1	0.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	4.1	4.4	1.4	0.0	8.5	17.4	2.6	0.7	3.4	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	17.2	18.5	44.4	0.0	23.1	151.7	23.1	21.6	23.7	0.0	25.0
LnGrp LOS	D	B	B	D	A	C	F	C	C	C	A	C
Approach Vol, veh/h		703			549			593			434	
Approach Delay, s/veh		23.4			25.5			105.4			24.4	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	46.4		34.6	12.7	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	5.0	13.4		12.5	8.2	20.4		32.0				
Green Ext Time (p_c), s	0.1	3.0		1.3	0.2	3.2		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		45.4	
HCM 6th LOS		D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	244	376	193	240	737	212	253	1243	117	230	1201	238
v/c Ratio	1.05	0.40	0.38	0.65	0.87	0.31	0.86	0.99	0.14	0.85	1.00	0.36
Control Delay	124.0	40.0	16.4	61.7	58.0	20.1	76.8	63.3	5.9	74.7	73.0	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.0	40.0	16.4	61.7	58.0	20.1	76.8	63.3	5.9	74.7	73.0	18.2
Queue Length 50th (ft)	~214	133	41	96	303	88	198	~561	12	184	~501	46
Queue Length 95th (ft)	#382	183	111	139	#403	147	#327	#699	44	m#309	#673	m113
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	233	930	509	425	846	712	318	1257	852	290	1207	661
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.40	0.38	0.56	0.87	0.30	0.80	0.99	0.14	0.79	1.00	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	368	189	235	722	208	248	1218	115	225	1177	233
Future Volume (veh/h)	239	368	189	235	722	208	248	1218	115	225	1177	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	244	376	193	240	737	212	253	1243	117	230	1201	238
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1091	487	301	931	646	280	1207	676	259	1166	520
Arrive On Green	0.13	0.31	0.31	0.09	0.26	0.26	0.16	0.34	0.34	0.05	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	244	376	193	240	737	212	253	1243	117	230	1201	238
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.5	10.3	12.0	8.5	24.1	11.4	17.4	42.5	5.7	16.0	41.0	17.6
Cycle Q Clear(g_c), s	16.5	10.3	12.0	8.5	24.1	11.4	17.4	42.5	5.7	16.0	41.0	17.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	1091	487	301	931	646	280	1207	676	259	1166	520
V/C Ratio(X)	1.04	0.34	0.40	0.80	0.79	0.33	0.90	1.03	0.17	0.89	1.03	0.46
Avail Cap(c_a), veh/h	235	1091	487	429	931	646	321	1207	676	292	1166	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	54.2	33.6	34.2	56.0	43.0	25.3	51.7	41.3	22.2	58.5	55.7	45.3
Incr Delay (d2), s/veh	68.9	0.9	2.4	6.8	6.8	1.4	25.4	33.8	0.6	20.6	31.7	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	4.6	5.0	4.0	11.6	4.6	9.7	23.8	2.3	9.2	24.7	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.1	34.4	36.6	62.8	49.8	26.7	77.1	75.1	22.7	79.1	87.5	47.6
LnGrp LOS	F	C	D	E	D	C	E	F	C	E	F	D
Approach Vol, veh/h		813			1189			1613			1669	
Approach Delay, s/veh		61.6			48.3			71.6			80.6	
Approach LOS		E			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.2	45.0	20.0	36.8	21.7	46.5	14.4	42.5
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	22.5	41.0	16.5	29.9	20.5	41.0	15.5	29.4
Max Q Clear Time (g_c+I1), s	19.4	43.0	18.5	26.1	18.0	44.5	10.5	14.0
Green Ext Time (p_c), s	0.2	0.0	0.0	2.0	0.2	0.0	0.4	2.9

Intersection Summary	
HCM 6th Ctrl Delay	67.7
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	6	61	10	6	5	57	97	14	1	51	0
Future Vol, veh/h	1	6	61	10	6	5	57	97	14	1	51	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	7	66	11	7	5	62	105	15	1	55	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.6	8.4	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	1%	48%	2%
Vol Thru, %	58%	9%	29%	98%
Vol Right, %	8%	90%	24%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	168	68	21	52
LT Vol	57	1	10	1
Through Vol	97	6	6	51
RT Vol	14	61	5	0
Lane Flow Rate	183	74	23	57
Geometry Grp	1	1	1	1
Degree of Util (X)	0.211	0.081	0.029	0.067
Departure Headway (Hd)	4.163	3.958	4.498	4.247
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	855	911	800	831
Service Time	2.225	1.959	2.5	2.338
HCM Lane V/C Ratio	0.214	0.081	0.029	0.069
HCM Control Delay	8.4	7.3	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.3	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	24	8	1	10	8	4	29	3	6	31	4
Future Vol, veh/h	5	24	8	1	10	8	4	29	3	6	31	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	26	9	1	11	9	4	32	3	7	34	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7	7.3	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	14%	5%	15%
Vol Thru, %	81%	65%	53%	76%
Vol Right, %	8%	22%	42%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	37	19	41
LT Vol	4	5	1	6
Through Vol	29	24	10	31
RT Vol	3	8	8	4
Lane Flow Rate	39	40	21	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.045	0.022	0.05
Departure Headway (Hd)	4.046	3.993	3.869	4.04
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	883	893	920	885
Service Time	2.08	2.033	1.914	2.073
HCM Lane V/C Ratio	0.044	0.045	0.023	0.051
HCM Control Delay	7.3	7.2	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.2

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	163	3	82	9	0	9	19	264	14	21	235	41
Future Vol, veh/h	163	3	82	9	0	9	19	264	14	21	235	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	177	3	89	10	0	10	21	287	15	23	255	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	666	668	278	707	683	295	300	0	0	302	0	0
Stage 1	324	324	-	337	337	-	-	-	-	-	-	-
Stage 2	342	344	-	370	346	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	373	379	761	350	372	744	1261	-	-	1259	-	-
Stage 1	688	650	-	677	641	-	-	-	-	-	-	-
Stage 2	673	637	-	650	635	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	358	366	761	299	359	744	1261	-	-	1259	-	-
Mov Cap-2 Maneuver	358	366	-	299	359	-	-	-	-	-	-	-
Stage 1	676	638	-	665	630	-	-	-	-	-	-	-
Stage 2	653	626	-	561	624	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26	13.8	0.5	0.6
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1261	-	-	434	427	1259	-	-
HCM Lane V/C Ratio	0.016	-	-	0.621	0.046	0.018	-	-
HCM Control Delay (s)	7.9	-	-	26	13.8	7.9	-	-
HCM Lane LOS	A	-	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	5	1	274	325	2
Future Vol, veh/h	9	5	1	274	325	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	5	1	298	353	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	654	354	355	0	-	0
Stage 1	354	-	-	-	-	-
Stage 2	300	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	431	690	1204	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	431	690	1204	-	-	-
Mov Cap-2 Maneuver	529	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	752	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1204	-	577	-	-
HCM Lane V/C Ratio	0.001	-	0.026	-	-
HCM Control Delay (s)	8	-	11.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	460	32	379	344	263	66	892	564	365	1169
v/c Ratio	0.87	0.56	0.06	0.69	0.29	0.41	0.63	0.74	0.71	1.28	0.86
Control Delay	105.4	33.8	0.2	42.8	23.0	9.6	69.3	30.9	13.8	184.6	34.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.4	33.8	0.2	42.8	23.0	9.6	69.3	30.9	13.8	184.6	34.3
Queue Length 50th (ft)	49	123	0	105	75	32	38	233	79	~136	325
Queue Length 95th (ft)	#136	175	0	150	110	92	#100	305	210	#224	#461
Internal Link Dist (ft)		1368			469			1567			427
Turn Bay Length (ft)				110		80	145		145	260	
Base Capacity (vph)	98	828	505	610	1179	649	104	1199	790	286	1354
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.56	0.06	0.62	0.29	0.41	0.63	0.74	0.71	1.28	0.86

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	442	31	364	330	252	63	856	541	350	1047	75
Future Volume (veh/h)	82	442	31	364	330	252	63	856	541	350	1047	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	460	32	379	344	262	66	892	564	365	1091	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	901	402	468	1185	528	85	1204	537	288	1260	90
Arrive On Green	0.06	0.25	0.25	0.14	0.33	0.33	0.05	0.34	0.34	0.08	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	3456	3364	240
Grp Volume(v), veh/h	85	460	32	379	344	262	66	892	564	365	576	593
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1728	1777	1827
Q Serve(g_s), s	4.3	10.0	1.4	9.6	6.4	11.9	3.3	19.9	30.5	7.5	27.0	27.0
Cycle Q Clear(g_c), s	4.3	10.0	1.4	9.6	6.4	11.9	3.3	19.9	30.5	7.5	27.0	27.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	99	901	402	468	1185	528	85	1204	537	288	666	685
V/C Ratio(X)	0.86	0.51	0.08	0.81	0.29	0.50	0.78	0.74	1.05	1.27	0.87	0.87
Avail Cap(c_a), veh/h	99	901	402	614	1185	528	105	1204	537	288	666	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	28.8	25.6	37.8	22.1	24.0	42.4	26.3	29.8	41.2	26.0	26.1
Incr Delay (d2), s/veh	48.8	0.5	0.1	6.1	0.6	3.3	25.0	4.1	52.6	145.0	14.1	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	4.3	0.5	4.4	2.8	4.9	2.0	8.7	19.1	8.9	13.3	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.9	29.3	25.7	43.9	22.8	27.3	67.4	30.4	82.3	186.2	40.1	39.9
LnGrp LOS	F	C	C	D	C	C	E	C	F	F	D	D
Approach Vol, veh/h		577			985			1522			1534	
Approach Delay, s/veh		38.2			32.1			51.2			74.8	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	37.7	9.5	34.0	12.0	34.5	16.7	26.8
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	* 4
Max Green Setting (Gmax), s	5.3	32.7	5.0	30.0	7.5	30.5	16.0	* 19
Max Q Clear Time (g_c+I1), s	5.3	29.0	6.3	13.9	9.5	32.5	11.6	12.0
Green Ext Time (p_c), s	0.0	2.3	0.0	3.0	0.0	0.0	0.6	1.9

Intersection Summary	
HCM 6th Ctrl Delay	53.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	140	281	55	341	494	482	75	1292	401	290	1086
v/c Ratio	0.93	0.32	0.11	0.69	0.47	0.81	0.62	1.03	0.57	0.94	0.78
Control Delay	105.0	32.7	0.4	48.4	30.2	32.1	67.6	65.7	14.5	84.8	31.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.0	32.7	0.4	48.4	30.2	32.1	67.6	65.7	14.5	84.8	31.6
Queue Length 50th (ft)	90	78	0	106	134	184	47	~466	84	96	321
Queue Length 95th (ft)	#208	117	0	152	183	#355	#108	#599	180	#177	408
Internal Link Dist (ft)		1368			469			1567			283
Turn Bay Length (ft)				110		80	145		145	260	
Base Capacity (vph)	150	869	508	549	1061	598	125	1256	706	308	1391
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.32	0.11	0.62	0.47	0.81	0.60	1.03	0.57	0.94	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	270	53	327	474	463	72	1240	385	278	922	121
Future Volume (veh/h)	134	270	53	327	474	463	72	1240	385	278	922	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	281	55	341	494	482	75	1292	401	290	960	126
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	937	418	419	1066	476	96	1262	563	311	1235	162
Arrive On Green	0.09	0.26	0.26	0.12	0.30	0.30	0.05	0.35	0.35	0.09	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	3456	3158	414
Grp Volume(v), veh/h	140	281	55	341	494	482	75	1292	401	290	540	546
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1728	1777	1796
Q Serve(g_s), s	7.8	6.3	2.6	9.6	11.3	30.0	4.2	35.5	21.8	8.3	26.6	26.6
Cycle Q Clear(g_c), s	7.8	6.3	2.6	9.6	11.3	30.0	4.2	35.5	21.8	8.3	26.6	26.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	151	937	418	419	1066	476	96	1262	563	311	695	702
V/C Ratio(X)	0.92	0.30	0.13	0.81	0.46	1.01	0.78	1.02	0.71	0.93	0.78	0.78
Avail Cap(c_a), veh/h	151	937	418	553	1066	476	126	1262	563	311	695	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	29.4	28.1	42.8	28.5	35.0	46.7	32.3	27.8	45.2	26.6	26.6
Incr Delay (d2), s/veh	51.2	0.2	0.1	6.9	1.4	44.7	19.9	31.6	7.5	33.8	8.3	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.7	1.0	4.5	5.0	17.3	2.3	20.0	9.3	5.0	12.3	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.7	29.6	28.2	49.7	29.9	79.7	66.6	63.9	35.3	79.0	35.0	34.9
LnGrp LOS	F	C	C	D	C	F	E	F	D	E	C	C
Approach Vol, veh/h		476			1317			1768			1376	
Approach Delay, s/veh		49.2			53.3			57.5			44.2	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	43.1	13.0	34.0	13.5	39.5	16.6	30.4
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	* 4
Max Green Setting (Gmax), s	7.1	37.4	8.5	30.0	9.0	35.5	16.0	* 23
Max Q Clear Time (g_c+I1), s	6.2	28.6	9.8	32.0	10.3	37.5	11.6	8.3
Green Ext Time (p_c), s	0.0	4.4	0.0	0.0	0.0	0.0	0.5	1.7

Intersection Summary	
HCM 6th Ctrl Delay	51.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	401	371	1491
v/c Ratio	0.44	0.21	1.14
Control Delay	10.5	7.9	91.7
Queue Delay	0.0	0.0	0.0
Total Delay	10.5	7.9	91.7
Queue Length 50th (ft)	73	31	~291
Queue Length 95th (ft)	129	51	#408
Internal Link Dist (ft)	200	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1310
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.44	0.21	1.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	365	0	0	338	1258	99
Future Volume (veh/h)	365	0	0	338	1258	99
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	401	0	0	371	1484	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	401	0	0	371	1484	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	7.3	0.0	0.0	3.1	20.0	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	3.1	20.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.43	0.00	0.00	0.21	1.10	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.6	0.0	0.0	7.5	16.3	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.0	54.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	0.9	17.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.0	0.0	0.0	7.5	71.2	0.0
LnGrp LOS	B	A	A	A	F	A
Approach Vol, veh/h	401			371	1484	
Approach Delay, s/veh	10.0			7.5	71.2	
Approach LOS	B			A	E	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	23.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	9.3				5.1	22.0
Green Ext Time (p_c), s	0.4				0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	49.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1575	405	991	130	14	849	294	1474	328
v/c Ratio	0.98	1.83	0.54	0.47	0.03	0.61	1.05	1.04	0.64
Control Delay	55.0	421.8	20.1	48.8	42.8	33.5	117.8	77.6	31.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	421.8	20.1	48.8	42.8	33.5	117.8	77.6	31.3
Queue Length 50th (ft)	452	~458	251	51	10	167	~123	~440	148
Queue Length 95th (ft)	m#512	#653	311	84	m27	217	#212	#536	252
Internal Link Dist (ft)	538		243		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1613	221	1827	281	512	1401	281	1411	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	1.83	0.54	0.46	0.03	0.61	1.05	1.04	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1354	149	393	946	16	126	14	824	285	1430	318
Future Volume (veh/h)	24	1354	149	393	946	16	126	14	824	285	1430	318
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	1396	154	405	975	16	130	14	849	294	1474	328
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	1558	171	223	1851	30	264	514	994	283	1432	445
Arrive On Green	0.12	0.12	0.12	0.13	0.52	0.52	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	43	4408	483	1781	3578	59	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	566	494	515	405	484	507	130	14	849	294	1474	328
Grp Sat Flow(s),veh/h/ln	1771	1549	1615	1781	1777	1860	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	19.1	36.5	36.5	14.5	21.0	21.0	4.2	0.6	25.8	9.5	32.5	21.8
Cycle Q Clear(g_c), s	36.4	36.5	36.5	14.5	21.0	21.0	4.2	0.6	25.8	9.5	32.5	21.8
Prop In Lane	0.04		0.30	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	658	547	571	223	919	962	264	514	994	283	1432	445
V/C Ratio(X)	0.86	0.90	0.90	1.82	0.53	0.53	0.49	0.03	0.85	1.04	1.03	0.74
Avail Cap(c_a), veh/h	658	547	571	223	919	962	283	514	994	283	1432	445
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.36	0.36	0.36	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	49.3	49.3	50.8	18.6	18.6	51.4	30.7	39.8	53.2	41.7	37.9
Incr Delay (d2), s/veh	5.6	9.0	8.7	385.7	2.2	2.1	1.3	0.1	8.8	64.0	31.6	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.5	16.6	17.3	30.3	9.1	9.5	1.8	0.3	8.3	6.6	17.5	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	58.3	58.0	436.4	20.7	20.6	52.7	30.8	48.6	117.2	73.3	48.3
LnGrp LOS	D	E	E	F	C	C	D	C	D	F	F	D
Approach Vol, veh/h		1575			1396			993			2096	
Approach Delay, s/veh		56.8			141.3			48.9			75.6	
Approach LOS		E			F			D			E	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	37.0		65.0	13.4	37.6	19.0	46.0
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0
Max Green Setting (Gmax), s	9.5	31.9		60.0	9.5	* 32	14.5	41.0
Max Q Clear Time (g_c+I1), s	11.5	27.8		23.0	6.2	34.5	16.5	38.5
Green Ext Time (p_c), s	0.0	1.6		8.3	0.1	0.0	0.0	2.0

Intersection Summary		
HCM 6th Ctrl Delay		81.5
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	89	1210	111	891	480	18	157	109	248	235	116
v/c Ratio	0.61	0.93	0.67	0.67	0.54	0.28	0.37	0.38	0.82	0.27	0.24
Control Delay	93.3	21.8	61.8	36.9	13.4	54.3	47.8	11.6	63.0	35.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.3	21.8	61.8	36.9	13.5	54.3	47.8	11.6	63.0	35.8	7.7
Queue Length 50th (ft)	70	~436	83	329	117	13	58	0	167	71	0
Queue Length 95th (ft)	m85	m#649	m#151	408	186	34	82	48	#341	115	48
Internal Link Dist (ft)		930		538			474			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	148	1297	176	1338	897	111	741	417	307	895	487
Starvation Cap Reductn	0	0	0	0	19	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.93	0.63	0.67	0.55	0.16	0.21	0.26	0.81	0.26	0.24

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	1129	8	104	838	451	17	148	102	233	221	109
Future Volume (veh/h)	84	1129	8	104	838	451	17	148	102	233	221	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1201	9	111	891	480	18	157	109	248	235	116
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	2085	16	137	2062	920	230	775	346	265	775	346
Arrive On Green	0.15	1.00	1.00	0.08	0.58	0.58	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3615	27	1781	3554	1585	1030	3554	1585	1113	3554	1585
Grp Volume(v), veh/h	89	590	620	111	891	480	18	157	109	248	235	116
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1585	1030	1777	1585	1113	1777	1585
Q Serve(g_s), s	5.5	0.0	0.0	7.1	16.3	21.1	1.7	4.2	6.7	21.1	6.4	7.2
Cycle Q Clear(g_c), s	5.5	0.0	0.0	7.1	16.3	21.1	8.2	4.2	6.7	25.3	6.4	7.2
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1025	1076	137	2062	920	230	775	346	265	775	346
V/C Ratio(X)	0.68	0.58	0.58	0.81	0.43	0.52	0.08	0.20	0.32	0.94	0.30	0.34
Avail Cap(c_a), veh/h	144	1025	1076	175	2062	920	230	775	346	265	775	346
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.45	0.45	0.45	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	0.0	52.7	13.6	14.7	41.4	37.1	38.1	49.4	38.0	38.3
Incr Delay (d2), s/veh	4.6	1.1	1.0	15.1	0.5	1.7	0.1	0.1	0.5	38.6	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.3	0.3	3.8	6.6	7.9	0.5	1.8	2.7	10.1	2.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	1.1	1.0	67.8	14.2	16.4	41.5	37.2	38.6	88.0	38.2	38.8
LnGrp LOS	D	A	A	E	B	B	D	D	D	F	D	D
Approach Vol, veh/h		1299			1482			284			599	
Approach Delay, s/veh		4.6			18.9			38.0			58.9	
Approach LOS		A			B			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	71.5		31.0	13.1	71.9		31.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	11.4	35.4		* 25	9.4	37.4		* 24				
Max Q Clear Time (g_c+I1), s	9.1	2.0		27.3	7.5	23.1		10.2				
Green Ext Time (p_c), s	0.0	8.7		0.0	0.0	6.1		1.1				

Intersection Summary		
HCM 6th Ctrl Delay		21.9
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	82	1287	80	884	119	66	58	166
v/c Ratio	0.59	0.86	0.64	0.60	0.73	0.26	0.19	1.15
Control Delay	68.1	38.8	53.1	52.9	71.4	45.4	2.7	159.8
Queue Delay	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	42.4	53.1	52.9	71.4	45.4	2.7	159.8
Queue Length 50th (ft)	60	461	63	366	86	45	0	~137
Queue Length 95th (ft)	113	#716	m99	436	142	82	8	#280
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	152	1502	145	1480	245	375	400	144
Starvation Cap Reductn	0	143	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.95	0.55	0.60	0.49	0.18	0.14	1.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	1099	72	73	793	12	108	60	53	20	89	42
Future Volume (veh/h)	75	1099	72	73	793	12	108	60	53	20	89	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	1208	79	80	871	13	119	66	58	22	98	46
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	2282	149	102	2412	36	203	280	237	56	166	71
Arrive On Green	0.06	0.67	0.67	0.02	0.22	0.22	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3386	221	1781	3584	53	1244	1870	1585	137	1106	476
Grp Volume(v), veh/h	82	633	654	80	432	452	119	66	58	166	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1831	1781	1777	1861	1244	1870	1585	1719	0	0
Q Serve(g_s), s	5.3	20.9	21.0	5.2	23.8	23.8	4.7	3.6	3.7	3.7	0.0	0.0
Cycle Q Clear(g_c), s	5.3	20.9	21.0	5.2	23.8	23.8	15.1	3.6	3.7	10.4	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.03	1.00		1.00	0.13		0.28
Lane Grp Cap(c), veh/h	104	1198	1234	102	1196	1252	203	280	237	293	0	0
V/C Ratio(X)	0.79	0.53	0.53	0.78	0.36	0.36	0.59	0.24	0.24	0.57	0.00	0.00
Avail Cap(c_a), veh/h	144	1198	1234	144	1196	1252	268	377	320	423	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.32	0.32	0.32	0.76	0.76	0.76	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	53.9	9.6	9.6	56.2	24.0	24.0	49.2	43.5	43.5	46.3	0.0	0.0
Incr Delay (d2), s/veh	4.1	0.5	0.5	8.1	0.6	0.6	1.0	0.2	0.2	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.9	8.2	2.6	11.6	12.1	3.4	1.7	1.5	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	10.1	10.1	64.3	24.7	24.6	50.2	43.6	43.7	46.9	0.0	0.0
LnGrp LOS	E	B	B	E	C	C	D	D	D	D	A	A
Approach Vol, veh/h		1369			964			243			166	
Approach Delay, s/veh		13.0			27.9			46.9			46.9	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	82.7		22.0	11.2	82.8		22.0				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	9.4	38.4		23.4	9.4	38.4		26.4				
Max Q Clear Time (g_c+I1), s	7.3	25.8		17.1	7.2	23.0		12.4				
Green Ext Time (p_c), s	0.0	4.8		0.3	0.0	8.2		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		23.3	
HCM 6th LOS		C	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	623	464	343	255	84	989	600	325	1480
v/c Ratio	1.14	0.61	0.43	0.50	0.57	0.75	0.73	0.74	1.01
Control Delay	132.8	51.1	47.2	15.3	74.0	41.4	18.8	66.9	64.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	132.8	51.1	47.2	15.3	74.0	41.4	18.8	66.9	64.5
Queue Length 50th (ft)	~332	190	137	40	72	395	173	142	~688
Queue Length 95th (ft)	#466	252	190	127	128	491	335	194	#887
Internal Link Dist (ft)	1368		469			1567			427
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	546	766	790	508	191	1317	825	511	1467
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.61	0.43	0.50	0.44	0.75	0.73	0.64	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	435	82	445	329	245	81	949	576	312	1346	75
Future Volume (veh/h)	82	435	82	445	329	245	81	949	576	312	1346	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	453	85	464	343	255	84	989	600	325	1402	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	464	91	525	540	241	107	1499	668	395	1630	90
Arrive On Green	0.18	0.18	0.18	0.15	0.15	0.15	0.06	0.42	0.42	0.11	0.48	0.48
Sat Flow, veh/h	474	2632	518	3456	3554	1585	1781	3554	1585	3456	3423	190
Grp Volume(v), veh/h	331	0	292	464	343	255	84	989	600	325	726	754
Grp Sat Flow(s),veh/h/ln	1847	0	1777	1728	1777	1585	1781	1777	1585	1728	1777	1836
Q Serve(g_s), s	20.9	0.0	19.2	15.6	10.7	18.0	5.5	26.4	41.8	10.9	42.9	43.3
Cycle Q Clear(g_c), s	20.9	0.0	19.2	15.6	10.7	18.0	5.5	26.4	41.8	10.9	42.9	43.3
Prop In Lane	0.26		0.29	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	326	0	313	525	540	241	107	1499	668	395	846	874
V/C Ratio(X)	1.02	0.00	0.93	0.88	0.64	1.06	0.79	0.66	0.90	0.82	0.86	0.86
Avail Cap(c_a), veh/h	326	0	313	525	540	241	218	1499	668	583	846	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	0.0	48.1	49.3	47.2	50.3	55.0	27.5	31.9	51.3	27.5	27.6
Incr Delay (d2), s/veh	54.5	0.0	33.3	19.2	5.6	74.6	11.8	2.3	17.2	6.0	11.0	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	0.0	11.4	8.2	5.2	12.2	2.8	11.4	18.6	5.0	20.0	20.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.4	0.0	81.4	68.4	52.8	124.9	66.8	29.8	49.1	57.3	38.5	38.6
LnGrp LOS	F	A	F	E	D	F	E	C	D	E	D	D
Approach Vol, veh/h		623			1062			1673			1805	
Approach Delay, s/veh		93.1			77.0			38.6			41.9	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.6	60.4		22.0	18.1	54.0		24.5				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	7.5	45.3		20.0	12.9	43.8		22.9				
Green Ext Time (p_c), s	0.1	0.0		0.0	0.7	4.3		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		54.2	
HCM 6th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	246	81	201	26	38	63	84	598	45	73	1656	451
v/c Ratio	0.35	0.10	0.24	0.04	0.05	0.10	0.54	0.39	0.08	0.56	1.14	0.80
Control Delay	17.2	20.8	3.8	14.2	24.3	0.9	62.9	34.0	0.3	67.9	102.7	28.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	20.8	3.8	14.2	24.3	0.9	62.9	34.0	0.3	67.9	102.7	28.2
Queue Length 50th (ft)	99	37	0	9	18	0	61	134	0	58	~548	137
Queue Length 95th (ft)	151	70	45	24	42	5	113	172	0	m54	m#465	m120
Internal Link Dist (ft)		405			458			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	698	839	823	719	692	658	181	1524	550	135	1450	561
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.10	0.24	0.04	0.05	0.10	0.46	0.39	0.08	0.54	1.14	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	77	191	25	36	60	80	568	43	69	1573	428
Future Volume (veh/h)	234	77	191	25	36	60	80	568	43	69	1573	428
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	246	81	201	26	38	63	84	598	45	73	1656	451
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	732	841	713	576	742	629	115	1404	436	111	1394	433
Arrive On Green	0.10	0.45	0.45	0.04	0.40	0.40	0.06	0.28	0.28	0.06	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	246	81	201	26	38	63	84	598	45	73	1656	451
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	9.1	2.9	9.3	1.0	1.5	2.9	5.4	11.2	2.5	4.6	31.7	31.7
Cycle Q Clear(g_c), s	9.1	2.9	9.3	1.0	1.5	2.9	5.4	11.2	2.5	4.6	31.7	31.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	732	841	713	576	742	629	115	1404	436	111	1394	433
V/C Ratio(X)	0.34	0.10	0.28	0.05	0.05	0.10	0.73	0.43	0.10	0.66	1.19	1.04
Avail Cap(c_a), veh/h	763	841	713	732	742	629	183	1404	436	137	1394	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	16.2	18.4	20.1	18.4	21.6	22.0	53.3	34.5	31.4	53.2	42.2	42.2
Incr Delay (d2), s/veh	0.3	0.2	1.0	0.0	0.1	0.3	8.7	0.9	0.5	0.7	85.2	25.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	1.3	3.6	0.4	0.7	1.1	2.7	4.7	1.0	2.1	24.0	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	18.6	21.1	18.4	21.7	22.3	62.0	35.5	31.9	53.9	127.4	67.9
LnGrp LOS	B	B	C	B	C	C	E	D	C	D	F	F
Approach Vol, veh/h		528			127			727			2180	
Approach Delay, s/veh		18.5			21.3			38.3			112.6	
Approach LOS		B			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	36.8	15.9	50.7	12.3	37.0	9.8	56.9
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	11.9	28.9	* 13	* 42	8.9	31.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	7.4	33.7	11.1	4.9	6.6	13.2	3.0	11.3
Green Ext Time (p_c), s	0.1	0.0	0.2	0.4	0.0	3.9	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	80.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	807	336	28	81	18	32	344
v/c Ratio	1.57	0.35	0.20	0.19	0.04	0.22	0.73
Control Delay	290.4	28.3	43.9	31.4	0.2	44.3	36.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	290.4	28.3	43.9	31.4	0.2	44.3	36.9
Queue Length 50th (ft)	~368	85	16	40	0	18	135
Queue Length 95th (ft)	#498	127	44	81	0	47	#316
Internal Link Dist (ft)	447	311		392			777
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	515	948	317	418	447	317	471
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.57	0.35	0.09	0.19	0.04	0.10	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	507	112	24	266	12	25	73	16	29	129	181
Future Volume (veh/h)	108	507	112	24	266	12	25	73	16	29	129	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	563	124	27	296	13	28	81	18	32	143	201
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	666	154	75	864	40	70	413	350	76	158	222
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.04	0.22	0.22	0.04	0.22	0.22
Sat Flow, veh/h	514	2514	582	284	3265	150	1781	1870	1585	1781	704	989
Grp Volume(v), veh/h	431	0	376	176	0	160	28	81	18	32	0	344
Grp Sat Flow(s),veh/h/ln	1845	0	1766	1856	0	1843	1781	1870	1585	1781	0	1692
Q Serve(g_s), s	20.3	0.0	18.0	7.0	0.0	6.3	1.4	3.2	0.8	1.6	0.0	17.9
Cycle Q Clear(g_c), s	20.3	0.0	18.0	7.0	0.0	6.3	1.4	3.2	0.8	1.6	0.0	17.9
Prop In Lane	0.28		0.33	0.15		0.08	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	488	0	467	491	0	488	70	413	350	76	0	379
V/C Ratio(X)	0.88	0.00	0.80	0.36	0.00	0.33	0.40	0.20	0.05	0.42	0.00	0.91
Avail Cap(c_a), veh/h	488	0	467	491	0	488	314	413	350	314	0	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	31.1	27.1	0.0	26.8	42.5	28.8	27.9	42.3	0.0	34.2
Incr Delay (d2), s/veh	20.1	0.0	13.7	2.0	0.0	1.8	1.4	1.1	0.3	1.4	0.0	27.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	0.0	9.2	3.3	0.0	3.0	0.6	1.5	0.3	0.7	0.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	0.0	44.9	29.1	0.0	28.6	43.9	29.9	28.1	43.7	0.0	62.0
LnGrp LOS	D	A	D	C	A	C	D	C	C	D	A	E
Approach Vol, veh/h		807			336			127			376	
Approach Delay, s/veh		48.7			28.9			32.7			60.4	
Approach LOS		D			C			C			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	8.6	24.7		28.7	8.2	25.0				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		22.3	3.6	5.2		9.0	3.4	19.9				
Green Ext Time (p_c), s		0.7	0.0	0.2		1.1	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	501	188	272	1330	180	150	1566	116
v/c Ratio	0.45	0.60	1.53	0.32	0.79	0.20	0.68	0.64	0.10
Control Delay	48.0	43.5	308.4	37.2	8.2	0.7	67.0	11.8	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	43.5	308.4	37.2	8.2	0.7	67.0	11.8	4.3
Queue Length 50th (ft)	69	181	~212	87	83	1	118	328	18
Queue Length 95th (ft)	128	240	#364	128	m48	m1	182	393	37
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	224	838	123	838	1682	893	297	2463	1113
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.60	1.53	0.32	0.79	0.20	0.51	0.64	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

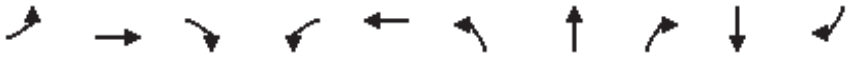
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	391	100	184	215	52	27	1276	176	147	1535	114
Future Volume (veh/h)	98	391	100	184	215	52	27	1276	176	147	1535	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	399	102	188	219	53	28	1302	180	150	1566	116
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	332	863	218	229	876	207	49	1635	799	178	2232	995
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.50	0.50	0.50	0.10	0.63	0.63
Sat Flow, veh/h	1107	2809	711	897	2850	675	38	3244	1585	1781	3554	1585
Grp Volume(v), veh/h	100	251	250	188	135	137	686	644	180	150	1566	116
Grp Sat Flow(s),veh/h/ln	1107	1777	1742	897	1777	1749	1665	1617	1585	1781	1777	1585
Q Serve(g_s), s	9.3	14.2	14.5	23.9	7.1	7.4	15.9	41.1	7.9	10.3	36.6	3.7
Cycle Q Clear(g_c), s	16.7	14.2	14.5	38.4	7.1	7.4	40.4	41.1	7.9	10.3	36.6	3.7
Prop In Lane	1.00		0.41	1.00		0.39	0.04		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	332	546	535	229	546	537	869	815	799	178	2232	995
V/C Ratio(X)	0.30	0.46	0.47	0.82	0.25	0.26	0.79	0.79	0.23	0.84	0.70	0.12
Avail Cap(c_a), veh/h	332	546	535	229	546	537	869	815	799	299	2232	995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	0.09	0.09	0.09	0.29	0.29	0.29
Uniform Delay (d), s/veh	38.8	34.9	35.0	51.6	32.5	32.6	24.6	25.6	17.3	55.3	15.5	9.3
Incr Delay (d2), s/veh	2.3	2.8	2.9	25.9	1.0	1.1	0.7	0.7	0.1	3.2	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.6	6.6	7.6	3.2	3.3	15.8	15.3	2.9	4.8	13.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	37.7	37.9	77.5	33.5	33.6	25.3	26.3	17.4	58.5	16.0	9.4
LnGrp LOS	D	D	D	E	C	C	C	C	B	E	B	A
Approach Vol, veh/h		601			460			1510			1832	
Approach Delay, s/veh		38.4			51.5			24.8			19.1	
Approach LOS		D			D			C			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		82.5		42.5	15.5	67.0		42.5				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		67.0		29.9	21.0	63.0		25.4				
Max Q Clear Time (g_c+I1), s		38.6		40.4	12.3	43.1		18.7				
Green Ext Time (p_c), s		15.1		0.0	0.2	10.4		1.9				

Intersection Summary												
HCM 6th Ctrl Delay			27.1									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	181	537	552	48	357	415	129	43	124	102
v/c Ratio	0.68	0.55	0.58	0.30	0.48	1.11	0.23	0.08	0.23	0.19
Control Delay	52.6	20.3	11.2	48.2	24.7	113.5	28.1	3.7	28.2	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	20.3	11.2	48.2	24.7	113.5	28.1	3.7	28.2	6.5
Queue Length 50th (ft)	109	241	117	29	161	~301	61	0	58	0
Queue Length 95th (ft)	180	368	239	66	262	#517	114	15	112	39
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	358	968	956	358	748	375	565	526	538	551
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.55	0.58	0.13	0.48	1.11	0.23	0.08	0.23	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	510	524	46	313	27	394	123	41	18	100	97
Future Volume (veh/h)	172	510	524	46	313	27	394	123	41	18	100	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	537	552	48	329	28	415	129	43	19	105	102
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	900	762	107	712	61	387	588	498	99	503	498
Arrive On Green	0.12	0.48	0.48	0.06	0.42	0.42	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	1870	1585	1781	1700	145	1175	1870	1585	175	1600	1585
Grp Volume(v), veh/h	181	537	552	48	0	357	415	129	43	124	0	102
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1844	1175	1870	1585	1775	0	1585
Q Serve(g_s), s	9.5	20.0	26.5	2.5	0.0	13.3	25.3	4.9	1.8	0.0	0.0	4.5
Cycle Q Clear(g_c), s	9.5	20.0	26.5	2.5	0.0	13.3	30.0	4.9	1.8	4.7	0.0	4.5
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	0.15		1.00
Lane Grp Cap(c), veh/h	218	900	762	107	0	773	387	588	498	601	0	498
V/C Ratio(X)	0.83	0.60	0.72	0.45	0.00	0.46	1.07	0.22	0.09	0.21	0.00	0.20
Avail Cap(c_a), veh/h	373	900	762	373	0	773	387	588	498	601	0	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.9	18.0	19.7	43.3	0.0	20.0	37.5	24.1	23.1	24.1	0.0	24.0
Incr Delay (d2), s/veh	7.9	2.9	5.9	2.9	0.0	2.0	66.1	0.2	0.1	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	9.1	10.7	1.2	0.0	6.1	16.3	2.2	0.7	2.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	21.0	25.6	46.2	0.0	22.0	103.6	24.3	23.2	24.2	0.0	24.2
LnGrp LOS	D	C	C	D	A	C	F	C	C	C	A	C
Approach Vol, veh/h		1270			405			587			226	
Approach Delay, s/veh		27.0			24.9			80.3			24.2	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	50.5		34.6	16.3	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	4.5	28.5		6.7	11.5	15.3		32.0				
Green Ext Time (p_c), s	0.1	4.7		0.8	0.3	2.4		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			39.0									
HCM 6th LOS			D									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	303	866	325	272	378	227	272	1679	74	361	1295	108
v/c Ratio	0.97	0.81	0.60	0.65	0.43	0.30	0.88	1.75	0.11	1.11	1.30	0.22
Control Delay	96.4	47.9	32.1	59.8	41.5	17.8	79.1	369.3	11.0	117.5	179.6	19.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	47.9	32.1	59.8	41.5	17.8	79.1	369.3	11.0	117.5	179.6	19.4
Queue Length 50th (ft)	246	340	160	109	136	88	214	~1060	16	~337	~728	33
Queue Length 95th (ft)	#429	#474	275	151	185	147	#358	#1199	43	m#493	m#817	m67
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	311	1068	542	604	874	758	325	962	780	325	996	496
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.81	0.60	0.45	0.43	0.30	0.84	1.75	0.09	1.11	1.30	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	840	315	264	367	220	264	1629	72	350	1256	105
Future Volume (veh/h)	294	840	315	264	367	220	264	1629	72	350	1256	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	303	866	325	272	378	227	272	1679	74	361	1295	108
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	1182	527	340	907	696	298	938	575	328	997	445
Arrive On Green	0.18	0.33	0.33	0.10	0.26	0.26	0.17	0.26	0.26	0.06	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	303	866	325	272	378	227	272	1679	74	361	1295	108
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	21.1	26.9	21.5	9.6	11.1	11.7	18.8	33.0	3.9	23.0	35.1	7.9
Cycle Q Clear(g_c), s	21.1	26.9	21.5	9.6	11.1	11.7	18.8	33.0	3.9	23.0	35.1	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	1182	527	340	907	696	298	938	575	328	997	445
V/C Ratio(X)	0.97	0.73	0.62	0.80	0.42	0.33	0.91	1.79	0.13	1.10	1.30	0.24
Avail Cap(c_a), veh/h	314	1182	527	608	907	696	328	938	575	328	997	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.61	0.61	0.61
Uniform Delay (d), s/veh	51.1	36.8	35.0	55.1	38.8	22.9	51.1	46.0	26.6	58.7	56.7	44.4
Incr Delay (d2), s/veh	41.7	4.0	5.3	4.3	1.4	1.2	27.1	359.6	0.5	69.5	139.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.1	12.4	9.2	4.4	5.1	4.7	10.5	61.2	1.6	17.3	36.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.8	40.8	40.3	59.5	40.2	24.2	78.2	405.6	27.1	128.2	196.0	45.2
LnGrp LOS	F	D	D	E	D	C	E	F	C	F	F	D
Approach Vol, veh/h		1494			877			2025			1764	
Approach Delay, s/veh		51.3			42.0			347.8			172.9	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.4	39.1	25.5	36.0	26.5	37.0	15.8	45.7
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	23.0	34.0	22.0	30.9	23.0	33.0	22.0	29.9
Max Q Clear Time (g_c+I1), s	20.8	37.1	23.1	13.7	25.0	35.0	11.6	28.9
Green Ext Time (p_c), s	0.2	0.0	0.0	3.2	0.0	0.0	0.7	0.7

Intersection Summary	
HCM 6th Ctrl Delay	182.3
HCM 6th LOS	F

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	8	45	11	23	2	99	86	10	2	66	0
Future Vol, veh/h	2	8	45	11	23	2	99	86	10	2	66	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	49	12	25	2	108	93	11	2	72	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.9	8.7	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	51%	4%	31%	3%
Vol Thru, %	44%	15%	64%	97%
Vol Right, %	5%	82%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	195	55	36	68
LT Vol	99	2	11	2
Through Vol	86	8	23	66
RT Vol	10	45	2	0
Lane Flow Rate	212	60	39	74
Geometry Grp	1	1	1	1
Degree of Util (X)	0.249	0.069	0.051	0.09
Departure Headway (Hd)	4.234	4.142	4.674	4.384
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	837	869	770	820
Service Time	2.318	2.148	2.68	2.394
HCM Lane V/C Ratio	0.253	0.069	0.051	0.09
HCM Control Delay	8.7	7.5	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.2	0.3

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	11	2	3	11	3	6	23	2	0	72	8
Future Vol, veh/h	2	11	2	3	11	3	6	23	2	0	72	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	12	2	3	12	3	7	25	2	0	78	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.2	7.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	13%	18%	0%
Vol Thru, %	74%	73%	65%	90%
Vol Right, %	6%	13%	18%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	15	17	80
LT Vol	6	2	3	0
Through Vol	23	11	11	72
RT Vol	2	2	3	8
Lane Flow Rate	34	16	18	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.019	0.021	0.096
Departure Headway (Hd)	4.058	4.103	4.084	3.958
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	880	866	870	905
Service Time	2.094	2.16	2.14	1.984
HCM Lane V/C Ratio	0.039	0.018	0.021	0.096
HCM Control Delay	7.3	7.2	7.2	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.3

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	360	373	1390
v/c Ratio	0.39	0.21	1.06
Control Delay	9.9	7.9	62.2
Queue Delay	0.0	0.0	0.0
Total Delay	9.9	7.9	62.2
Queue Length 50th (ft)	64	31	~254
Queue Length 95th (ft)	114	51	#369
Internal Link Dist (ft)	135	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1310
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.39	0.21	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	346	0	0	358	1219	115
Future Volume (veh/h)	346	0	0	358	1219	115
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	360	0	0	373	1382	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	360	0	0	373	1382	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	6.3	0.0	0.0	3.1	20.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	3.1	20.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.39	0.00	0.00	0.21	1.02	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	7.5	16.3	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.0	29.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	0.9	12.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.6	0.0	0.0	7.5	46.0	0.0
LnGrp LOS	A	A	A	A	F	A
Approach Vol, veh/h	360			373	1382	
Approach Delay, s/veh	9.6			7.5	46.0	
Approach LOS	A			A	D	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	23.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	8.3				5.1	22.0
Green Ext Time (p_c), s	0.3				0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1101	229	1235	359	11	1361	148	1153	375
v/c Ratio	0.73	1.05	0.72	0.79	0.02	0.85	0.58	0.86	0.73
Control Delay	40.3	125.9	28.1	81.2	22.7	17.4	65.2	51.6	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	125.9	28.1	81.2	22.7	17.4	65.2	51.6	35.8
Queue Length 50th (ft)	240	~201	402	157	4	79	60	330	183
Queue Length 95th (ft)	m285	#365	486	210	m9	136	96	#392	304
Internal Link Dist (ft)	538		219		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1509	219	1723	480	596	1592	260	1341	516
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	1.05	0.72	0.75	0.02	0.85	0.57	0.86	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	860	141	211	1117	19	330	10	1252	136	1061	345
Future Volume (veh/h)	12	860	141	211	1117	19	330	10	1252	136	1061	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	935	153	229	1214	21	359	11	1361	148	1153	375
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	1401	227	221	1760	30	418	597	1154	247	1378	428
Arrive On Green	0.22	0.22	0.22	0.12	0.49	0.49	0.12	0.32	0.32	0.07	0.27	0.27
Sat Flow, veh/h	24	4215	683	1781	3574	62	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	402	345	354	229	603	632	359	11	1361	148	1153	375
Grp Sat Flow(s),veh/h/ln	1794	1549	1579	1781	1777	1859	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	1.3	25.5	25.6	15.5	32.6	32.6	12.7	0.5	39.9	5.2	26.6	28.3
Cycle Q Clear(g_c), s	24.5	25.5	25.6	15.5	32.6	32.6	12.7	0.5	39.9	5.2	26.6	28.3
Prop In Lane	0.03		0.43	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	626	515	525	221	875	916	418	597	1154	247	1378	428
V/C Ratio(X)	0.64	0.67	0.67	1.04	0.69	0.69	0.86	0.02	1.18	0.60	0.84	0.88
Avail Cap(c_a), veh/h	626	515	525	221	875	916	484	597	1154	263	1378	428
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	42.3	42.4	54.8	24.4	24.4	53.9	29.1	42.5	56.3	43.0	43.6
Incr Delay (d2), s/veh	3.5	4.8	4.7	70.5	4.4	4.2	10.7	0.0	88.4	3.4	6.2	21.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	10.9	11.2	11.3	14.8	15.4	6.1	0.2	21.0	2.4	11.8	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	47.1	47.1	125.2	28.8	28.6	64.6	29.2	131.0	59.6	49.2	65.2
LnGrp LOS	D	D	D	F	C	C	E	C	F	E	D	E
Approach Vol, veh/h		1101			1464			1731			1676	
Approach Delay, s/veh		46.5			43.8			116.6			53.7	
Approach LOS		D			D			F			D	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	45.0		66.6	19.6	38.8	20.0	46.6
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0
Max Green Setting (Gmax), s	9.5	39.9		61.0	17.5	* 32	15.5	41.0
Max Q Clear Time (g_c+I1), s	7.2	41.9		34.6	14.7	30.3	17.5	27.6
Green Ext Time (p_c), s	0.1	0.0		10.3	0.4	1.3	0.0	6.2

Intersection Summary		
HCM 6th Ctrl Delay		68.2
HCM 6th LOS		E

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	666	61	1005	709	59	388	103	236	263	157
v/c Ratio	0.68	0.57	0.47	1.08	0.88	1.00	0.44	0.21	1.16	0.35	0.35
Control Delay	68.9	62.0	72.2	87.2	20.7	166.4	41.3	3.6	155.7	43.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	62.0	72.2	87.2	23.1	166.4	41.3	3.6	155.7	43.7	10.6
Queue Length 50th (ft)	122	299	44	~482	247	48	140	0	~225	96	8
Queue Length 95th (ft)	m190	363	m64	#692	#448	#142	189	24	#391	137	67
Internal Link Dist (ft)		930		538			448			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	288	1166	133	934	805	59	886	497	204	744	446
Starvation Cap Reductn	0	0	0	0	36	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.57	0.46	1.08	0.92	1.00	0.44	0.21	1.16	0.35	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	613	20	58	955	674	56	369	98	224	250	149
Future Volume (veh/h)	135	613	20	58	955	674	56	369	98	224	250	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	645	21	61	1005	709	59	388	103	236	263	157
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	2132	69	113	2042	911	200	748	333	160	748	333
Arrive On Green	0.03	0.20	0.20	0.06	0.57	0.57	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	3512	114	1781	3554	1585	967	3554	1585	906	3554	1585
Grp Volume(v), veh/h	142	326	340	61	1005	709	59	388	103	236	263	157
Grp Sat Flow(s),veh/h/ln	1781	1777	1850	1781	1777	1585	967	1777	1585	906	1777	1585
Q Serve(g_s), s	9.9	19.5	19.6	4.2	21.0	43.0	6.9	12.1	6.9	14.2	7.9	10.9
Cycle Q Clear(g_c), s	9.9	19.5	19.6	4.2	21.0	43.0	14.8	12.1	6.9	26.3	7.9	10.9
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	1079	1123	113	2042	911	200	748	333	160	748	333
V/C Ratio(X)	0.83	0.30	0.30	0.54	0.49	0.78	0.30	0.52	0.31	1.47	0.35	0.47
Avail Cap(c_a), veh/h	291	1079	1123	134	2042	911	239	890	397	160	748	333
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.60	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	27.4	27.5	56.8	15.8	20.5	48.4	43.7	41.7	57.9	42.1	43.3
Incr Delay (d2), s/veh	6.7	0.6	0.6	1.8	0.5	4.0	0.8	0.6	0.5	242.3	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	9.5	9.9	1.9	8.6	16.5	1.7	5.4	2.7	15.9	3.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	28.1	28.1	58.6	16.3	24.5	49.2	44.3	42.2	300.3	42.4	44.3
LnGrp LOS	E	C	C	E	B	C	D	D	D	F	D	D
Approach Vol, veh/h		808			1775			550			656	
Approach Delay, s/veh		34.8			21.0			44.4			135.6	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	80.5		32.0	16.6	76.4		32.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	9.4	38.4		* 26	20.4	27.4		* 31				
Max Q Clear Time (g_c+I1), s	6.2	21.6		28.3	11.9	45.0		16.8				
Green Ext Time (p_c), s	0.0	3.3		0.0	0.2	0.0		2.8				

Intersection Summary		
HCM 6th Ctrl Delay		47.2
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	84	868	46	1226	107	121	57	136
v/c Ratio	0.56	0.48	0.43	0.74	0.72	0.54	0.19	0.96
Control Delay	69.1	23.3	80.0	12.4	77.2	59.5	1.3	110.9
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	23.7	80.0	12.4	77.2	59.5	1.3	110.9
Queue Length 50th (ft)	67	248	40	77	84	93	0	99
Queue Length 95th (ft)	118	362	m45	m99	140	148	0	#214
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	204	1798	133	1663	233	348	405	167
Starvation Cap Reductn	0	388	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.62	0.35	0.74	0.46	0.35	0.14	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	773	77	45	1176	25	105	119	56	11	91	31
Future Volume (veh/h)	82	773	77	45	1176	25	105	119	56	11	91	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	789	79	46	1200	26	107	121	57	11	93	32
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	2336	234	80	2494	54	187	241	204	40	164	53
Arrive On Green	0.06	0.72	0.72	0.09	1.00	1.00	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1781	3262	327	1781	3556	77	1266	1870	1585	69	1275	414
Grp Volume(v), veh/h	84	430	438	46	599	627	107	121	57	136	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1812	1781	1777	1856	1266	1870	1585	1758	0	0
Q Serve(g_s), s	5.8	11.3	11.3	3.1	0.0	0.0	4.7	7.5	4.1	0.9	0.0	0.0
Cycle Q Clear(g_c), s	5.8	11.3	11.3	3.1	0.0	0.0	13.7	7.5	4.1	9.0	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.04	1.00		1.00	0.08		0.24
Lane Grp Cap(c), veh/h	106	1272	1297	80	1246	1302	187	241	204	258	0	0
V/C Ratio(X)	0.79	0.34	0.34	0.58	0.48	0.48	0.57	0.50	0.28	0.53	0.00	0.00
Avail Cap(c_a), veh/h	205	1272	1297	134	1246	1302	261	350	297	399	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	0.14	0.14	0.14	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	58.0	6.6	6.6	55.8	0.0	0.0	54.1	50.7	49.2	51.3	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.4	0.4	0.3	0.2	0.2	1.0	0.6	0.3	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.2	4.3	1.4	0.1	0.1	3.4	3.6	1.6	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	7.0	7.0	56.1	0.2	0.2	55.1	51.3	49.5	51.9	0.0	0.0
LnGrp LOS	E	A	A	E	A	A	E	D	D	D	A	A
Approach Vol, veh/h		952			1272			285			136	
Approach Delay, s/veh		11.8			2.2			52.4			51.9	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	92.3		20.7	10.2	94.1		20.7				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	14.4	42.4		23.4	9.4	47.4		26.4				
Max Q Clear Time (g_c+I1), s	7.8	2.0		15.7	5.1	13.3		11.0				
Green Ext Time (p_c), s	0.0	11.8		0.4	0.0	6.9		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			13.6									
HCM 6th LOS			B									

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	489	361	486	444	125	1580	495	273	1169
v/c Ratio	0.92	0.46	0.60	0.81	0.73	1.18	0.69	0.67	0.83
Control Delay	76.7	46.9	49.9	34.2	82.2	125.5	26.4	64.5	42.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.7	46.9	49.9	34.2	82.2	125.5	26.4	64.5	42.0
Queue Length 50th (ft)	214	139	199	172	105	~860	222	118	480
Queue Length 95th (ft)	#327	196	269	#356	#191	#1048	374	165	574
Internal Link Dist (ft)	1368		469			1567			283
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	552	780	804	549	194	1341	720	520	1473
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.46	0.60	0.81	0.64	1.18	0.69	0.53	0.79

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	268	67	347	467	426	120	1517	475	262	1001	121
Future Volume (veh/h)	134	268	67	347	467	426	120	1517	475	262	1001	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	279	70	361	486	444	125	1580	495	273	1043	126
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	339	88	544	560	250	153	1555	694	346	1443	174
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.09	0.44	0.44	0.10	0.45	0.45
Sat Flow, veh/h	986	2070	539	3456	3554	1585	1781	3554	1585	3456	3192	385
Grp Volume(v), veh/h	258	0	231	361	486	444	125	1580	495	273	580	589
Grp Sat Flow(s),veh/h/ln	1821	0	1773	1728	1777	1585	1781	1777	1585	1728	1777	1801
Q Serve(g_s), s	15.8	0.0	14.3	11.2	15.2	18.0	7.9	50.0	29.2	8.8	30.4	30.4
Cycle Q Clear(g_c), s	15.8	0.0	14.3	11.2	15.2	18.0	7.9	50.0	29.2	8.8	30.4	30.4
Prop In Lane	0.54		0.30	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	298	0	291	544	560	250	153	1555	694	346	803	814
V/C Ratio(X)	0.87	0.00	0.79	0.66	0.87	1.78	0.82	1.02	0.71	0.79	0.72	0.72
Avail Cap(c_a), veh/h	333	0	324	544	560	250	226	1555	694	605	803	814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	0.0	45.9	45.3	47.0	48.1	51.4	32.1	26.3	50.2	25.5	25.5
Incr Delay (d2), s/veh	19.2	0.0	11.6	6.3	16.5	365.9	13.6	26.9	6.2	4.0	5.6	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.0	7.3	5.3	8.1	32.5	4.1	26.2	11.8	4.0	13.6	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	0.0	57.5	51.5	63.5	414.0	64.9	59.0	32.4	54.3	31.1	31.0
LnGrp LOS	E	A	E	D	E	F	E	F	C	D	C	C
Approach Vol, veh/h		489			1291			2200			1442	
Approach Delay, s/veh		61.8			180.7			53.4			35.4	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.3	55.6		22.0	15.9	54.0		22.3				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	9.9	32.4		20.0	10.8	52.0		17.8				
Green Ext Time (p_c), s	0.1	4.3		0.0	0.6	0.0		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		79.7
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	441	57	95	45	89	104	120	979	26	55	1045	403
v/c Ratio	0.71	0.08	0.13	0.08	0.14	0.16	0.65	0.55	0.04	0.45	0.70	0.66
Control Delay	30.8	25.6	1.1	18.0	29.6	1.9	69.4	34.8	0.1	47.4	62.8	48.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	25.6	1.1	18.0	29.6	1.9	69.4	34.8	0.1	47.4	62.8	48.6
Queue Length 50th (ft)	239	29	0	19	50	0	94	241	0	47	327	259
Queue Length 95th (ft)	336	60	8	41	90	15	157	288	0	m55	m371	m315
Internal Link Dist (ft)		299			401			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	625	738	716	670	630	633	225	1784	620	126	1491	611
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.08	0.13	0.07	0.14	0.16	0.53	0.55	0.04	0.44	0.70	0.66

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	55	91	43	85	100	115	940	25	53	1003	387
Future Volume (veh/h)	423	55	91	43	85	100	115	940	25	53	1003	387
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	441	57	95	45	89	104	120	979	26	55	1045	403
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	631	757	641	598	664	563	146	1671	519	97	1530	475
Arrive On Green	0.11	0.40	0.40	0.06	0.36	0.36	0.08	0.33	0.33	0.05	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	441	57	95	45	89	104	120	979	26	55	1045	403
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	13.3	2.3	4.7	1.9	4.0	5.7	8.3	19.9	1.4	3.8	22.5	29.8
Cycle Q Clear(g_c), s	13.3	2.3	4.7	1.9	4.0	5.7	8.3	19.9	1.4	3.8	22.5	29.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	631	757	641	598	664	563	146	1671	519	97	1530	475
V/C Ratio(X)	0.70	0.08	0.15	0.08	0.13	0.18	0.82	0.59	0.05	0.57	0.68	0.85
Avail Cap(c_a), veh/h	631	757	641	714	664	563	227	1671	519	127	1530	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Uniform Delay (d), s/veh	25.5	22.9	23.6	22.2	27.3	27.8	56.5	35.0	28.8	57.7	38.5	41.1
Incr Delay (d2), s/veh	3.4	0.2	0.5	0.1	0.4	0.7	12.9	1.5	0.2	1.7	0.8	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	1.1	1.9	0.8	1.9	2.3	4.2	8.4	0.6	1.7	9.4	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	23.0	24.1	22.2	27.7	28.5	69.3	36.5	28.9	59.4	39.4	47.5
LnGrp LOS	C	C	C	C	C	C	E	D	C	E	D	D
Approach Vol, veh/h		593			238			1125			1503	
Approach Delay, s/veh		27.5			27.0			39.8			42.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	42.6	18.0	49.1	11.9	46.0	11.8	55.3
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	15.9	33.9	* 13	* 42	8.9	40.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	10.3	31.8	15.3	7.7	5.8	21.9	3.9	6.7
Green Ext Time (p_c), s	0.1	1.5	0.0	0.8	0.0	6.7	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	431	492	81	116	32	27	252
v/c Ratio	1.28dl	0.54	0.47	0.22	0.06	0.20	0.59
Control Delay	48.5	33.3	50.3	28.4	0.2	46.0	29.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	33.3	50.3	28.4	0.2	46.0	29.3
Queue Length 50th (ft)	127	135	48	48	0	16	91
Queue Length 95th (ft)	#227	197	94	108	0	43	181
Internal Link Dist (ft)	447	490		392			777
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	519	906	303	529	534	303	426
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.54	0.27	0.22	0.06	0.09	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	257	45	19	429	19	77	110	30	26	82	158
Future Volume (veh/h)	107	257	45	19	429	19	77	110	30	26	82	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	271	47	20	452	20	81	116	32	27	86	166
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	594	107	37	879	41	118	455	386	67	123	237
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.07	0.24	0.24	0.04	0.22	0.22
Sat Flow, veh/h	909	2298	413	144	3403	158	1781	1870	1585	1781	571	1101
Grp Volume(v), veh/h	227	0	204	259	0	233	81	116	32	27	0	252
Grp Sat Flow(s),veh/h/ln	1825	0	1796	1863	0	1842	1781	1870	1585	1781	0	1672
Q Serve(g_s), s	9.8	0.0	8.8	11.1	0.0	10.0	4.1	4.6	1.4	1.4	0.0	12.9
Cycle Q Clear(g_c), s	9.8	0.0	8.8	11.1	0.0	10.0	4.1	4.6	1.4	1.4	0.0	12.9
Prop In Lane	0.50		0.23	0.08		0.09	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	471	0	464	481	0	476	118	455	386	67	0	360
V/C Ratio(X)	0.48	0.00	0.44	0.54	0.00	0.49	0.69	0.25	0.08	0.40	0.00	0.70
Avail Cap(c_a), veh/h	471	0	464	481	0	476	307	455	386	307	0	360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.2	0.0	28.8	29.7	0.0	29.3	42.5	28.4	27.1	43.7	0.0	33.7
Incr Delay (d2), s/veh	3.5	0.0	3.0	4.3	0.0	3.6	2.7	1.3	0.4	1.4	0.0	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	4.1	5.5	0.0	4.8	1.9	2.2	0.6	0.6	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	0.0	31.9	33.9	0.0	32.9	45.1	29.7	27.6	45.1	0.0	44.5
LnGrp LOS	C	A	C	C	A	C	D	C	C	D	A	D
Approach Vol, veh/h		431			492			229			279	
Approach Delay, s/veh		32.3			33.4			34.9			44.6	
Approach LOS		C			C			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	8.2	27.3		28.7	10.8	24.7				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		11.8	3.4	6.6		13.1	6.1	14.9				
Green Ext Time (p_c), s		1.4	0.0	0.3		1.5	0.1	0.4				

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	52	167	190	571	2029	207	110	1439	102
v/c Ratio	0.54	0.20	0.68	0.67	1.38	0.22	0.61	0.58	0.09
Control Delay	64.0	26.6	56.8	43.2	199.6	10.5	67.2	10.9	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.0	26.6	56.8	43.2	199.6	10.5	67.2	10.9	4.1
Queue Length 50th (ft)	37	38	140	200	~1130	47	86	283	15
Queue Length 95th (ft)	#93	69	#230	265	m#1034	m49	145	340	33
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	97	846	280	849	1466	922	240	2463	1113
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.20	0.68	0.67	1.38	0.22	0.46	0.58	0.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

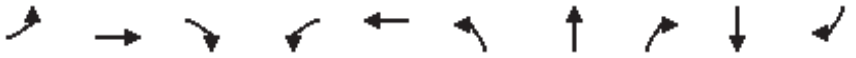
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	114	51	188	388	177	85	1924	205	109	1425	101
Future Volume (veh/h)	51	114	51	188	388	177	85	1924	205	109	1425	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	115	52	190	392	179	86	1943	207	110	1439	102
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	724	311	377	712	321	76	1459	850	136	2261	1008
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.54	0.54	0.54	0.08	0.64	0.64
Sat Flow, veh/h	841	2421	1039	1218	2381	1073	84	2723	1585	1781	3554	1585
Grp Volume(v), veh/h	52	83	84	190	291	280	1001	1028	207	110	1439	102
Grp Sat Flow(s),veh/h/ln	841	1777	1683	1218	1777	1677	1189	1617	1585	1781	1777	1585
Q Serve(g_s), s	6.9	4.3	4.6	17.0	17.2	17.5	48.6	67.0	8.7	7.6	30.9	3.1
Cycle Q Clear(g_c), s	24.5	4.3	4.6	21.7	17.2	17.5	67.0	67.0	8.7	7.6	30.9	3.1
Prop In Lane	1.00		0.62	1.00		0.64	0.09		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	531	503	377	531	502	669	867	850	136	2261	1008
V/C Ratio(X)	0.27	0.16	0.17	0.50	0.55	0.56	1.50	1.19	0.24	0.81	0.64	0.10
Avail Cap(c_a), veh/h	191	531	503	377	531	502	669	867	850	242	2261	1008
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.83	0.83	0.83	0.09	0.09	0.09	0.58	0.58	0.58
Uniform Delay (d), s/veh	47.2	32.2	32.3	40.3	36.7	36.9	32.7	29.0	15.5	56.9	13.9	8.8
Incr Delay (d2), s/veh	3.5	0.6	0.7	4.0	3.4	3.7	224.6	84.7	0.1	6.6	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.0	2.0	5.5	8.0	7.7	61.8	44.7	3.1	3.6	11.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	32.8	33.0	44.3	40.1	40.5	257.3	113.7	15.5	63.5	14.7	9.0
LnGrp LOS	D	C	C	D	D	D	F	F	B	E	B	A
Approach Vol, veh/h		219			761			2236			1651	
Approach Delay, s/veh		37.1			41.3			168.9			17.6	
Approach LOS		D			D			F			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		83.5		41.5	12.5	71.0		41.5				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		68.0		29.9	17.0	67.0		25.0				
Max Q Clear Time (g_c+I1), s		32.9		23.7	9.6	69.0		26.5				
Green Ext Time (p_c), s		14.8		2.3	0.1	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			91.7									
HCM 6th LOS			F									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	115	331	406	69	520	455	159	58	189	233
v/c Ratio	0.54	0.38	0.44	0.39	0.67	1.36	0.27	0.11	0.34	0.35
Control Delay	49.1	19.3	5.6	47.1	28.0	209.5	26.8	6.3	28.0	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	19.3	5.6	47.1	28.0	209.5	26.8	6.3	28.0	5.2
Queue Length 50th (ft)	66	131	25	40	246	~364	72	0	87	0
Queue Length 95th (ft)	121	214	93	83	393	#586	132	25	157	54
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	371	870	916	371	780	335	586	543	549	658
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.38	0.44	0.19	0.67	1.36	0.27	0.11	0.34	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	321	394	67	495	10	441	154	56	30	153	226
Future Volume (veh/h)	112	321	394	67	495	10	441	154	56	30	153	226
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	331	406	69	510	10	455	159	58	31	158	233
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	838	710	129	800	16	330	614	520	108	514	520
Arrive On Green	0.08	0.45	0.45	0.07	0.44	0.44	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1781	1828	36	993	1870	1585	191	1564	1585
Grp Volume(v), veh/h	115	331	406	69	0	520	455	159	58	189	0	233
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1864	993	1870	1585	1755	0	1585
Q Serve(g_s), s	5.8	10.8	17.4	3.4	0.0	19.9	23.1	5.7	2.3	0.0	0.0	10.6
Cycle Q Clear(g_c), s	5.8	10.8	17.4	3.4	0.0	19.9	30.0	5.7	2.3	6.9	0.0	10.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.16		1.00
Lane Grp Cap(c), veh/h	147	838	710	129	0	816	330	614	520	622	0	520
V/C Ratio(X)	0.78	0.39	0.57	0.54	0.00	0.64	1.38	0.26	0.11	0.30	0.00	0.45
Avail Cap(c_a), veh/h	390	838	710	390	0	816	330	614	520	622	0	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	16.9	18.7	40.9	0.0	20.0	36.9	22.5	21.4	22.9	0.0	24.2
Incr Delay (d2), s/veh	8.6	1.4	3.3	3.4	0.0	3.8	188.6	0.2	0.1	0.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.9	6.8	1.6	0.0	9.2	24.8	2.5	0.9	3.1	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	18.3	22.0	44.3	0.0	23.8	225.5	22.7	21.5	23.2	0.0	24.8
LnGrp LOS	D	B	C	D	A	C	F	C	C	C	A	C
Approach Vol, veh/h		852			589			672			422	
Approach Delay, s/veh		24.3			26.2			159.9			24.1	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	45.5		34.6	12.2	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	5.4	19.4		12.6	7.8	21.9		32.0				
Green Ext Time (p_c), s	0.1	3.6		1.2	0.2	3.4		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			60.7									
HCM 6th LOS			E									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	240	388	206	492	795	284	276	1437	114	250	1459	223
v/c Ratio	1.03	0.44	0.42	1.16	0.94	0.40	0.90	1.16	0.14	0.89	1.23	0.36
Control Delay	119.9	41.7	17.7	142.2	66.2	22.8	82.0	119.2	7.2	79.2	154.5	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.9	41.7	17.7	142.2	66.2	22.8	82.0	119.2	7.2	79.2	154.5	22.4
Queue Length 50th (ft)	~207	140	48	~241	334	132	219	~733	17	201	~762	63
Queue Length 95th (ft)	#374	190	121	#352	#457	206	#373	#872	48	#350	#907	134
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	233	874	489	425	846	712	318	1237	837	290	1183	623
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.44	0.42	1.16	0.94	0.40	0.87	1.16	0.14	0.86	1.23	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	380	202	482	779	278	270	1408	112	245	1430	219
Future Volume (veh/h)	235	380	202	482	779	278	270	1408	112	245	1430	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	388	206	492	795	284	276	1437	114	250	1459	223
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	916	409	429	888	644	302	1212	737	278	1166	520
Arrive On Green	0.13	0.26	0.26	0.12	0.25	0.25	0.17	0.34	0.34	0.05	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	240	388	206	492	795	284	276	1437	114	250	1459	223
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.5	11.4	13.9	15.5	27.0	16.2	19.0	42.6	5.2	17.4	41.0	16.4
Cycle Q Clear(g_c), s	16.5	11.4	13.9	15.5	27.0	16.2	19.0	42.6	5.2	17.4	41.0	16.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	916	409	429	888	644	302	1212	737	278	1166	520
V/C Ratio(X)	1.02	0.42	0.50	1.15	0.90	0.44	0.92	1.19	0.15	0.90	1.25	0.43
Avail Cap(c_a), veh/h	235	916	409	429	888	644	321	1212	737	292	1166	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	54.2	38.6	39.6	54.8	45.3	26.9	51.0	41.2	19.3	58.3	55.7	44.8
Incr Delay (d2), s/veh	64.1	1.4	4.4	90.6	13.5	2.2	28.7	92.0	0.4	22.8	118.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	5.2	6.0	12.2	13.6	6.6	10.8	33.7	2.0	10.1	38.8	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	118.4	40.1	44.0	145.4	58.8	29.0	79.7	133.2	19.7	81.1	174.6	46.8
LnGrp LOS	F	D	D	F	E	C	E	F	B	F	F	D
Approach Vol, veh/h		834			1571			1827			1932	
Approach Delay, s/veh		63.6			80.5			118.1			147.8	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.7	45.0	20.0	35.3	23.0	46.6	19.0	36.3
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	22.5	41.0	16.5	29.9	20.5	41.0	15.5	29.4
Max Q Clear Time (g_c+I1), s	21.0	43.0	18.5	29.0	19.4	44.6	17.5	15.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.6	0.1	0.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	110.4
HCM 6th LOS	F

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	6	61	10	6	5	57	96	14	1	52	0
Future Vol, veh/h	1	6	61	10	6	5	57	96	14	1	52	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	7	66	11	7	5	62	104	15	1	57	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.6	8.3	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	1%	48%	2%
Vol Thru, %	57%	9%	29%	98%
Vol Right, %	8%	90%	24%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	68	21	53
LT Vol	57	1	10	1
Through Vol	96	6	6	52
RT Vol	14	61	5	0
Lane Flow Rate	182	74	23	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.21	0.081	0.029	0.068
Departure Headway (Hd)	4.164	3.958	4.498	4.246
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	855	911	800	831
Service Time	2.226	1.959	2.5	2.337
HCM Lane V/C Ratio	0.213	0.081	0.029	0.07
HCM Control Delay	8.3	7.3	7.6	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.3	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	14	8	1	10	8	4	29	3	6	31	4
Future Vol, veh/h	5	14	8	1	10	8	4	29	3	6	31	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	15	9	1	11	9	4	32	3	7	34	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7	7.2	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	19%	5%	15%
Vol Thru, %	81%	52%	53%	76%
Vol Right, %	8%	30%	42%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	27	19	41
LT Vol	4	5	1	6
Through Vol	29	14	10	31
RT Vol	3	8	8	4
Lane Flow Rate	39	29	21	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.032	0.022	0.05
Departure Headway (Hd)	4.026	3.955	3.86	4.02
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	889	902	923	890
Service Time	2.054	1.995	1.902	2.048
HCM Lane V/C Ratio	0.044	0.032	0.023	0.051
HCM Control Delay	7.2	7.1	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.2

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	401	371	1563
v/c Ratio	0.44	0.21	1.19
Control Delay	10.5	7.9	114.8
Queue Delay	0.0	0.0	0.0
Total Delay	10.5	7.9	114.8
Queue Length 50th (ft)	73	31	~317
Queue Length 95th (ft)	129	51	#436
Internal Link Dist (ft)	200	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1310
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.44	0.21	1.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	365	0	0	338	1323	99
Future Volume (veh/h)	365	0	0	338	1323	99
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	401	0	0	371	1556	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	401	0	0	371	1556	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	7.3	0.0	0.0	3.1	20.0	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	3.1	20.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.43	0.00	0.00	0.21	1.15	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.6	0.0	0.0	7.5	16.3	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.0	76.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	0.9	21.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.0	0.0	0.0	7.5	92.3	0.0
LnGrp LOS	B	A	A	A	F	A
Approach Vol, veh/h	401			371	1556	
Approach Delay, s/veh	10.0			7.5	92.3	
Approach LOS	B			A	F	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	23.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	9.3				5.1	22.0
Green Ext Time (p_c), s	0.4				0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	64.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1603	405	1058	130	14	849	294	1474	395
v/c Ratio	1.00	1.83	0.58	0.47	0.03	0.61	1.05	1.04	0.77
Control Delay	56.0	421.8	20.8	62.1	49.2	34.7	117.8	77.6	39.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	421.8	20.8	62.1	49.2	34.7	117.8	77.6	39.5
Queue Length 50th (ft)	463	~458	275	47	9	141	~123	~440	205
Queue Length 95th (ft)	m#515	#653	340	79	m23	192	#212	#536	#338
Internal Link Dist (ft)	538		243		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1609	221	1827	281	512	1400	281	1411	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	1.83	0.58	0.46	0.03	0.61	1.05	1.04	0.77

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1381	149	393	1011	16	126	14	824	285	1430	383
Future Volume (veh/h)	24	1381	149	393	1011	16	126	14	824	285	1430	383
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	1424	154	405	1042	16	130	14	849	294	1474	395
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	1560	167	223	1853	28	264	514	994	283	1432	445
Arrive On Green	0.12	0.12	0.12	0.13	0.52	0.52	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	42	4413	474	1781	3582	55	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	575	503	525	405	517	541	130	14	849	294	1474	395
Grp Sat Flow(s),veh/h/ln	1764	1549	1617	1781	1777	1860	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	19.9	37.3	37.3	14.5	23.0	23.0	4.2	0.6	25.8	9.5	32.5	27.7
Cycle Q Clear(g_c), s	37.2	37.3	37.3	14.5	23.0	23.0	4.2	0.6	25.8	9.5	32.5	27.7
Prop In Lane	0.04		0.29	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	656	547	571	223	919	962	264	514	994	283	1432	445
V/C Ratio(X)	0.88	0.92	0.92	1.82	0.56	0.56	0.49	0.03	0.85	1.04	1.03	0.89
Avail Cap(c_a), veh/h	656	547	571	223	919	962	283	514	994	283	1432	445
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.33	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	49.6	49.6	50.8	19.1	19.1	51.4	30.7	39.8	53.2	41.7	40.0
Incr Delay (d2), s/veh	5.8	9.7	9.4	385.7	2.5	2.4	1.3	0.1	8.8	64.0	31.6	22.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.8	17.0	17.7	30.3	10.0	10.5	1.8	0.3	8.3	6.6	17.5	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	59.3	59.0	436.4	21.5	21.4	52.7	30.8	48.6	117.2	73.3	62.3
LnGrp LOS	D	E	E	F	C	C	D	C	D	F	F	E
Approach Vol, veh/h		1603			1463			993			2163	
Approach Delay, s/veh		57.6			136.4			48.9			77.3	
Approach LOS		E			F			D			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	37.0		65.0	13.4	37.6	19.0	46.0				
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0				
Max Green Setting (Gmax), s	9.5	31.9		60.0	9.5	* 32	14.5	41.0				
Max Q Clear Time (g_c+I1), s	11.5	27.8		25.0	6.2	34.5	16.5	39.3				
Green Ext Time (p_c), s	0.0	1.6		9.1	0.1	0.0	0.0	1.4				

Intersection Summary		
HCM 6th Ctrl Delay		81.6
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	89	1236	112	1029	480	18	157	112	248	235	116
v/c Ratio	0.61	0.95	0.67	0.77	0.55	0.28	0.37	0.39	0.82	0.27	0.24
Control Delay	81.0	14.8	60.7	40.8	13.5	54.3	47.8	11.5	63.0	35.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.0	14.8	60.7	40.8	13.6	54.3	47.8	11.5	63.0	35.8	7.7
Queue Length 50th (ft)	72	~71	84	387	116	13	58	0	167	71	0
Queue Length 95th (ft)	m66	m#63	m#144	#514	186	34	82	48	#341	115	48
Internal Link Dist (ft)		930		538			474			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	148	1296	176	1338	875	111	741	420	307	895	487
Starvation Cap Reductn	0	0	0	0	17	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.95	0.64	0.77	0.56	0.16	0.21	0.27	0.81	0.26	0.24

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	1153	8	105	967	451	17	148	105	233	221	109
Future Volume (veh/h)	84	1153	8	105	967	451	17	148	105	233	221	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1227	9	112	1029	480	18	157	112	248	235	116
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	2083	15	138	2062	920	230	775	346	264	775	346
Arrive On Green	0.15	1.00	1.00	0.08	0.58	0.58	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3616	27	1781	3554	1585	1030	3554	1585	1110	3554	1585
Grp Volume(v), veh/h	89	603	633	112	1029	480	18	157	112	248	235	116
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1030	1777	1585	1110	1777	1585
Q Serve(g_s), s	5.5	0.0	0.0	7.2	19.8	21.1	1.7	4.2	6.9	21.1	6.4	7.2
Cycle Q Clear(g_c), s	5.5	0.0	0.0	7.2	19.8	21.1	8.2	4.2	6.9	25.3	6.4	7.2
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1024	1075	138	2062	920	230	775	346	264	775	346
V/C Ratio(X)	0.68	0.59	0.59	0.81	0.50	0.52	0.08	0.20	0.32	0.94	0.30	0.34
Avail Cap(c_a), veh/h	144	1024	1075	175	2062	920	230	775	346	264	775	346
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	0.0	52.7	14.4	14.7	41.4	37.1	38.2	49.4	38.0	38.3
Incr Delay (d2), s/veh	0.9	0.2	0.2	14.4	0.7	1.6	0.1	0.1	0.5	39.1	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.1	0.1	3.8	8.0	7.9	0.5	1.8	2.7	10.1	2.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	0.2	0.2	67.1	15.0	16.2	41.5	37.2	38.7	88.5	38.2	38.8
LnGrp LOS	D	A	A	E	B	B	D	D	D	F	D	D
Approach Vol, veh/h		1325			1621			287			599	
Approach Delay, s/veh		3.5			19.0			38.1			59.2	
Approach LOS		A			B			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.6	71.4		31.0	13.1	71.9		31.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	11.4	35.4		* 25	9.4	37.4		* 24				
Max Q Clear Time (g_c+I1), s	9.2	2.0		27.3	7.5	23.1		10.2				
Green Ext Time (p_c), s	0.0	9.0		0.0	0.0	7.0		1.2				

Intersection Summary		
HCM 6th Ctrl Delay		21.3
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	82	1340	222	884	127	67	85	167
v/c Ratio	0.59	1.15	0.89	0.61	0.74	0.26	0.27	1.16
Control Delay	68.7	115.3	67.3	52.6	72.0	44.7	7.5	162.0
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.7	115.4	67.3	52.6	72.0	44.7	7.5	162.0
Queue Length 50th (ft)	60	~621	178	367	92	45	0	~139
Queue Length 95th (ft)	#120	#761	m#355	437	150	83	31	#281
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	151	1161	250	1461	244	375	400	144
Starvation Cap Reductn	0	21	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	1.18	0.89	0.61	0.52	0.18	0.21	1.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	1099	120	202	793	12	116	61	77	20	90	42
Future Volume (veh/h)	75	1099	120	202	793	12	116	61	77	20	90	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	1208	132	222	871	13	127	67	85	22	99	46
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	2081	227	144	2389	36	211	292	248	56	173	74
Arrive On Green	0.06	0.64	0.64	0.03	0.22	0.22	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3232	352	1781	3584	53	1243	1870	1585	135	1109	473
Grp Volume(v), veh/h	82	663	677	222	432	452	127	67	85	167	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1807	1781	1777	1861	1243	1870	1585	1716	0	0
Q Serve(g_s), s	5.3	24.6	24.8	9.4	23.9	23.9	5.5	3.6	5.5	3.3	0.0	0.0
Cycle Q Clear(g_c), s	5.3	24.6	24.8	9.4	23.9	23.9	15.8	3.6	5.5	10.3	0.0	0.0
Prop In Lane	1.00		0.19	1.00		0.03	1.00		1.00	0.13		0.28
Lane Grp Cap(c), veh/h	104	1144	1163	144	1184	1240	211	292	248	303	0	0
V/C Ratio(X)	0.79	0.58	0.58	1.54	0.36	0.36	0.60	0.23	0.34	0.55	0.00	0.00
Avail Cap(c_a), veh/h	144	1144	1163	144	1184	1240	268	377	320	423	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.28	0.28	0.28	0.64	0.64	0.64	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	53.9	11.7	11.8	56.4	24.4	24.4	48.9	42.8	43.6	45.6	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.6	0.6	263.1	0.6	0.5	1.0	0.1	0.3	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	9.5	9.8	15.1	11.6	12.1	3.7	1.7	2.2	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	12.3	12.4	319.5	25.0	24.9	50.0	43.0	43.9	46.2	0.0	0.0
LnGrp LOS	E	B	B	F	C	C	D	D	D	D	A	A
Approach Vol, veh/h		1422			1106			279			167	
Approach Delay, s/veh		15.0			84.1			46.5			46.2	
Approach LOS		B			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	81.9		22.7	14.0	79.3		22.7				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	9.4	38.4		23.4	9.4	38.4		26.4				
Max Q Clear Time (g_c+I1), s	7.3	25.9		17.8	11.4	26.8		12.3				
Green Ext Time (p_c), s	0.0	4.8		0.3	0.0	7.1		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		45.4	
HCM 6th LOS		D	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	630	464	344	263	84	989	604	365	1480
v/c Ratio	1.16	0.61	0.44	0.52	0.57	0.76	0.73	0.79	1.00
Control Delay	140.6	51.6	47.7	15.5	74.5	42.0	19.2	69.7	62.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	140.6	51.6	47.7	15.5	74.5	42.0	19.2	69.7	62.3
Queue Length 50th (ft)	~347	193	140	42	73	405	180	162	677
Queue Length 95th (ft)	#474	252	190	130	128	491	339	218	#887
Internal Link Dist (ft)	1368		469			1567			427
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	542	761	784	510	189	1308	823	507	1480
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.61	0.44	0.52	0.44	0.76	0.73	0.72	1.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	442	82	445	330	252	81	949	580	350	1346	75
Future Volume (veh/h)	82	442	82	445	330	252	81	949	580	350	1346	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	460	85	464	344	262	84	989	604	365	1402	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	460	89	518	533	238	107	1480	660	433	1649	92
Arrive On Green	0.17	0.17	0.17	0.15	0.15	0.15	0.06	0.42	0.42	0.13	0.48	0.48
Sat Flow, veh/h	469	2644	512	3456	3554	1585	1781	3554	1585	3456	3423	190
Grp Volume(v), veh/h	335	0	295	464	344	262	84	989	604	365	726	754
Grp Sat Flow(s),veh/h/ln	1847	0	1778	1728	1777	1585	1781	1777	1585	1728	1777	1836
Q Serve(g_s), s	20.9	0.0	19.7	15.8	10.9	18.0	5.6	27.0	43.1	12.4	43.0	43.3
Cycle Q Clear(g_c), s	20.9	0.0	19.7	15.8	10.9	18.0	5.6	27.0	43.1	12.4	43.0	43.3
Prop In Lane	0.25		0.29	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	322	0	310	518	533	238	107	1480	660	433	856	885
V/C Ratio(X)	1.04	0.00	0.95	0.90	0.65	1.10	0.79	0.67	0.91	0.84	0.85	0.85
Avail Cap(c_a), veh/h	322	0	310	518	533	238	215	1480	660	576	856	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	0.0	49.1	50.1	48.0	51.0	55.7	28.3	33.0	51.3	27.2	27.3
Incr Delay (d2), s/veh	61.6	0.0	38.6	20.7	5.9	88.5	11.9	2.4	19.4	8.5	10.2	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.2	0.0	12.1	8.4	5.3	13.0	2.8	11.7	19.5	5.8	19.9	20.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.2	0.0	87.7	70.8	54.0	139.6	67.6	30.7	52.5	59.8	37.4	37.5
LnGrp LOS	F	A	F	E	D	F	E	C	D	E	D	D
Approach Vol, veh/h		630			1070			1677			1845	
Approach Delay, s/veh		100.2			82.2			40.4			41.9	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	61.9		22.0	19.6	54.0		24.5				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	7.6	45.3		20.0	14.4	45.1		22.9				
Green Ext Time (p_c), s	0.1	0.0		0.0	0.7	3.5		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		56.7
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	246	81	204	26	38	63	97	599	45	73	1656	451
v/c Ratio	0.37	0.10	0.25	0.06	0.06	0.09	0.63	0.39	0.08	0.55	1.23	0.85
Control Delay	25.3	20.8	3.8	24.2	24.3	0.3	69.4	34.1	0.3	53.3	140.5	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	20.8	3.8	24.2	24.3	0.3	69.4	34.1	0.3	53.3	140.5	28.5
Queue Length 50th (ft)	126	37	0	12	18	0	71	134	0	45	~549	137
Queue Length 95th (ft)	193	70	46	32	42	0	#129	172	0	m42	m#450	m120
Internal Link Dist (ft)		405			458			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	658	839	825	496	679	678	166	1521	580	135	1345	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.10	0.25	0.05	0.06	0.09	0.58	0.39	0.08	0.54	1.23	0.85

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	77	194	25	36	60	92	569	43	69	1573	428
Future Volume (veh/h)	234	77	194	25	36	60	92	569	43	69	1573	428
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	246	81	204	26	38	63	97	599	45	73	1656	451
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	632	841	713	420	682	578	121	1404	436	111	1375	427
Arrive On Green	0.13	0.45	0.45	0.04	0.36	0.36	0.07	0.28	0.28	0.06	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	246	81	204	26	38	63	97	599	45	73	1656	451
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	0.0	2.9	9.4	1.1	1.5	3.1	6.2	11.2	2.0	4.6	31.2	22.1
Cycle Q Clear(g_c), s	0.0	2.9	9.4	1.1	1.5	3.1	6.2	11.2	2.0	4.6	31.2	22.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	632	841	713	420	682	578	121	1404	436	111	1375	427
V/C Ratio(X)	0.39	0.10	0.29	0.06	0.06	0.11	0.80	0.43	0.10	0.66	1.20	1.06
Avail Cap(c_a), veh/h	632	841	713	576	682	578	167	1404	436	137	1375	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	26.5	18.4	20.2	25.6	23.9	24.4	53.3	34.5	21.2	53.2	42.4	21.2
Incr Delay (d2), s/veh	0.4	0.2	1.0	0.1	0.2	0.4	16.9	1.0	0.5	0.7	92.8	31.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	1.3	3.7	0.5	0.7	1.2	3.3	4.7	1.0	2.1	24.6	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	18.6	21.2	25.7	24.1	24.8	70.2	35.5	21.7	53.9	135.1	52.6
LnGrp LOS	C	B	C	C	C	C	E	D	C	D	F	F
Approach Vol, veh/h		531			127			741			2180	
Approach Delay, s/veh		23.4			24.7			39.2			115.3	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	36.3	19.7	47.0	12.3	37.0	9.8	56.9
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	10.9	29.9	* 13	* 42	8.9	31.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	8.2	33.2	2.0	5.1	6.6	13.2	3.1	11.4
Green Ext Time (p_c), s	0.0	0.0	0.5	0.4	0.0	3.9	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	82.7
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	841	350	28	122	18	36	364
v/c Ratio	1.61	0.37	0.20	0.29	0.04	0.25	0.77
Control Delay	309.2	28.3	44.1	32.7	0.2	44.7	39.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	309.2	28.3	44.1	32.7	0.2	44.7	39.0
Queue Length 50th (ft)	~389	88	16	61	0	21	145
Queue Length 95th (ft)	#523	132	43	114	0	51	#340
Internal Link Dist (ft)	447	311		392			959
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	523	943	317	417	446	317	474
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.61	0.37	0.09	0.29	0.04	0.11	0.77

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	507	112	24	266	24	25	110	16	32	132	195
Future Volume (veh/h)	139	507	112	24	266	24	25	110	16	32	132	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	563	124	27	296	27	28	122	18	36	147	217
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	638	147	72	819	78	70	411	348	82	155	228
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.04	0.22	0.22	0.05	0.23	0.23
Sat Flow, veh/h	632	2418	559	272	3106	296	1781	1870	1585	1781	682	1007
Grp Volume(v), veh/h	448	0	393	184	0	166	28	122	18	36	0	364
Grp Sat Flow(s),veh/h/ln	1839	0	1770	1857	0	1817	1781	1870	1585	1781	0	1689
Q Serve(g_s), s	21.6	0.0	19.1	7.4	0.0	6.7	1.4	5.0	0.8	1.8	0.0	19.3
Cycle Q Clear(g_c), s	21.6	0.0	19.1	7.4	0.0	6.7	1.4	5.0	0.8	1.8	0.0	19.3
Prop In Lane	0.34		0.32	0.15		0.16	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	485	0	467	490	0	479	70	411	348	82	0	383
V/C Ratio(X)	0.92	0.00	0.84	0.38	0.00	0.35	0.40	0.30	0.05	0.44	0.00	0.95
Avail Cap(c_a), veh/h	485	0	467	490	0	479	313	411	348	313	0	383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	0.0	31.7	27.4	0.0	27.1	42.7	29.6	28.0	42.3	0.0	34.7
Incr Delay (d2), s/veh	25.7	0.0	16.6	2.2	0.0	2.0	1.4	1.8	0.3	1.4	0.0	35.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	0.0	10.1	3.5	0.0	3.1	0.6	2.4	0.3	0.8	0.0	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	0.0	48.3	29.6	0.0	29.1	44.1	31.5	28.3	43.6	0.0	69.7
LnGrp LOS	E	A	D	C	A	C	D	C	C	D	A	E
Approach Vol, veh/h		841			350			168			400	
Approach Delay, s/veh		53.6			29.4			33.2			67.3	
Approach LOS		D			C			C			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	8.9	24.7		28.7	8.3	25.3				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		23.6	3.8	7.0		9.4	3.4	21.3				
Green Ext Time (p_c), s		0.2	0.0	0.3		1.1	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	50.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	507	197	277	1333	205	150	1566	116
v/c Ratio	0.45	0.61	1.63	0.33	0.79	0.23	0.68	0.64	0.10
Control Delay	48.3	43.8	349.2	37.3	8.3	0.8	67.0	11.8	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	43.8	349.2	37.3	8.3	0.8	67.0	11.8	4.3
Queue Length 50th (ft)	69	184	~229	90	81	2	118	328	18
Queue Length 95th (ft)	128	244	#384	131	m47	m0	182	393	37
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	221	838	121	838	1682	897	297	2463	1113
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.61	1.63	0.33	0.79	0.23	0.51	0.64	0.10

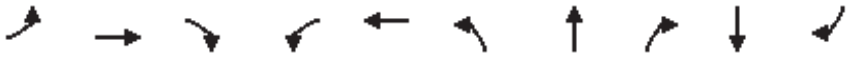
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	397	100	193	220	52	27	1279	201	147	1535	114
Future Volume (veh/h)	98	397	100	193	220	52	27	1279	201	147	1535	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	405	102	197	224	53	28	1305	205	150	1566	116
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	866	216	227	880	204	49	1635	799	178	2232	995
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.50	0.50	0.50	0.10	0.63	0.63
Sat Flow, veh/h	1102	2818	703	892	2864	664	38	3245	1585	1781	3554	1585
Grp Volume(v), veh/h	100	254	253	197	137	140	689	644	205	150	1566	116
Grp Sat Flow(s),veh/h/ln	1102	1777	1744	892	1777	1751	1666	1617	1585	1781	1777	1585
Q Serve(g_s), s	9.4	14.4	14.7	23.7	7.2	7.5	16.2	41.1	9.2	10.3	36.6	3.7
Cycle Q Clear(g_c), s	16.9	14.4	14.7	38.4	7.2	7.5	40.7	41.1	9.2	10.3	36.6	3.7
Prop In Lane	1.00		0.40	1.00		0.38	0.04		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	330	546	536	227	546	538	869	815	799	178	2232	995
V/C Ratio(X)	0.30	0.47	0.47	0.87	0.25	0.26	0.79	0.79	0.26	0.84	0.70	0.12
Avail Cap(c_a), veh/h	330	546	536	227	546	538	869	815	799	299	2232	995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	0.09	0.09	0.09	0.30	0.30	0.30
Uniform Delay (d), s/veh	39.0	35.0	35.1	52.3	32.5	32.6	24.7	25.6	17.7	55.3	15.5	9.3
Incr Delay (d2), s/veh	2.4	2.8	3.0	32.1	1.0	1.1	0.7	0.7	0.1	3.4	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.7	6.7	8.3	3.3	3.4	15.9	15.3	3.3	4.8	13.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	37.8	38.1	84.4	33.6	33.7	25.4	26.3	17.7	58.6	16.0	9.4
LnGrp LOS	D	D	D	F	C	C	C	C	B	E	B	A
Approach Vol, veh/h		607			474			1538			1832	
Approach Delay, s/veh		38.5			54.7			24.8			19.1	
Approach LOS		D			D			C			B	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		82.5		42.5	15.5	67.0		42.5				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		67.0		29.9	21.0	63.0		25.4				
Max Q Clear Time (g_c+I1), s		38.6		40.4	12.3	43.1		18.9				
Green Ext Time (p_c), s		15.1		0.0	0.2	10.5		1.9				
Intersection Summary												
HCM 6th Ctrl Delay			27.5									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	207	537	552	48	357	415	142	43	127	102
v/c Ratio	0.73	0.55	0.57	0.31	0.48	1.13	0.25	0.08	0.24	0.19
Control Delay	54.8	20.0	11.1	48.7	25.4	122.5	28.9	3.7	28.8	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	20.0	11.1	48.7	25.4	122.5	28.9	3.7	28.8	6.5
Queue Length 50th (ft)	127	241	117	30	166	~313	69	0	61	0
Queue Length 95th (ft)	204	368	239	66	262	#519	124	15	113	39
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	354	977	963	354	739	367	559	520	531	546
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.55	0.57	0.14	0.48	1.13	0.25	0.08	0.24	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	510	524	46	313	27	394	135	41	18	103	97
Future Volume (veh/h)	197	510	524	46	313	27	394	135	41	18	103	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	537	552	48	329	28	415	142	43	19	108	102
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	915	775	107	700	60	377	578	490	95	496	490
Arrive On Green	0.14	0.49	0.49	0.06	0.41	0.41	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	1870	1585	1781	1700	145	1172	1870	1585	169	1607	1585
Grp Volume(v), veh/h	207	537	552	48	0	357	415	142	43	127	0	102
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1844	1172	1870	1585	1776	0	1585
Q Serve(g_s), s	11.0	20.0	26.5	2.5	0.0	13.7	25.1	5.5	1.9	0.0	0.0	4.6
Cycle Q Clear(g_c), s	11.0	20.0	26.5	2.5	0.0	13.7	30.0	5.5	1.9	4.9	0.0	4.6
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	0.15		1.00
Lane Grp Cap(c), veh/h	244	915	775	107	0	760	377	578	490	591	0	490
V/C Ratio(X)	0.85	0.59	0.71	0.45	0.00	0.47	1.10	0.25	0.09	0.21	0.00	0.21
Avail Cap(c_a), veh/h	367	915	775	367	0	760	377	578	490	591	0	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.9	17.8	19.4	44.1	0.0	20.8	38.5	25.1	23.8	24.9	0.0	24.8
Incr Delay (d2), s/veh	11.3	2.8	5.5	3.0	0.0	2.1	76.1	0.2	0.1	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	9.1	10.6	1.2	0.0	6.3	17.1	2.5	0.7	2.2	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	20.5	25.0	47.1	0.0	22.9	114.6	25.3	23.9	25.1	0.0	25.0
LnGrp LOS	D	C	C	D	A	C	F	C	C	C	A	C
Approach Vol, veh/h		1296			405			600			229	
Approach Delay, s/veh		27.5			25.8			87.0			25.0	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	52.1		34.6	17.9	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	4.5	28.5		6.9	13.0	15.7		32.0				
Green Ext Time (p_c), s	0.1	4.7		0.8	0.3	2.3		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		41.1	
HCM 6th LOS		D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	318	878	325	272	378	227	272	1694	87	361	1301	111
v/c Ratio	1.02	0.82	0.60	0.65	0.43	0.30	0.88	1.76	0.12	1.11	1.31	0.22
Control Delay	107.6	48.5	32.2	59.8	41.5	18.3	79.1	376.1	12.2	117.1	182.0	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.6	48.5	32.2	59.8	41.5	18.3	79.1	376.1	12.2	117.1	182.0	19.3
Queue Length 50th (ft)	~273	347	161	109	136	91	214	~1073	22	~336	~734	34
Queue Length 95th (ft)	#458	#485	276	151	185	150	#358	#1212	52	m#487	m#814	m69
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	311	1068	541	604	874	755	325	962	780	325	996	498
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.82	0.60	0.45	0.43	0.30	0.84	1.76	0.11	1.11	1.31	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	308	852	315	264	367	220	264	1643	84	350	1262	108
Future Volume (veh/h)	308	852	315	264	367	220	264	1643	84	350	1262	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	318	878	325	272	378	227	272	1694	87	361	1301	111
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	1182	527	340	907	696	298	938	575	328	997	445
Arrive On Green	0.18	0.33	0.33	0.10	0.26	0.26	0.17	0.26	0.26	0.06	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	318	878	325	272	378	227	272	1694	87	361	1301	111
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	22.0	27.4	21.5	9.6	11.1	11.7	18.8	33.0	4.6	23.0	35.1	8.1
Cycle Q Clear(g_c), s	22.0	27.4	21.5	9.6	11.1	11.7	18.8	33.0	4.6	23.0	35.1	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	1182	527	340	907	696	298	938	575	328	997	445
V/C Ratio(X)	1.01	0.74	0.62	0.80	0.42	0.33	0.91	1.81	0.15	1.10	1.31	0.25
Avail Cap(c_a), veh/h	314	1182	527	608	907	696	328	938	575	328	997	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.58	0.58	0.58
Uniform Delay (d), s/veh	51.5	37.0	35.0	55.1	38.8	22.9	51.1	46.0	26.9	58.7	56.7	44.5
Incr Delay (d2), s/veh	54.5	4.2	5.3	4.3	1.4	1.2	27.1	366.8	0.6	68.6	141.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	12.7	9.2	4.4	5.1	4.7	10.5	62.1	1.9	17.3	36.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.0	41.2	40.3	59.5	40.2	24.2	78.2	412.8	27.4	127.3	198.4	45.3
LnGrp LOS	F	D	D	E	D	C	E	F	C	F	F	D
Approach Vol, veh/h		1521			877			2053			1773	
Approach Delay, s/veh		54.6			42.0			352.1			174.3	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.4	39.1	25.5	36.0	26.5	37.0	15.8	45.7
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	23.0	34.0	22.0	30.9	23.0	33.0	22.0	29.9
Max Q Clear Time (g_c+I1), s	20.8	37.1	24.0	13.7	25.0	35.0	11.6	29.4
Green Ext Time (p_c), s	0.2	0.0	0.0	3.2	0.0	0.0	0.7	0.4

Intersection Summary	
HCM 6th Ctrl Delay	185.1
HCM 6th LOS	F

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	8	45	11	23	2	99	87	10	2	67	0
Future Vol, veh/h	2	8	45	11	23	2	99	87	10	2	67	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	49	12	25	2	108	95	11	2	73	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.9	8.8	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	51%	4%	31%	3%
Vol Thru, %	44%	15%	64%	97%
Vol Right, %	5%	82%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	55	36	69
LT Vol	99	2	11	2
Through Vol	87	8	23	67
RT Vol	10	45	2	0
Lane Flow Rate	213	60	39	75
Geometry Grp	1	1	1	1
Degree of Util (X)	0.251	0.069	0.051	0.091
Departure Headway (Hd)	4.234	4.148	4.679	4.385
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	837	867	769	820
Service Time	2.318	2.153	2.686	2.396
HCM Lane V/C Ratio	0.254	0.069	0.051	0.091
HCM Control Delay	8.8	7.5	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.2	0.3

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	14	2	3	12	3	6	23	2	0	72	8
Future Vol, veh/h	2	14	2	3	12	3	6	23	2	0	72	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	15	2	3	13	3	7	25	2	0	78	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.2	7.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	11%	17%	0%
Vol Thru, %	74%	78%	67%	90%
Vol Right, %	6%	11%	17%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	18	18	80
LT Vol	6	2	3	0
Through Vol	23	14	12	72
RT Vol	2	2	3	8
Lane Flow Rate	34	20	20	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.022	0.022	0.096
Departure Headway (Hd)	4.066	4.113	4.09	3.966
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	878	864	868	903
Service Time	2.102	2.169	2.147	1.992
HCM Lane V/C Ratio	0.039	0.023	0.023	0.096
HCM Control Delay	7.3	7.3	7.2	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.3

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	1	18	12	1	14	76	210	8	9	244	157
Future Vol, veh/h	31	1	18	12	1	14	76	210	8	9	244	157
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	1	20	13	1	15	83	228	9	10	265	171

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	778	774	351	780	855	233	436	0	0	237	0	0
Stage 1	371	371	-	399	399	-	-	-	-	-	-	-
Stage 2	407	403	-	381	456	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	314	329	692	313	296	806	1124	-	-	1330	-	-
Stage 1	649	620	-	627	602	-	-	-	-	-	-	-
Stage 2	621	600	-	641	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	288	302	692	285	272	806	1124	-	-	1330	-	-
Mov Cap-2 Maneuver	288	302	-	285	272	-	-	-	-	-	-	-
Stage 1	601	615	-	581	557	-	-	-	-	-	-	-
Stage 2	563	556	-	617	563	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.6	14	2.2	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1124	-	-	365	428	1330	-	-
HCM Lane V/C Ratio	0.073	-	-	0.149	0.069	0.007	-	-
HCM Control Delay (s)	8.5	-	-	16.6	14	7.7	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1	4	284	266	9
Future Vol, veh/h	2	1	4	284	266	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	4	309	289	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	611	294	299	0	-	0
Stage 1	294	-	-	-	-	-
Stage 2	317	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	457	745	1262	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	456	745	1262	-	-	-
Mov Cap-2 Maneuver	548	-	-	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1262	-	601	-	-
HCM Lane V/C Ratio	0.003	-	0.005	-	-
HCM Control Delay (s)	7.9	-	11	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	360	373	1408
v/c Ratio	0.39	0.21	1.07
Control Delay	9.9	7.9	67.1
Queue Delay	0.0	0.0	0.0
Total Delay	9.9	7.9	67.1
Queue Length 50th (ft)	64	31	~260
Queue Length 95th (ft)	114	51	#376
Internal Link Dist (ft)	135	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	920	1749	1310
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.39	0.21	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	346	0	0	358	1236	115
Future Volume (veh/h)	346	0	0	358	1236	115
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	360	0	0	373	1400	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	925	0	0	1757	1355	603
Arrive On Green	0.49	0.00	0.00	0.49	0.38	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	360	0	0	373	1400	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	6.3	0.0	0.0	3.1	20.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	3.1	20.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	0	0	1757	1355	603
V/C Ratio(X)	0.39	0.00	0.00	0.21	1.03	0.00
Avail Cap(c_a), veh/h	925	0	0	1757	1355	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	7.5	16.3	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.0	33.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	0.9	13.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.6	0.0	0.0	7.5	49.8	0.0
LnGrp LOS	A	A	A	A	F	A
Approach Vol, veh/h	360			373	1400	
Approach Delay, s/veh	9.6			7.5	49.8	
Approach LOS	A			A	D	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	29.6				29.6	23.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	26.0				26.0	20.0
Max Q Clear Time (g_c+I1), s	8.3				5.1	22.0
Green Ext Time (p_c), s	0.3				0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1249	229	1254	359	11	1361	148	1153	393
v/c Ratio	0.82	1.05	0.73	0.79	0.02	0.86	0.58	0.86	0.76
Control Delay	46.5	125.9	28.5	81.2	22.7	18.1	65.2	51.6	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	125.9	28.5	81.2	22.7	18.1	65.2	51.6	38.4
Queue Length 50th (ft)	289	~201	411	157	4	82	60	330	200
Queue Length 95th (ft)	m336	#365	497	210	m9	141	96	#392	#334
Internal Link Dist (ft)	538		219		1569			629	
Turn Bay Length (ft)		105		185		170	115		270
Base Capacity (vph)	1514	219	1723	480	596	1581	260	1341	516
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	1.05	0.73	0.75	0.02	0.86	0.57	0.86	0.76

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	996	141	211	1134	19	330	10	1252	136	1061	362
Future Volume (veh/h)	12	996	141	211	1134	19	330	10	1252	136	1061	362
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	1083	153	229	1233	21	359	11	1361	148	1153	393
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	1435	201	221	1761	30	418	597	1154	247	1378	428
Arrive On Green	0.22	0.22	0.22	0.12	0.49	0.49	0.12	0.32	0.32	0.07	0.27	0.27
Sat Flow, veh/h	22	4316	605	1781	3575	61	3456	1870	3614	3456	5106	1585
Grp Volume(v), veh/h	455	391	403	229	613	641	359	11	1361	148	1153	393
Grp Sat Flow(s),veh/h/ln	1801	1549	1593	1781	1777	1859	1728	1870	1205	1728	1702	1585
Q Serve(g_s), s	5.6	29.5	29.6	15.5	33.4	33.4	12.7	0.5	39.9	5.2	26.6	30.1
Cycle Q Clear(g_c), s	28.8	29.5	29.6	15.5	33.4	33.4	12.7	0.5	39.9	5.2	26.6	30.1
Prop In Lane	0.03		0.38	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	628	515	530	221	875	916	418	597	1154	247	1378	428
V/C Ratio(X)	0.72	0.76	0.76	1.04	0.70	0.70	0.86	0.02	1.18	0.60	0.84	0.92
Avail Cap(c_a), veh/h	628	515	530	221	875	916	484	597	1154	263	1378	428
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	43.9	43.9	54.8	24.6	24.6	53.9	29.1	42.5	56.3	43.0	44.3
Incr Delay (d2), s/veh	4.4	6.3	6.1	70.5	4.6	4.5	10.7	0.0	88.4	3.4	6.2	27.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	12.8	13.1	11.3	15.1	15.8	6.1	0.2	21.0	2.4	11.8	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	50.2	50.0	125.2	29.2	29.0	64.6	29.2	131.0	59.6	49.2	71.5
LnGrp LOS	D	D	D	F	C	C	E	C	F	E	D	E
Approach Vol, veh/h		1249			1483			1731			1694	
Approach Delay, s/veh		49.3			44.0			116.6			55.3	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	45.0		66.6	19.6	38.8	20.0	46.6
Change Period (Y+Rc), s	4.5	5.1		5.0	4.5	* 5.1	4.5	5.0
Max Green Setting (Gmax), s	9.5	39.9		61.0	17.5	* 32	15.5	41.0
Max Q Clear Time (g_c+I1), s	7.2	41.9		35.4	14.7	32.1	17.5	31.6
Green Ext Time (p_c), s	0.1	0.0		10.4	0.4	0.0	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	68.6
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	799	61	1041	709	59	388	114	236	263	157
v/c Ratio	0.68	0.69	0.47	1.11	0.88	1.00	0.44	0.23	1.16	0.35	0.35
Control Delay	66.5	60.5	71.9	100.5	20.5	166.4	41.3	5.0	155.7	43.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	60.5	71.9	100.5	22.9	166.4	41.3	5.0	155.7	43.7	10.6
Queue Length 50th (ft)	120	354	44	~514	245	48	140	0	~225	96	8
Queue Length 95th (ft)	m190	424	m63	#724	#171	#142	189	33	#391	137	67
Internal Link Dist (ft)		930		538			448			431	
Turn Bay Length (ft)	110		75			130			340		55
Base Capacity (vph)	288	1166	133	934	804	59	886	497	204	744	446
Starvation Cap Reductn	0	0	0	0	36	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.69	0.46	1.11	0.92	1.00	0.44	0.23	1.16	0.35	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	739	20	58	989	674	56	369	108	224	250	149
Future Volume (veh/h)	135	739	20	58	989	674	56	369	108	224	250	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	778	21	61	1041	709	59	388	114	236	263	157
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	2146	58	113	2042	911	200	748	333	159	748	333
Arrive On Green	0.03	0.20	0.20	0.06	0.57	0.57	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	3535	95	1781	3554	1585	967	3554	1585	896	3554	1585
Grp Volume(v), veh/h	142	391	408	61	1041	709	59	388	114	236	263	157
Grp Sat Flow(s),veh/h/ln	1781	1777	1853	1781	1777	1585	967	1777	1585	896	1777	1585
Q Serve(g_s), s	9.9	23.7	23.7	4.2	22.0	43.0	6.9	12.1	7.6	14.2	7.9	10.9
Cycle Q Clear(g_c), s	9.9	23.7	23.7	4.2	22.0	43.0	14.8	12.1	7.6	26.3	7.9	10.9
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	1079	1125	113	2042	911	200	748	333	159	748	333
V/C Ratio(X)	0.83	0.36	0.36	0.54	0.51	0.78	0.30	0.52	0.34	1.48	0.35	0.47
Avail Cap(c_a), veh/h	291	1079	1125	134	2042	911	239	890	397	159	748	333
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.59	0.59	0.59	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	29.1	29.1	56.8	16.0	20.5	48.4	43.7	42.0	58.0	42.1	43.3
Incr Delay (d2), s/veh	6.4	0.8	0.8	1.8	0.5	3.9	0.8	0.6	0.6	246.5	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	11.6	12.1	1.9	9.1	16.5	1.7	5.4	3.1	16.0	3.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.9	29.9	29.9	58.5	16.5	24.4	49.2	44.3	42.6	304.5	42.4	44.3
LnGrp LOS	E	C	C	E	B	C	D	D	D	F	D	D
Approach Vol, veh/h		941			1811			561			656	
Approach Delay, s/veh		35.3			21.0			44.5			137.1	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	80.5		32.0	16.6	76.4		32.0				
Change Period (Y+Rc), s	4.6	4.6		* 5.7	4.6	4.6		* 5.7				
Max Green Setting (Gmax), s	9.4	38.4		* 26	20.4	27.4		* 31				
Max Q Clear Time (g_c+I1), s	6.2	25.7		28.3	11.9	45.0		16.8				
Green Ext Time (p_c), s	0.0	3.6		0.0	0.2	0.0		2.8				

Intersection Summary			
HCM 6th Ctrl Delay		46.9	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	84	880	81	1226	153	122	186	136
v/c Ratio	0.57	0.55	0.69	0.79	0.82	0.44	0.47	0.96
Control Delay	69.5	27.8	87.1	12.5	82.5	52.1	10.2	110.9
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.5	28.2	87.1	12.5	82.5	52.1	10.2	110.9
Queue Length 50th (ft)	67	278	69	77	120	90	0	99
Queue Length 95th (ft)	118	377	m73	m85	#196	147	63	#214
Internal Link Dist (ft)		469		930		164		199
Turn Bay Length (ft)	95		100		50		75	
Base Capacity (vph)	203	1604	134	1560	233	348	447	167
Starvation Cap Reductn	0	288	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.67	0.60	0.79	0.66	0.35	0.42	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	773	89	79	1176	25	150	120	182	11	91	31
Future Volume (veh/h)	82	773	89	79	1176	25	150	120	182	11	91	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	789	91	81	1200	26	153	122	186	11	93	32
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	2155	248	101	2377	51	232	302	256	42	206	67
Arrive On Green	0.06	0.67	0.67	0.11	1.00	1.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3210	370	1781	3556	77	1266	1870	1585	65	1272	411
Grp Volume(v), veh/h	84	437	443	81	599	627	153	122	186	136	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1804	1781	1777	1856	1266	1870	1585	1748	0	0
Q Serve(g_s), s	5.8	13.4	13.4	5.5	0.0	0.0	9.2	7.3	13.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.8	13.4	13.4	5.5	0.0	0.0	17.8	7.3	13.9	8.6	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.04	1.00		1.00	0.08		0.24
Lane Grp Cap(c), veh/h	106	1193	1211	101	1188	1241	232	302	256	314	0	0
V/C Ratio(X)	0.79	0.37	0.37	0.80	0.50	0.50	0.66	0.40	0.73	0.43	0.00	0.00
Avail Cap(c_a), veh/h	205	1193	1211	134	1188	1241	265	350	297	398	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	58.0	9.0	9.0	54.7	0.0	0.0	52.3	47.0	49.8	47.5	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.5	0.5	1.7	0.1	0.1	3.3	0.3	5.6	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	5.2	5.3	2.4	0.0	0.0	4.9	3.4	6.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	9.4	9.4	56.5	0.1	0.1	55.6	47.3	55.3	47.9	0.0	0.0
LnGrp LOS	E	A	A	E	A	A	E	D	E	D	A	A
Approach Vol, veh/h		964			1307			461			136	
Approach Delay, s/veh		13.9			3.6			53.3			47.9	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	88.1		24.8	11.7	88.5		24.8				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	14.4	42.4		23.4	9.4	47.4		26.4				
Max Q Clear Time (g_c+I1), s	7.8	2.0		19.8	7.5	15.4		10.6				
Green Ext Time (p_c), s	0.0	11.8		0.4	0.0	7.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		17.2	
HCM 6th LOS		B	

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	491	361	494	483	125	1582	496	283	1169
v/c Ratio	0.92	0.46	0.62	0.86	0.73	1.18	0.69	0.69	0.83
Control Delay	77.7	47.1	50.4	38.4	82.7	127.4	26.6	64.8	41.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.7	47.1	50.4	38.4	82.7	127.4	26.6	64.8	41.8
Queue Length 50th (ft)	216	140	203	198	105	~867	224	122	480
Queue Length 95th (ft)	#330	196	273	#406	#191	#1049	375	171	574
Internal Link Dist (ft)	1368		469			1567			283
Turn Bay Length (ft)		110		80	145		145	260	
Base Capacity (vph)	550	778	802	562	193	1337	718	519	1469
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.46	0.62	0.86	0.65	1.18	0.69	0.55	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	270	67	347	474	464	120	1519	476	272	1001	121
Future Volume (veh/h)	134	270	67	347	474	464	120	1519	476	272	1001	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	281	70	361	494	483	125	1582	496	283	1043	126
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	341	88	542	557	249	153	1549	691	356	1446	175
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.09	0.44	0.44	0.10	0.45	0.45
Sat Flow, veh/h	982	2076	536	3456	3554	1585	1781	3554	1585	3456	3192	385
Grp Volume(v), veh/h	260	0	231	361	494	483	125	1582	496	283	580	589
Grp Sat Flow(s),veh/h/ln	1821	0	1774	1728	1777	1585	1781	1777	1585	1728	1777	1801
Q Serve(g_s), s	15.9	0.0	14.4	11.3	15.6	18.0	7.9	50.0	29.5	9.2	30.4	30.5
Cycle Q Clear(g_c), s	15.9	0.0	14.4	11.3	15.6	18.0	7.9	50.0	29.5	9.2	30.4	30.5
Prop In Lane	0.54		0.30	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	299	0	291	542	557	249	153	1549	691	356	805	816
V/C Ratio(X)	0.87	0.00	0.80	0.67	0.89	1.94	0.82	1.02	0.72	0.80	0.72	0.72
Avail Cap(c_a), veh/h	332	0	323	542	557	249	225	1549	691	602	805	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	0.0	46.1	45.5	47.4	48.4	51.6	32.4	26.6	50.3	25.5	25.5
Incr Delay (d2), s/veh	19.7	0.0	11.8	6.3	18.5	438.5	13.8	28.5	6.3	4.1	5.5	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.0	7.3	5.4	8.4	37.4	4.1	26.5	12.0	4.1	13.6	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.4	0.0	57.9	51.9	65.8	486.9	65.3	60.8	32.9	54.4	31.0	31.0
LnGrp LOS	E	A	E	D	E	F	E	F	C	D	C	C
Approach Vol, veh/h		491			1338			2203			1452	
Approach Delay, s/veh		62.4			214.1			54.8			35.6	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.3	56.0		22.0	16.3	54.0		22.4				
Change Period (Y+Rc), s	4.5	4.0		4.0	4.5	4.0		3.6				
Max Green Setting (Gmax), s	14.5	40.0		18.0	20.0	50.0		20.9				
Max Q Clear Time (g_c+I1), s	9.9	32.5		20.0	11.2	52.0		17.9				
Green Ext Time (p_c), s	0.1	4.2		0.0	0.6	0.0		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		89.2	
HCM 6th LOS		F	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	441	57	109	45	89	104	123	979	26	55	1045	403
v/c Ratio	0.71	0.08	0.15	0.08	0.14	0.16	0.66	0.55	0.04	0.45	0.70	0.66
Control Delay	30.8	25.6	2.0	18.0	29.6	1.9	70.0	34.8	0.1	47.4	62.8	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	25.6	2.0	18.0	29.6	1.9	70.0	34.8	0.1	47.4	62.8	48.5
Queue Length 50th (ft)	239	29	0	19	50	0	96	241	0	47	328	259
Queue Length 95th (ft)	336	60	17	41	90	15	161	288	0	m54	m371	m312
Internal Link Dist (ft)		299			401			705			1569	
Turn Bay Length (ft)	145		80	130		50	115		75	150		100
Base Capacity (vph)	625	738	716	670	630	633	225	1784	620	126	1487	610
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.08	0.15	0.07	0.14	0.16	0.55	0.55	0.04	0.44	0.70	0.66

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	55	105	43	85	100	118	940	25	53	1003	387
Future Volume (veh/h)	423	55	105	43	85	100	118	940	25	53	1003	387
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	441	57	109	45	89	104	123	979	26	55	1045	403
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	631	757	641	592	664	563	149	1671	519	97	1521	472
Arrive On Green	0.11	0.40	0.40	0.06	0.36	0.36	0.08	0.33	0.33	0.05	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	441	57	109	45	89	104	123	979	26	55	1045	403
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	13.3	2.3	5.5	1.9	4.0	5.7	8.5	19.9	1.4	3.8	22.6	29.9
Cycle Q Clear(g_c), s	13.3	2.3	5.5	1.9	4.0	5.7	8.5	19.9	1.4	3.8	22.6	29.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	631	757	641	592	664	563	149	1671	519	97	1521	472
V/C Ratio(X)	0.70	0.08	0.17	0.08	0.13	0.18	0.82	0.59	0.05	0.57	0.69	0.85
Avail Cap(c_a), veh/h	631	757	641	709	664	563	227	1671	519	127	1521	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Uniform Delay (d), s/veh	25.5	22.9	23.8	22.2	27.3	27.8	56.4	35.0	28.8	57.7	38.7	41.3
Incr Delay (d2), s/veh	3.4	0.2	0.6	0.1	0.4	0.7	13.7	1.5	0.2	1.7	0.9	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	1.1	2.2	0.8	1.9	2.3	4.4	8.4	0.6	1.7	9.4	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	23.0	24.4	22.2	27.7	28.5	70.1	36.5	28.9	59.4	39.6	47.9
LnGrp LOS	C	C	C	C	C	C	E	D	C	E	D	D
Approach Vol, veh/h		607			238			1128			1503	
Approach Delay, s/veh		27.5			27.0			40.0			42.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	42.3	18.0	49.1	11.9	46.0	11.8	55.3
Change Period (Y+Rc), s	5.1	5.1	* 4.7	* 4.7	5.1	5.1	* 4.7	* 4.7
Max Green Setting (Gmax), s	15.9	33.9	* 13	* 42	8.9	40.9	* 15	* 41
Max Q Clear Time (g_c+I1), s	10.5	31.9	15.3	7.7	5.8	21.9	3.9	7.5
Green Ext Time (p_c), s	0.1	1.5	0.0	0.8	0.0	6.7	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	38.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	439	495	81	126	32	42	336
v/c Ratio	1.38dl	0.55	0.47	0.27	0.07	0.29	0.77
Control Delay	49.3	33.4	50.3	31.3	0.3	47.5	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	33.4	50.3	31.3	0.3	47.5	38.3
Queue Length 50th (ft)	130	136	48	64	0	25	137
Queue Length 95th (ft)	#232	198	94	117	0	59	#287
Internal Link Dist (ft)	447	490		392			959
Turn Bay Length (ft)			60		75	50	
Base Capacity (vph)	522	905	303	475	491	303	436
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.55	0.27	0.27	0.07	0.14	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	257	45	19	429	22	77	120	30	40	96	223
Future Volume (veh/h)	115	257	45	19	429	22	77	120	30	40	96	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	121	271	47	20	452	23	81	126	32	42	101	235
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	583	105	37	872	47	118	433	367	89	107	250
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.07	0.23	0.23	0.05	0.22	0.22
Sat Flow, veh/h	955	2259	406	143	3378	180	1781	1870	1585	1781	499	1162
Grp Volume(v), veh/h	231	0	208	260	0	235	81	126	32	42	0	336
Grp Sat Flow(s),veh/h/ln	1823	0	1797	1863	0	1838	1781	1870	1585	1781	0	1661
Q Serve(g_s), s	10.0	0.0	9.0	11.2	0.0	10.1	4.1	5.2	1.5	2.1	0.0	18.5
Cycle Q Clear(g_c), s	10.0	0.0	9.0	11.2	0.0	10.1	4.1	5.2	1.5	2.1	0.0	18.5
Prop In Lane	0.52		0.23	0.08		0.10	1.00		1.00	1.00		0.70
Lane Grp Cap(c), veh/h	471	0	464	481	0	475	118	433	367	89	0	358
V/C Ratio(X)	0.49	0.00	0.45	0.54	0.00	0.49	0.69	0.29	0.09	0.47	0.00	0.94
Avail Cap(c_a), veh/h	471	0	464	481	0	475	307	433	367	307	0	358
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	28.9	29.7	0.0	29.3	42.5	29.4	28.0	43.0	0.0	35.9
Incr Delay (d2), s/veh	3.6	0.0	3.1	4.3	0.0	3.6	2.7	1.7	0.5	1.5	0.0	34.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	4.2	5.5	0.0	4.9	1.9	2.5	0.6	1.0	0.0	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	0.0	32.0	34.0	0.0	33.0	45.1	31.1	28.5	44.4	0.0	70.4
LnGrp LOS	C	A	C	C	A	C	D	C	C	D	A	E
Approach Vol, veh/h		439			495			239			378	
Approach Delay, s/veh		32.5			33.5			35.5			67.5	
Approach LOS		C			C			D			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.7	9.3	26.2		28.7	10.8	24.7				
Change Period (Y+Rc), s		* 4.7	* 4.7	* 4.7		4.7	* 4.7	* 4.7				
Max Green Setting (Gmax), s		* 24	* 16	* 20		24.0	* 16	* 20				
Max Q Clear Time (g_c+I1), s		12.0	4.1	7.2		13.2	6.1	20.5				
Green Ext Time (p_c), s		1.4	0.0	0.4		1.5	0.1	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	52	168	232	594	2030	214	110	1439	102
v/c Ratio	0.58	0.20	0.83	0.70	1.38	0.23	0.61	0.58	0.09
Control Delay	70.3	26.7	70.3	44.7	199.2	10.6	67.2	10.9	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.3	26.7	70.3	44.7	199.2	10.6	67.2	10.9	4.1
Queue Length 50th (ft)	37	38	179	212	~1130	49	86	283	15
Queue Length 95th (ft)	#100	70	#318	279	m#1029	m51	145	340	33
Internal Link Dist (ft)		762		447	2184			1567	
Turn Bay Length (ft)	70		50			80	260		50
Base Capacity (vph)	89	847	279	847	1468	923	240	2463	1113
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.20	0.83	0.70	1.38	0.23	0.46	0.58	0.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

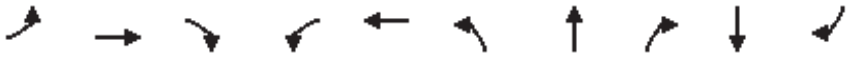
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	115	51	230	409	179	85	1925	212	109	1425	101
Future Volume (veh/h)	51	115	51	230	409	179	85	1925	212	109	1425	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	116	52	232	413	181	86	1944	214	110	1439	102
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	726	309	376	722	313	76	1459	850	136	2261	1008
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.54	0.54	0.54	0.08	0.64	0.64
Sat Flow, veh/h	823	2427	1034	1217	2413	1046	84	2723	1585	1781	3554	1585
Grp Volume(v), veh/h	52	83	85	232	303	291	1002	1028	214	110	1439	102
Grp Sat Flow(s),veh/h/ln	823	1777	1684	1217	1777	1682	1189	1617	1585	1781	1777	1585
Q Serve(g_s), s	7.1	4.3	4.6	21.7	18.0	18.3	48.6	67.0	9.1	7.6	30.9	3.1
Cycle Q Clear(g_c), s	25.5	4.3	4.6	26.4	18.0	18.3	67.0	67.0	9.1	7.6	30.9	3.1
Prop In Lane	1.00		0.61	1.00		0.62	0.09		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	531	504	376	531	503	669	867	850	136	2261	1008
V/C Ratio(X)	0.28	0.16	0.17	0.62	0.57	0.58	1.50	1.19	0.25	0.81	0.64	0.10
Avail Cap(c_a), veh/h	183	531	504	376	531	503	669	867	850	242	2261	1008
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.83	0.83	0.83	0.09	0.09	0.09	0.59	0.59	0.59
Uniform Delay (d), s/veh	47.9	32.2	32.3	42.1	37.0	37.1	32.7	29.0	15.6	56.9	13.9	8.8
Incr Delay (d2), s/veh	3.9	0.6	0.7	6.2	3.7	4.0	224.9	85.0	0.1	6.7	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.0	2.0	7.2	8.4	8.1	61.9	44.7	3.2	3.6	11.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	32.8	33.1	48.2	40.7	41.1	257.5	114.0	15.6	63.6	14.7	9.0
LnGrp LOS	D	C	C	D	D	D	F	F	B	E	B	A
Approach Vol, veh/h		220			826			2244			1651	
Approach Delay, s/veh		37.4			43.0			168.7			17.6	
Approach LOS		D			D			F			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		83.5		41.5	12.5	71.0		41.5				
Change Period (Y+Rc), s		4.0		4.1	3.0	4.0		4.1				
Max Green Setting (Gmax), s		68.0		29.9	17.0	67.0		25.0				
Max Q Clear Time (g_c+I1), s		32.9		28.4	9.6	69.0		27.5				
Green Ext Time (p_c), s		14.8		0.7	0.1	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			91.4									
HCM 6th LOS			F									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	123	331	406	69	520	455	162	58	203	233
v/c Ratio	0.56	0.38	0.44	0.39	0.67	1.42	0.28	0.11	0.37	0.36
Control Delay	49.4	19.2	5.5	47.3	28.3	235.8	27.1	6.3	28.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	19.2	5.5	47.3	28.3	235.8	27.1	6.3	28.7	5.3
Queue Length 50th (ft)	71	131	25	40	249	~376	74	0	95	0
Queue Length 95th (ft)	128	214	93	84	398	#600	135	26	169	54
Internal Link Dist (ft)		569			551		316		805	
Turn Bay Length (ft)			95	140		170		235		
Base Capacity (vph)	369	874	919	369	776	320	584	540	548	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.38	0.44	0.19	0.67	1.42	0.28	0.11	0.37	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	321	394	67	495	10	441	157	56	30	167	226
Future Volume (veh/h)	119	321	394	67	495	10	441	157	56	30	167	226
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	331	406	69	510	10	455	162	58	31	172	233
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	844	715	128	796	16	318	611	518	102	520	518
Arrive On Green	0.09	0.45	0.45	0.07	0.44	0.44	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1781	1828	36	980	1870	1585	173	1592	1585
Grp Volume(v), veh/h	123	331	406	69	0	520	455	162	58	203	0	233
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1864	980	1870	1585	1765	0	1585
Q Serve(g_s), s	6.2	10.8	17.4	3.4	0.0	20.1	22.5	5.9	2.4	0.0	0.0	10.7
Cycle Q Clear(g_c), s	6.2	10.8	17.4	3.4	0.0	20.1	30.0	5.9	2.4	7.5	0.0	10.7
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.15		1.00
Lane Grp Cap(c), veh/h	157	844	715	128	0	812	318	611	518	621	0	518
V/C Ratio(X)	0.79	0.39	0.57	0.54	0.00	0.64	1.43	0.27	0.11	0.33	0.00	0.45
Avail Cap(c_a), veh/h	388	844	715	388	0	812	318	611	518	621	0	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.1	16.8	18.6	41.1	0.0	20.3	37.5	22.8	21.6	23.4	0.0	24.4
Incr Delay (d2), s/veh	8.4	1.4	3.3	3.5	0.0	3.9	211.0	0.2	0.1	0.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	4.9	6.8	1.6	0.0	9.3	25.9	2.6	0.9	3.4	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	18.2	21.9	44.6	0.0	24.2	248.4	23.0	21.7	23.7	0.0	25.0
LnGrp LOS	D	B	C	D	A	C	F	C	C	C	A	C
Approach Vol, veh/h		860			589			675			436	
Approach Delay, s/veh		24.4			26.6			174.9			24.4	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	46.0		34.6	12.7	44.6		34.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	20.0	40.0		20.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	5.4	19.4		12.7	8.2	22.1		32.0				
Green Ext Time (p_c), s	0.1	3.6		1.2	0.2	3.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		64.6	
HCM 6th LOS		E	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	244	391	206	492	795	284	276	1441	117	250	1488	238
v/c Ratio	1.05	0.45	0.42	1.16	0.94	0.40	0.90	1.16	0.14	0.89	1.26	0.38
Control Delay	124.0	41.8	17.8	142.2	66.2	22.8	82.0	120.4	7.2	79.7	163.6	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.0	41.8	17.8	142.2	66.2	22.8	82.0	120.4	7.2	79.7	163.6	22.0
Queue Length 50th (ft)	~214	141	49	~241	334	132	219	~736	17	202	~787	65
Queue Length 95th (ft)	#382	191	122	#352	#457	206	#373	#875	49	m#339	#935	m133
Internal Link Dist (ft)		624			287			339			2184	
Turn Bay Length (ft)	200		60	90			165		185	220		260
Base Capacity (vph)	233	874	489	425	846	712	318	1237	838	290	1183	628
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.45	0.42	1.16	0.94	0.40	0.87	1.16	0.14	0.86	1.26	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	383	202	482	779	278	270	1412	115	245	1458	233
Future Volume (veh/h)	239	383	202	482	779	278	270	1412	115	245	1458	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	244	391	206	492	795	284	276	1441	117	250	1488	238
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	916	409	429	888	644	302	1212	737	278	1166	520
Arrive On Green	0.13	0.26	0.26	0.12	0.25	0.25	0.17	0.34	0.34	0.05	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	244	391	206	492	795	284	276	1441	117	250	1488	238
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.5	11.5	13.9	15.5	27.0	16.2	19.0	42.6	5.3	17.4	41.0	17.6
Cycle Q Clear(g_c), s	16.5	11.5	13.9	15.5	27.0	16.2	19.0	42.6	5.3	17.4	41.0	17.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	916	409	429	888	644	302	1212	737	278	1166	520
V/C Ratio(X)	1.04	0.43	0.50	1.15	0.90	0.44	0.92	1.19	0.16	0.90	1.28	0.46
Avail Cap(c_a), veh/h	235	916	409	429	888	644	321	1212	737	292	1166	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	54.2	38.7	39.6	54.8	45.3	26.9	51.0	41.2	19.3	58.3	55.7	45.3
Incr Delay (d2), s/veh	68.9	1.5	4.4	90.6	13.5	2.2	28.7	93.4	0.5	22.3	129.6	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	5.3	6.0	12.2	13.6	6.6	10.8	33.9	2.1	10.1	40.5	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.1	40.1	44.0	145.4	58.8	29.0	79.7	134.6	19.8	80.6	185.3	47.5
LnGrp LOS	F	D	D	F	E	C	E	F	B	F	F	D
Approach Vol, veh/h		841			1571			1834			1976	
Approach Delay, s/veh		65.1			80.5			119.0			155.5	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.7	45.0	20.0	35.3	23.0	46.6	19.0	36.3
Change Period (Y+Rc), s	3.5	4.0	3.5	4.1	3.5	4.0	3.5	4.1
Max Green Setting (Gmax), s	22.5	41.0	16.5	29.9	20.5	41.0	15.5	29.4
Max Q Clear Time (g_c+I1), s	21.0	43.0	18.5	29.0	19.4	44.6	17.5	15.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.6	0.1	0.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	113.6
HCM 6th LOS	F

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	6	61	10	6	5	57	97	14	1	52	0
Future Vol, veh/h	1	6	61	10	6	5	57	97	14	1	52	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	7	66	11	7	5	62	105	15	1	57	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.6	8.4	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	1%	48%	2%
Vol Thru, %	58%	9%	29%	98%
Vol Right, %	8%	90%	24%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	168	68	21	53
LT Vol	57	1	10	1
Through Vol	97	6	6	52
RT Vol	14	61	5	0
Lane Flow Rate	183	74	23	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.211	0.081	0.029	0.068
Departure Headway (Hd)	4.164	3.96	4.5	4.247
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	855	910	800	831
Service Time	2.226	1.961	2.502	2.338
HCM Lane V/C Ratio	0.214	0.081	0.029	0.07
HCM Control Delay	8.4	7.3	7.6	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.3	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	24	8	1	10	8	4	29	3	6	31	4
Future Vol, veh/h	5	24	8	1	10	8	4	29	3	6	31	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	26	9	1	11	9	4	32	3	7	34	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7	7.3	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	14%	5%	15%
Vol Thru, %	81%	65%	53%	76%
Vol Right, %	8%	22%	42%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	37	19	41
LT Vol	4	5	1	6
Through Vol	29	24	10	31
RT Vol	3	8	8	4
Lane Flow Rate	39	40	21	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.045	0.022	0.05
Departure Headway (Hd)	4.046	3.993	3.869	4.04
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	883	893	920	885
Service Time	2.08	2.033	1.914	2.073
HCM Lane V/C Ratio	0.044	0.045	0.023	0.051
HCM Control Delay	7.3	7.2	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.2

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	163	3	82	9	0	9	19	279	14	21	221	41
Future Vol, veh/h	163	3	82	9	0	9	19	279	14	21	221	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	177	3	89	10	0	10	21	303	15	23	240	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	667	669	263	708	684	311	285	0	0	318	0	0
Stage 1	309	309	-	353	353	-	-	-	-	-	-	-
Stage 2	358	360	-	355	331	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	372	379	776	350	371	729	1277	-	-	1242	-	-
Stage 1	701	660	-	664	631	-	-	-	-	-	-	-
Stage 2	660	626	-	662	645	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	357	366	776	300	358	729	1277	-	-	1242	-	-
Mov Cap-2 Maneuver	357	366	-	300	358	-	-	-	-	-	-	-
Stage 1	690	647	-	653	621	-	-	-	-	-	-	-
Stage 2	640	616	-	572	633	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.8	13.9	0.5	0.6
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1277	-	-	435	425	1242	-	-
HCM Lane V/C Ratio	0.016	-	-	0.62	0.046	0.018	-	-
HCM Control Delay (s)	7.9	-	-	25.8	13.9	8	-	-
HCM Lane LOS	A	-	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	4.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	5	1	289	311	2
Future Vol, veh/h	9	5	1	289	311	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	5	1	314	338	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	655	339	340	0	-	0
Stage 1	339	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	431	703	1219	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	739	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	431	703	1219	-	-	-
Mov Cap-2 Maneuver	530	-	-	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1219	-	581	-	-
HCM Lane V/C Ratio	0.001	-	0.026	-	-
HCM Control Delay (s)	8	-	11.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	401	371	1563
v/c Ratio	0.44	0.21	1.14
Control Delay	11.9	9.1	91.1
Queue Delay	0.0	0.0	0.0
Total Delay	11.9	9.1	91.1
Queue Length 50th (ft)	87	37	~351
Queue Length 95th (ft)	147	58	#474
Internal Link Dist (ft)	200	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	912	1734	1377
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.44	0.21	1.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	365	0	0	338	1323	99
Future Volume (veh/h)	365	0	0	338	1323	99
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	401	0	0	371	1556	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	916	0	0	1741	1425	634
Arrive On Green	0.49	0.00	0.00	0.49	0.40	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	401	0	0	371	1556	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	8.4	0.0	0.0	3.6	24.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	0.0	3.6	24.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	916	0	0	1741	1425	634
V/C Ratio(X)	0.44	0.00	0.00	0.21	1.09	0.00
Avail Cap(c_a), veh/h	916	0	0	1741	1425	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.9	0.0	0.0	8.7	18.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.0	53.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.0	1.2	18.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.5	0.0	0.0	8.7	71.1	0.0
LnGrp LOS	B	A	A	A	F	A
Approach Vol, veh/h	401			371	1556	
Approach Delay, s/veh	11.5			8.7	71.1	
Approach LOS	B			A	E	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	33.0				33.0	27.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	29.4				29.4	24.0
Max Q Clear Time (g_c+I1), s	10.4				5.6	26.0
Green Ext Time (p_c), s	0.4				0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	460	85	464	344	263	84	989	604	365	1480
v/c Ratio	0.56	0.52	0.16	0.86	0.29	0.31	0.86	0.85	0.70	0.83	1.05
Control Delay	66.1	41.2	0.7	65.6	31.2	12.6	113.8	46.1	23.5	67.1	72.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.1	41.2	0.7	65.6	31.2	12.6	113.8	46.1	23.5	67.1	72.9
Queue Length 50th (ft)	64	162	0	181	106	71	66	377	293	143	~657
Queue Length 95th (ft)	117	216	0	#263	150	134	#162	#465	437	#212	#799
Internal Link Dist (ft)		1368			469			1567			427
Turn Bay Length (ft)				110		80	145		145	260	
Base Capacity (vph)	182	887	520	551	1191	841	98	1161	869	455	1412
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.52	0.16	0.84	0.29	0.31	0.86	0.85	0.70	0.80	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	442	82	445	330	252	81	949	580	350	1346	75
Future Volume (veh/h)	82	442	82	445	330	252	81	949	580	350	1346	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	460	85	464	344	262	84	989	604	365	1402	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	898	400	522	1193	726	100	1202	776	423	1384	77
Arrive On Green	0.06	0.25	0.25	0.15	0.34	0.34	0.06	0.34	0.34	0.12	0.40	0.40
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	3456	3423	190
Grp Volume(v), veh/h	85	460	85	464	344	262	84	989	604	365	726	754
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1728	1777	1836
Q Serve(g_s), s	5.6	13.2	5.0	15.6	8.5	12.7	5.5	30.3	37.3	12.3	48.0	48.0
Cycle Q Clear(g_c), s	5.6	13.2	5.0	15.6	8.5	12.7	5.5	30.3	37.3	12.3	48.0	48.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	108	898	400	522	1193	726	100	1202	776	423	718	742
V/C Ratio(X)	0.79	0.51	0.21	0.89	0.29	0.36	0.84	0.82	0.78	0.86	1.01	1.02
Avail Cap(c_a), veh/h	184	898	400	559	1193	726	100	1202	776	463	718	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	38.1	35.0	49.4	29.0	20.9	55.5	36.0	25.0	51.1	35.4	35.4
Incr Delay (d2), s/veh	11.9	2.1	1.2	15.4	0.1	0.3	42.9	6.4	7.6	14.5	36.3	37.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.1	2.1	7.9	3.7	4.8	3.7	13.9	15.5	6.1	27.2	28.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.9	40.2	36.3	64.8	29.1	21.2	98.3	42.5	32.6	65.6	71.7	72.5
LnGrp LOS	E	D	D	E	C	C	F	D	C	E	F	F
Approach Vol, veh/h		630			1070			1677			1845	
Approach Delay, s/veh		43.3			42.7			41.7			70.8	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	52.0	21.6	34.0	19.0	44.2	11.7	43.9
Change Period (Y+Rc), s	4.5	4.0	3.6	4.0	4.5	4.0	4.5	* 4
Max Green Setting (Gmax), s	6.7	48.0	19.2	30.0	15.9	38.8	12.3	* 36
Max Q Clear Time (g_c+I1), s	7.5	50.0	17.6	15.2	14.3	39.3	7.6	14.7
Green Ext Time (p_c), s	0.0	0.0	0.3	3.0	0.2	0.0	0.1	3.3

Intersection Summary	
HCM 6th Ctrl Delay	52.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	360	373	1408
v/c Ratio	0.37	0.20	1.12
Control Delay	9.8	8.0	84.9
Queue Delay	0.0	0.0	0.0
Total Delay	9.8	8.0	84.9
Queue Length 50th (ft)	70	34	~311
Queue Length 95th (ft)	120	54	#431
Internal Link Dist (ft)	135	342	288
Turn Bay Length (ft)			150
Base Capacity (vph)	974	1852	1262
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.37	0.20	1.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	346	0	0	358	1236	115
Future Volume (veh/h)	346	0	0	358	1236	115
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	360	0	0	373	1400	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	979	0	0	1860	1306	581
Arrive On Green	0.52	0.00	0.00	0.52	0.37	0.00
Sat Flow, veh/h	1870	0	0	3741	3563	1585
Grp Volume(v), veh/h	360	0	0	373	1400	0
Grp Sat Flow(s),veh/h/ln	1870	0	0	1777	1781	1585
Q Serve(g_s), s	6.8	0.0	0.0	3.4	22.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.0	3.4	22.0	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	979	0	0	1860	1306	581
V/C Ratio(X)	0.37	0.00	0.00	0.20	1.07	0.00
Avail Cap(c_a), veh/h	979	0	0	1860	1306	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	7.6	19.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.0	46.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	1.1	16.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.5	0.0	0.0	7.6	65.6	0.0
LnGrp LOS	A	A	A	A	F	A
Approach Vol, veh/h	360			373	1400	
Approach Delay, s/veh	9.5			7.6	65.6	
Approach LOS	A			A	E	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	35.0				35.0	25.0
Change Period (Y+Rc), s	3.6				3.6	3.0
Max Green Setting (Gmax), s	31.4				31.4	22.0
Max Q Clear Time (g_c+I1), s	8.8				5.4	24.0
Green Ext Time (p_c), s	0.4				0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	140	281	70	361	494	483	125	1582	496	283	1169
v/c Ratio	0.92	0.46	0.20	0.90	0.66	1.01	0.72	0.97	0.57	0.94	0.74
Control Delay	105.6	43.6	4.7	73.9	44.4	71.8	70.9	45.3	13.2	88.5	28.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.6	43.6	4.7	73.9	44.4	71.8	70.9	45.3	13.2	88.5	28.2
Queue Length 50th (ft)	100	94	0	131	168	~239	86	556	120	104	348
Queue Length 95th (ft)	#220	137	21	#215	227	#458	#169	#731	223	#186	433
Internal Link Dist (ft)		1368			469			1567			283
Turn Bay Length (ft)				110		80	145		145	260	
Base Capacity (vph)	152	614	356	402	752	478	185	1634	863	302	1580
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.46	0.20	0.90	0.66	1.01	0.68	0.97	0.57	0.94	0.74

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	270	67	347	474	464	120	1519	476	272	1001	121
Future Volume (veh/h)	134	270	67	347	474	464	120	1519	476	272	1001	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	281	70	361	494	483	125	1582	496	283	1043	126
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	641	286	402	750	334	153	1628	726	302	1468	177
Arrive On Green	0.09	0.18	0.18	0.12	0.21	0.21	0.09	0.46	0.46	0.09	0.46	0.46
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	3456	3192	385
Grp Volume(v), veh/h	140	281	70	361	494	483	125	1582	496	283	580	589
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1728	1777	1801
Q Serve(g_s), s	8.6	7.8	4.2	11.4	14.1	23.4	7.7	48.2	27.4	9.0	29.0	29.1
Cycle Q Clear(g_c), s	8.6	7.8	4.2	11.4	14.1	23.4	7.7	48.2	27.4	9.0	29.0	29.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	153	641	286	402	750	334	153	1628	726	302	817	828
V/C Ratio(X)	0.92	0.44	0.24	0.90	0.66	1.44	0.82	0.97	0.68	0.94	0.71	0.71
Avail Cap(c_a), veh/h	153	641	286	402	750	334	185	1628	726	302	817	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	40.5	39.0	48.4	40.1	43.8	49.9	29.4	23.7	50.3	24.0	24.0
Incr Delay (d2), s/veh	49.1	0.5	0.4	22.3	2.1	216.1	21.0	16.5	5.2	35.3	5.2	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	3.5	1.7	6.2	6.4	29.2	4.3	23.1	11.2	5.3	12.8	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.5	40.9	39.4	70.7	42.2	259.8	70.9	45.9	28.9	85.6	29.2	29.2
LnGrp LOS	F	D	D	E	D	F	E	D	C	F	C	C
Approach Vol, veh/h		491			1338			2203			1452	
Approach Delay, s/veh		57.4			128.4			43.5			40.2	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	55.0	17.4	24.5	14.2	54.8	14.0	27.9
Change Period (Y+Rc), s	4.5	4.0	4.5	4.5	4.5	4.0	4.5	* 4.5
Max Green Setting (Gmax), s	11.5	49.0	12.9	19.1	9.7	50.8	9.5	* 23
Max Q Clear Time (g_c+I1), s	9.7	31.1	13.4	9.8	11.0	50.2	10.6	25.4
Green Ext Time (p_c), s	0.0	7.4	0.0	1.4	0.0	0.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	64.6
HCM 6th LOS	E

Notes

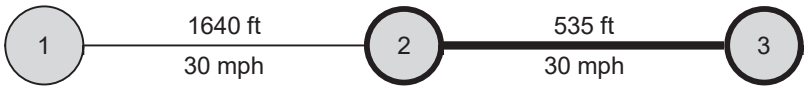
User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

D - HSC Outputs

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_AM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

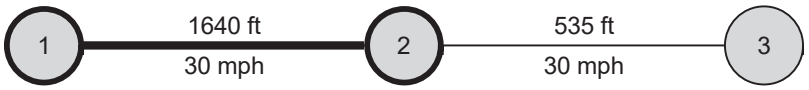
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.14			14.21		
2	Running Speed, mph	25.80			25.67		
2	Through Delay, s/veh	22.92			17.27		
2	Travel Time, s	37.06			31.48		
2	Travel Speed, mph	9.84			11.59		
2	Stop Rate, stops/veh	0.56			0.74		
2	Spatial Stop Rate, stops/mi	5.53			7.35		
2	Through vol/cap Ratio	0.25			0.54		
2	Percent of Base FFS	25.00			29.43		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	3.07			3.41		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.28		B	2.53		B
2	Bicycle Segment LOS Score / LOS	2.19		B	2.22		B
2	Transit Segment LOS Score / LOS	2.78		C	1.18		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	81.51	81.51
Facility Travel Speed, mph	18.19	18.19
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	46.21	46.21
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.77	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.58	C	2.68	C
Bicycle Facility LOS Score / LOS	2.28	C	2.62	C
Transit Facility LOS Score / LOS	1.05	A	1.46	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_AM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

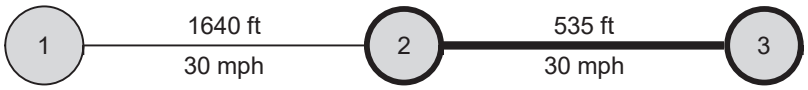
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.80			31.49		
1	Running Speed, mph	36.31			35.51		
1	Through Delay, s/veh	13.66			18.54		
1	Travel Time, s	44.45			50.03		
1	Travel Speed, mph	25.15			22.35		
1	Stop Rate, stops/veh	0.63			0.48		
1	Spatial Stop Rate, stops/mi	2.04			1.56		
1	Through vol/cap Ratio	0.31			0.11		
1	Percent of Base FFS	63.89			56.77		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.68			2.60		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.68		B	2.73		B
1	Bicycle Segment LOS Score / LOS	2.31		B	2.76		C
1	Transit Segment LOS Score / LOS	0.48		A	1.56		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	81.51	81.51
Facility Travel Speed, mph	18.19	18.19
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	46.21	46.21
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.77	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.58	C	2.68	C
Bicycle Facility LOS Score / LOS	2.28	C	2.62	C
Transit Facility LOS Score / LOS	1.05	A	1.46	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

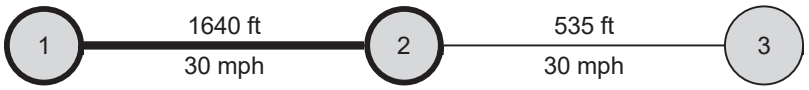
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h	never	never	never	never	never	never
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.23			14.07		
2	Running Speed, mph	25.64			25.92		
2	Through Delay, s/veh	29.02			15.64		
2	Travel Time, s	43.25			29.71		
2	Travel Speed, mph	8.43			12.28		
2	Stop Rate, stops/veh	0.65			0.67		
2	Spatial Stop Rate, stops/mi	6.45			6.64		
2	Through vol/cap Ratio	0.40			0.33		
2	Percent of Base FFS	21.42			31.19		
2	Level of Service	F			E		
2	Auto Traveler Perception Score	3.24			3.28		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.42		B	2.24		B
2	Bicycle Segment LOS Score / LOS	2.33		B	1.95		A
2	Transit Segment LOS Score / LOS	3.01		C	1.10		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	89.43	84.68
Facility Travel Speed, mph	16.58	17.51
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	42.12	44.48
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.81	2.77

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.66	C	2.32	C
Bicycle Facility LOS Score / LOS	2.40	C	2.35	C
Transit Facility LOS Score / LOS	1.14	A	1.50	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

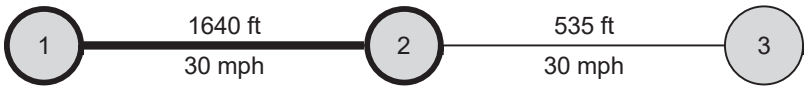
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h	never	never	never	never	never	never
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.97			30.90		
1	Running Speed, mph	36.10			36.19		
1	Through Delay, s/veh	15.21			24.08		
1	Travel Time, s	46.18			54.97		
1	Travel Speed, mph	24.21			20.34		
1	Stop Rate, stops/veh	0.66			0.56		
1	Spatial Stop Rate, stops/mi	2.11			1.80		
1	Through vol/cap Ratio	0.42			0.05		
1	Percent of Base FFS	61.50			51.66		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.69			2.64		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.73		B	2.35		B
1	Bicycle Segment LOS Score / LOS	2.43		B	2.48		B
1	Transit Segment LOS Score / LOS	0.53		A	1.63		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	89.43	84.68
Facility Travel Speed, mph	16.58	17.51
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	42.12	44.48
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.81	2.77

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.66	C	2.32	C
Bicycle Facility LOS Score / LOS	2.40	C	2.35	C
Transit Facility LOS Score / LOS	1.14	A	1.50	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_AM Brewster Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

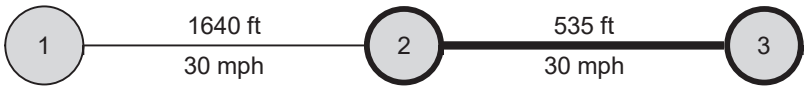
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.81			31.50		
1	Running Speed, mph	36.30			35.50		
1	Through Delay, s/veh	13.87			18.53		
1	Travel Time, s	44.67			50.03		
1	Travel Speed, mph	25.03			22.35		
1	Stop Rate, stops/veh	0.64			0.48		
1	Spatial Stop Rate, stops/mi	2.05			1.55		
1	Through vol/cap Ratio	0.33			0.11		
1	Percent of Base FFS	63.58			56.77		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.68			2.60		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.69		B	2.74		B
1	Bicycle Segment LOS Score / LOS	2.32		B	2.76		C
1	Transit Segment LOS Score / LOS	0.48		A	1.56		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	81.72	82.82
Facility Travel Speed, mph	18.15	17.90
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	46.09	45.48
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.77	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.59	C	2.69	C
Bicycle Facility LOS Score / LOS	2.29	C	2.63	C
Transit Facility LOS Score / LOS	1.05	A	1.47	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_AM Brewster Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

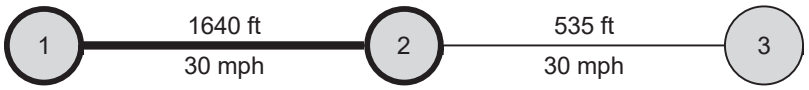
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.14			14.22		
2	Running Speed, mph	25.79			25.66		
2	Through Delay, s/veh	22.91			18.58		
2	Travel Time, s	37.05			32.79		
2	Travel Speed, mph	9.85			11.12		
2	Stop Rate, stops/veh	0.56			0.76		
2	Spatial Stop Rate, stops/mi	5.53			7.49		
2	Through vol/cap Ratio	0.25			0.58		
2	Percent of Base FFS	25.01			28.25		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	3.06			3.44		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.29		B	2.54		B
2	Bicycle Segment LOS Score / LOS	2.20		B	2.23		B
2	Transit Segment LOS Score / LOS	2.78		C	1.19		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	81.72	82.82
Facility Travel Speed, mph	18.15	17.90
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	46.09	45.48
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.77	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.59	C	2.69	C
Bicycle Facility LOS Score / LOS	2.29	C	2.63	C
Transit Facility LOS Score / LOS	1.05	A	1.47	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

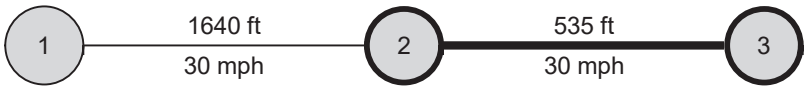
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.97			30.91		
1	Running Speed, mph	36.10			36.17		
1	Through Delay, s/veh	15.17			24.08		
1	Travel Time, s	46.14			54.99		
1	Travel Speed, mph	24.23			20.33		
1	Stop Rate, stops/veh	0.66			0.56		
1	Spatial Stop Rate, stops/mi	2.11			1.80		
1	Through vol/cap Ratio	0.42			0.05		
1	Percent of Base FFS	61.55			51.64		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.69			2.64		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.73		B	2.37		B
1	Bicycle Segment LOS Score / LOS	2.43		B	2.49		B
1	Transit Segment LOS Score / LOS	0.53		A	1.64		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	89.53	84.67
Facility Travel Speed, mph	16.56	17.52
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	42.07	44.49
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.81	2.77

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.66	C	2.34	C
Bicycle Facility LOS Score / LOS	2.41	C	2.36	C
Transit Facility LOS Score / LOS	1.14	A	1.50	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

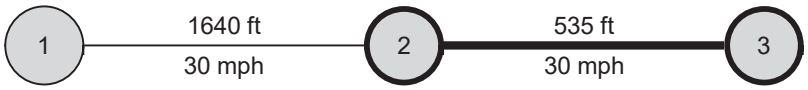
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.24			14.07		
2	Running Speed, mph	25.61			25.92		
2	Through Delay, s/veh	29.14			15.60		
2	Travel Time, s	43.38			29.67		
2	Travel Speed, mph	8.41			12.29		
2	Stop Rate, stops/veh	0.66			0.67		
2	Spatial Stop Rate, stops/mi	6.47			6.60		
2	Through vol/cap Ratio	0.41			0.34		
2	Percent of Base FFS	21.36			31.22		
2	Level of Service	F			E		
2	Auto Traveler Perception Score	3.24			3.27		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.44		B	2.24		B
2	Bicycle Segment LOS Score / LOS	2.35		B	1.95		A
2	Transit Segment LOS Score / LOS	3.02		C	1.10		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	89.53	84.67
Facility Travel Speed, mph	16.56	17.52
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	42.07	44.49
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.81	2.77

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.66	C	2.34	C
Bicycle Facility LOS Score / LOS	2.41	C	2.36	C
Transit Facility LOS Score / LOS	1.14	A	1.50	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_AM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

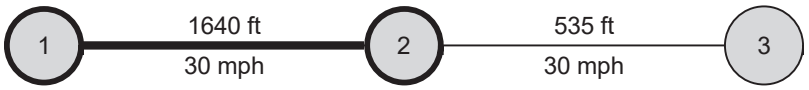
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.21			14.24		
2	Running Speed, mph	25.67			25.62		
2	Through Delay, s/veh	26.33			19.80		
2	Travel Time, s	40.54			34.04		
2	Travel Speed, mph	9.00			10.72		
2	Stop Rate, stops/veh	0.61			0.75		
2	Spatial Stop Rate, stops/mi	6.00			7.44		
2	Through vol/cap Ratio	0.29			0.63		
2	Percent of Base FFS	22.86			27.22		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	3.15			3.43		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.39		B	2.52		B
2	Bicycle Segment LOS Score / LOS	2.29		B	2.23		B
2	Transit Segment LOS Score / LOS	2.92		C	1.20		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	85.03	83.99
Facility Travel Speed, mph	17.44	17.66
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	44.30	44.85
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.78	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.70	C	2.71	C
Bicycle Facility LOS Score / LOS	2.39	C	2.64	C
Transit Facility LOS Score / LOS	1.11	A	1.47	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_AM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

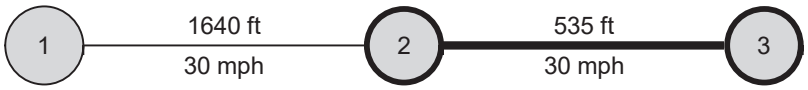
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.93			31.55		
1	Running Speed, mph	36.16			35.45		
1	Through Delay, s/veh	13.57			18.40		
1	Travel Time, s	44.49			49.95		
1	Travel Speed, mph	25.13			22.39		
1	Stop Rate, stops/veh	0.63			0.48		
1	Spatial Stop Rate, stops/mi	2.01			1.54		
1	Through vol/cap Ratio	0.41			0.10		
1	Percent of Base FFS	63.83			56.86		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.68			2.60		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.80		C	2.77		C
1	Bicycle Segment LOS Score / LOS	2.42		B	2.78		C
1	Transit Segment LOS Score / LOS	0.51		A	1.56		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	85.03	83.99
Facility Travel Speed, mph	17.44	17.66
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	44.30	44.85
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.78	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.70	C	2.71	C
Bicycle Facility LOS Score / LOS	2.39	C	2.64	C
Transit Facility LOS Score / LOS	1.11	A	1.47	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

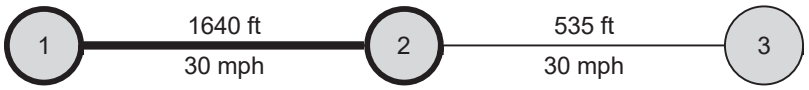
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.27			14.11		
2	Running Speed, mph	25.57			25.85		
2	Through Delay, s/veh	29.85			18.44		
2	Travel Time, s	44.12			32.55		
2	Travel Speed, mph	8.27			11.21		
2	Stop Rate, stops/veh	0.67			0.73		
2	Spatial Stop Rate, stops/mi	6.60			7.24		
2	Through vol/cap Ratio	0.45			0.45		
2	Percent of Base FFS	21.00			28.46		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	3.27			3.39		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.48		B	2.30		B
2	Bicycle Segment LOS Score / LOS	2.36		B	2.03		B
2	Transit Segment LOS Score / LOS	3.05		C	1.13		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	91.41	87.64
Facility Travel Speed, mph	16.22	16.92
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	41.20	42.98
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.82	2.79

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.69	C	2.43	C
Bicycle Facility LOS Score / LOS	2.42	C	2.46	C
Transit Facility LOS Score / LOS	1.15	A	1.53	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

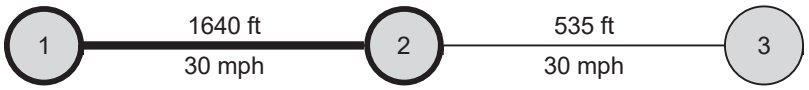
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	31.01			31.07		
1	Running Speed, mph	36.06			35.99		
1	Through Delay, s/veh	16.28			24.02		
1	Travel Time, s	47.29			55.09		
1	Travel Speed, mph	23.64			20.30		
1	Stop Rate, stops/veh	0.68			0.56		
1	Spatial Stop Rate, stops/mi	2.18			1.80		
1	Through vol/cap Ratio	0.46			0.05		
1	Percent of Base FFS	60.06			51.55		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.71			2.64		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.76		C	2.47		B
1	Bicycle Segment LOS Score / LOS	2.44		B	2.60		B
1	Transit Segment LOS Score / LOS	0.53		A	1.67		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	91.41	87.64
Facility Travel Speed, mph	16.22	16.92
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	41.20	42.98
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.82	2.79

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.69	C	2.43	C
Bicycle Facility LOS Score / LOS	2.42	C	2.46	C
Transit Facility LOS Score / LOS	1.15	A	1.53	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_AM Brewster Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

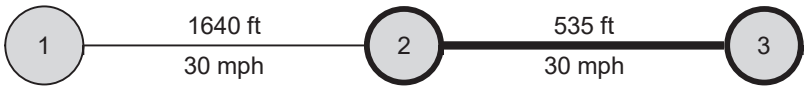
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.63			31.55		
1	Running Speed, mph	36.50			35.44		
1	Through Delay, s/veh	12.45			18.42		
1	Travel Time, s	43.09			49.97		
1	Travel Speed, mph	25.95			22.38		
1	Stop Rate, stops/veh	0.59			0.48		
1	Spatial Stop Rate, stops/mi	1.91			1.54		
1	Through vol/cap Ratio	0.16			0.10		
1	Percent of Base FFS	65.92			56.84		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.66			2.60		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.53		B	2.77		C
1	Bicycle Segment LOS Score / LOS	2.09		B	2.78		C
1	Transit Segment LOS Score / LOS	0.44		A	1.56		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	81.77	82.36
Facility Travel Speed, mph	18.14	18.01
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	46.07	45.74
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.75	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.46	C	2.71	C
Bicycle Facility LOS Score / LOS	2.10	B	2.65	C
Transit Facility LOS Score / LOS	1.02	A	1.47	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_AM Brewster Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

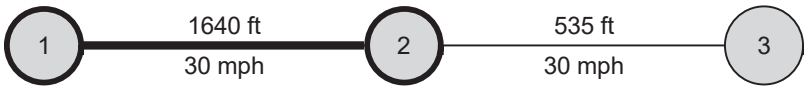
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.09			14.25		
2	Running Speed, mph	25.88			25.61		
2	Through Delay, s/veh	24.59			18.14		
2	Travel Time, s	38.68			32.38		
2	Travel Speed, mph	9.43			11.26		
2	Stop Rate, stops/veh	0.57			0.76		
2	Spatial Stop Rate, stops/mi	5.67			7.54		
2	Through vol/cap Ratio	0.16			0.59		
2	Percent of Base FFS	23.95			28.61		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	3.09			3.45		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.25		B	2.54		B
2	Bicycle Segment LOS Score / LOS	2.13		B	2.24		B
2	Transit Segment LOS Score / LOS	2.81		C	1.20		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	81.77	82.36
Facility Travel Speed, mph	18.14	18.01
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	46.07	45.74
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.75	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.46	C	2.71	C
Bicycle Facility LOS Score / LOS	2.10	B	2.65	C
Transit Facility LOS Score / LOS	1.02	A	1.47	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

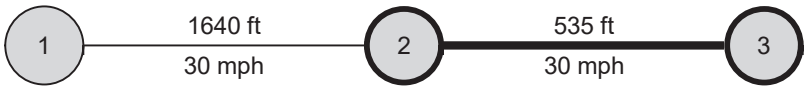
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	31.01			31.09		
1	Running Speed, mph	36.06			35.97		
1	Through Delay, s/veh	16.27			24.03		
1	Travel Time, s	47.27			55.11		
1	Travel Speed, mph	23.65			20.29		
1	Stop Rate, stops/veh	0.68			0.56		
1	Spatial Stop Rate, stops/mi	2.18			1.80		
1	Through vol/cap Ratio	0.46			0.05		
1	Percent of Base FFS	60.08			51.53		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.70			2.64		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.76		C	2.48		B
1	Bicycle Segment LOS Score / LOS	2.44		B	2.61		B
1	Transit Segment LOS Score / LOS	0.53		A	1.67		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	91.52	87.87
Facility Travel Speed, mph	16.20	16.88
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	41.16	42.87
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.83	2.79

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.70	C	2.44	C
Bicycle Facility LOS Score / LOS	2.43	C	2.47	C
Transit Facility LOS Score / LOS	1.16	A	1.54	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

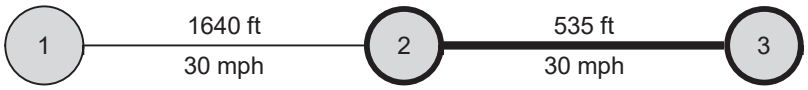
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.28			14.12		
2	Running Speed, mph	25.54			25.84		
2	Through Delay, s/veh	29.97			18.64		
2	Travel Time, s	44.25			32.76		
2	Travel Speed, mph	8.24			11.14		
2	Stop Rate, stops/veh	0.67			0.74		
2	Spatial Stop Rate, stops/mi	6.62			7.31		
2	Through vol/cap Ratio	0.46			0.46		
2	Percent of Base FFS	20.94			28.29		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	3.27			3.41		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.50		B	2.31		B
2	Bicycle Segment LOS Score / LOS	2.38		B	2.04		B
2	Transit Segment LOS Score / LOS	3.06		C	1.13		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	91.52	87.87
Facility Travel Speed, mph	16.20	16.88
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	41.16	42.87
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.83	2.79

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.70	C	2.44	C
Bicycle Facility LOS Score / LOS	2.43	C	2.47	C
Transit Facility LOS Score / LOS	1.16	A	1.54	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Brewster Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

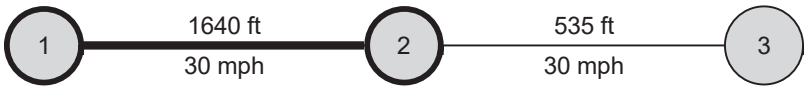
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.12			14.19		
2	Running Speed, mph	25.83			25.70		
2	Through Delay, s/veh	21.14			16.40		
2	Travel Time, s	35.26			30.60		
2	Travel Speed, mph	10.35			11.92		
2	Stop Rate, stops/veh	0.53			0.74		
2	Spatial Stop Rate, stops/mi	5.26			7.30		
2	Through vol/cap Ratio	0.22			0.50		
2	Percent of Base FFS	26.28			30.28		
2	Level of Service	F			E		
2	Auto Traveler Perception Score	3.01			3.41		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.25		B	2.53		B
2	Bicycle Segment LOS Score / LOS	2.16		B	2.21		B
2	Transit Segment LOS Score / LOS	2.70		B	1.17		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	79.41	80.19
Facility Travel Speed, mph	18.68	18.49
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	47.43	46.97
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.75	2.75

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.55	C	2.66	C
Bicycle Facility LOS Score / LOS	2.24	B	2.61	C
Transit Facility LOS Score / LOS	1.02	A	1.44	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Brewster Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

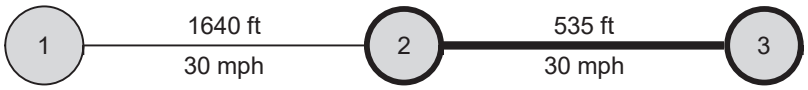
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.76			31.44		
1	Running Speed, mph	36.35			35.57		
1	Through Delay, s/veh	13.39			18.16		
1	Travel Time, s	44.15			49.59		
1	Travel Speed, mph	25.33			22.55		
1	Stop Rate, stops/veh	0.63			0.48		
1	Spatial Stop Rate, stops/mi	2.01			1.53		
1	Through vol/cap Ratio	0.28			0.08		
1	Percent of Base FFS	64.33			57.27		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.68			2.59		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.65		B	2.70		B
1	Bicycle Segment LOS Score / LOS	2.27		B	2.74		B
1	Transit Segment LOS Score / LOS	0.47		A	1.53		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	79.41	80.19
Facility Travel Speed, mph	18.68	18.49
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	47.43	46.97
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.75	2.75

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.55	C	2.66	C
Bicycle Facility LOS Score / LOS	2.24	B	2.61	C
Transit Facility LOS Score / LOS	1.02	A	1.44	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

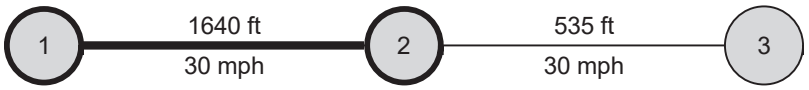
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.21			14.06		
2	Running Speed, mph	25.67			25.94		
2	Through Delay, s/veh	28.49			14.87		
2	Travel Time, s	42.70			28.93		
2	Travel Speed, mph	8.54			12.61		
2	Stop Rate, stops/veh	0.65			0.66		
2	Spatial Stop Rate, stops/mi	6.37			6.51		
2	Through vol/cap Ratio	0.38			0.29		
2	Percent of Base FFS	21.70			32.03		
2	Level of Service	F			E		
2	Auto Traveler Perception Score	3.22			3.25		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.40		B	2.22		B
2	Bicycle Segment LOS Score / LOS	2.31		B	1.92		A
2	Transit Segment LOS Score / LOS	2.99		C	1.10		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	88.31	83.79
Facility Travel Speed, mph	16.79	17.70
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	42.65	44.95
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.80	2.77

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.61	C	2.30	C
Bicycle Facility LOS Score / LOS	2.38	C	2.32	C
Transit Facility LOS Score / LOS	1.12	A	1.49	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

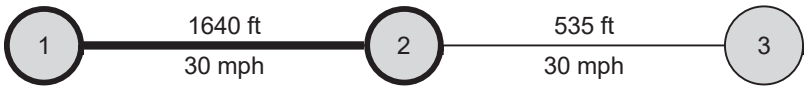
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.93			30.87		
1	Running Speed, mph	36.15			36.22		
1	Through Delay, s/veh	14.68			24.00		
1	Travel Time, s	45.61			54.87		
1	Travel Speed, mph	24.52			20.38		
1	Stop Rate, stops/veh	0.64			0.56		
1	Spatial Stop Rate, stops/mi	2.06			1.80		
1	Through vol/cap Ratio	0.38			0.05		
1	Percent of Base FFS	62.27			51.76		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.68			2.64		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.69		B	2.33		B
1	Bicycle Segment LOS Score / LOS	2.40		B	2.46		B
1	Transit Segment LOS Score / LOS	0.51		A	1.62		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	88.31	83.79
Facility Travel Speed, mph	16.79	17.70
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	42.65	44.95
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.80	2.77

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.61	C	2.30	C
Bicycle Facility LOS Score / LOS	2.38	C	2.32	C
Transit Facility LOS Score / LOS	1.12	A	1.49	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_AM Brewster Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

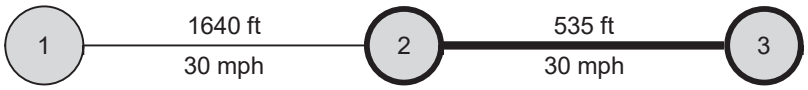
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.77			31.44		
1	Running Speed, mph	36.34			35.56		
1	Through Delay, s/veh	13.55			18.43		
1	Travel Time, s	44.32			49.87		
1	Travel Speed, mph	25.23			22.42		
1	Stop Rate, stops/veh	0.63			0.48		
1	Spatial Stop Rate, stops/mi	2.04			1.55		
1	Through vol/cap Ratio	0.29			0.11		
1	Percent of Base FFS	64.09			56.95		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.68			2.60		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.66		B	2.70		B
1	Bicycle Segment LOS Score / LOS	2.28		B	2.74		B
1	Transit Segment LOS Score / LOS	0.47		A	1.54		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	79.57	81.54
Facility Travel Speed, mph	18.64	18.19
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	47.34	46.19
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.76	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.56	C	2.66	C
Bicycle Facility LOS Score / LOS	2.25	C	2.61	C
Transit Facility LOS Score / LOS	1.02	A	1.45	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_AM Brewster Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

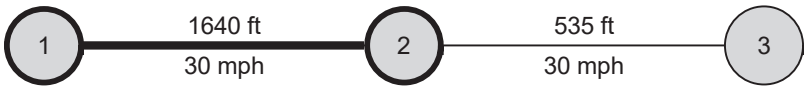
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.12			14.20		
2	Running Speed, mph	25.83			25.68		
2	Through Delay, s/veh	21.13			17.47		
2	Travel Time, s	35.25			31.67		
2	Travel Speed, mph	10.35			11.52		
2	Stop Rate, stops/veh	0.53			0.75		
2	Spatial Stop Rate, stops/mi	5.26			7.44		
2	Through vol/cap Ratio	0.22			0.53		
2	Percent of Base FFS	26.28			29.25		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	3.01			3.43		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.25		B	2.54		B
2	Bicycle Segment LOS Score / LOS	2.16		B	2.22		B
2	Transit Segment LOS Score / LOS	2.70		B	1.18		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	79.57	81.54
Facility Travel Speed, mph	18.64	18.19
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	47.34	46.19
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.76	2.76

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.56	C	2.66	C
Bicycle Facility LOS Score / LOS	2.25	C	2.61	C
Transit Facility LOS Score / LOS	1.02	A	1.45	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Veterans E	Brewster Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	30	30	2	1	1640	1640	50	50	0	0	70	70	0.0	0.0

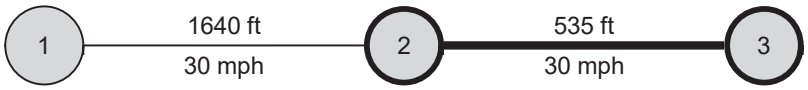
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	39.37			39.37		
1	Running Time, s	30.93			30.89		
1	Running Speed, mph	36.15			36.20		
1	Through Delay, s/veh	14.70			24.00		
1	Travel Time, s	45.63			54.89		
1	Travel Speed, mph	24.50			20.37		
1	Stop Rate, stops/veh	0.64			0.56		
1	Spatial Stop Rate, stops/mi	2.06			1.80		
1	Through vol/cap Ratio	0.39			0.05		
1	Percent of Base FFS	62.24			51.74		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.68			2.64		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.69		B	2.35		B
1	Bicycle Segment LOS Score / LOS	2.40		B	2.47		B
1	Transit Segment LOS Score / LOS	0.52		A	1.63		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	88.50	83.90
Facility Travel Speed, mph	16.76	17.68
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	42.56	44.89
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.80	2.77

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.62	C	2.32	C
Bicycle Facility LOS Score / LOS	2.38	C	2.34	C
Transit Facility LOS Score / LOS	1.13	A	1.50	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_PM_Brewster.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Brewster Avenue and Arguello S	Brewster Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	30	30	2	2	535	535	50	50	0	0	70	70	0.0	0.0

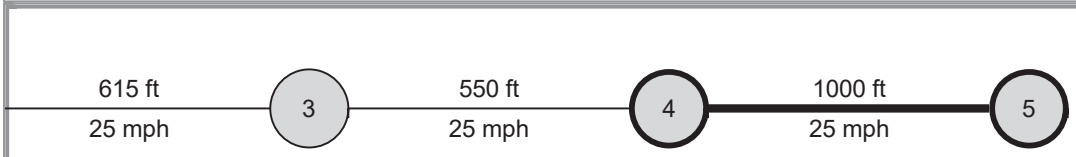
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	39.37			39.37		
2	Running Time, s	14.23			14.06		
2	Running Speed, mph	25.64			25.94		
2	Through Delay, s/veh	28.64			14.95		
2	Travel Time, s	42.87			29.01		
2	Travel Speed, mph	8.51			12.57		
2	Stop Rate, stops/veh	0.65			0.66		
2	Spatial Stop Rate, stops/mi	6.40			6.53		
2	Through vol/cap Ratio	0.39			0.30		
2	Percent of Base FFS	21.61			31.94		
2	Level of Service	F			E		
2	Auto Traveler Perception Score	3.23			3.26		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.42		B	2.22		B
2	Bicycle Segment LOS Score / LOS	2.33		B	1.93		A
2	Transit Segment LOS Score / LOS	3.00		C	1.10		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	88.50	83.90
Facility Travel Speed, mph	16.76	17.68
Facility Base Free Flow Speed, mph	39.37	39.37
Facility Percent of Base FFS	42.56	44.89
Facility Level of Service	D	D
Facility Auto Traveler Perception Score	2.80	2.77

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.62	C	2.32	C
Bicycle Facility LOS Score / LOS	2.38	C	2.34	C
Transit Facility LOS Score / LOS	1.13	A	1.50	A

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_AM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

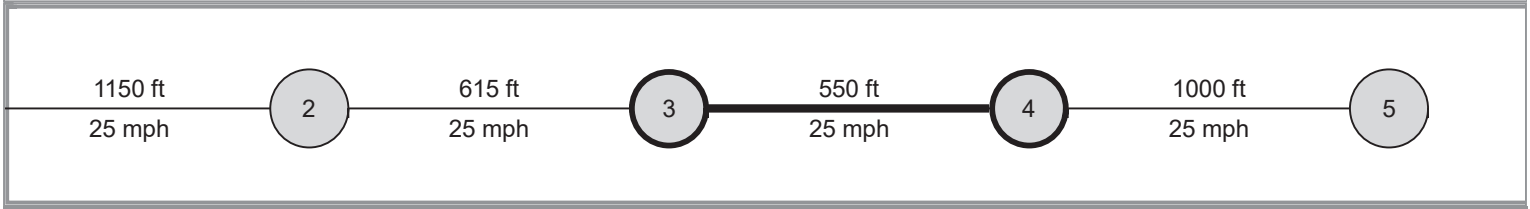
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	21.82			22.23		
4	Running Speed, mph	31.24			30.67		
4	Through Delay, s/veh	17.42			25.52		
4	Travel Time, s	39.24			47.75		
4	Travel Speed, mph	17.38			14.28		
4	Stop Rate, stops/veh	0.41			0.72		
4	Spatial Stop Rate, stops/mi	2.18			3.80		
4	Through vol/cap Ratio	0.21			0.57		
4	Percent of Base FFS	46.94			38.57		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.47			3.00		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.28		C	3.02		C
4	Bicycle Segment LOS Score / LOS	2.59		B	2.66		B
4	Transit Segment LOS Score / LOS	1.96		A	2.40		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.35	883.24
Facility Travel Speed, mph	16.82	2.56
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.44	6.91
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.54	3.60

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.15	C	3.91	D
Bicycle Facility LOS Score / LOS	2.57	C	2.65	C
Transit Facility LOS Score / LOS	2.00	A	3.57	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_AM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

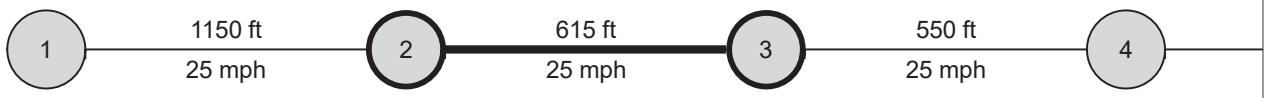
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.88			15.14		
3	Running Speed, mph	25.20			24.77		
3	Through Delay, s/veh	12.73			25.31		
3	Travel Time, s	27.61			40.45		
3	Travel Speed, mph	13.58			9.27		
3	Stop Rate, stops/veh	0.40			0.67		
3	Spatial Stop Rate, stops/mi	3.79			6.47		
3	Through vol/cap Ratio	0.34			0.59		
3	Percent of Base FFS	36.68			25.04		
3	Level of Service	E			F		
3	Auto Traveler Perception Score	2.75			3.24		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.05		C	3.55		D
3	Bicycle Segment LOS Score / LOS	2.33		B	2.55		B
3	Transit Segment LOS Score / LOS	2.34		B	2.99		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.35	883.24
Facility Travel Speed, mph	16.82	2.56
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.44	6.91
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.54	3.60

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.15	C	3.91	D
Bicycle Facility LOS Score / LOS	2.57	C	2.65	C
Transit Facility LOS Score / LOS	2.00	A	3.57	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_AM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

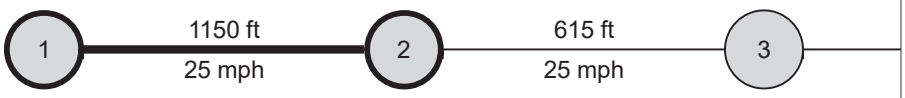
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	15.93			15.86		
2	Running Speed, mph	26.33			26.43		
2	Through Delay, s/veh	12.82			47.82		
2	Travel Time, s	28.75			63.68		
2	Travel Speed, mph	14.59			6.58		
2	Stop Rate, stops/veh	0.36			0.90		
2	Spatial Stop Rate, stops/mi	3.11			7.76		
2	Through vol/cap Ratio	0.35			0.81		
2	Percent of Base FFS	39.40			17.79		
2	Level of Service	E			F		
2	Auto Traveler Perception Score	2.63			3.50		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.14		C	3.33		C
2	Bicycle Segment LOS Score / LOS	2.46		B	2.47		B
2	Transit Segment LOS Score / LOS	2.29		B	3.37		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.35	883.24
Facility Travel Speed, mph	16.82	2.56
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.44	6.91
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.54	3.60

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.15	C	3.91	D
Bicycle Facility LOS Score / LOS	2.57	C	2.65	C
Transit Facility LOS Score / LOS	2.00	A	3.57	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_AM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

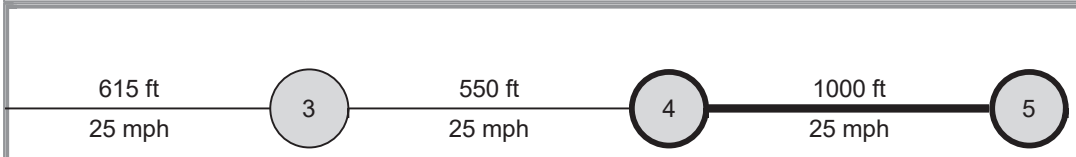
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement		6			2	
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph		37.02			37.02	
1	Running Time, s		24.48			46.06	
1	Running Speed, mph		32.03			17.02	
1	Through Delay, s/veh		14.27			685.30	
1	Travel Time, s		38.75			731.36	
1	Travel Speed, mph		20.24			1.07	
1	Stop Rate, stops/veh		0.44			2.80	
1	Spatial Stop Rate, stops/mi		2.02			12.85	
1	Through vol/cap Ratio		0.36			2.49	
1	Percent of Base FFS		54.66			2.90	
1	Level of Service		C			F	
1	Auto Traveler Perception Score		2.45			4.74	
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.10		C	5.18		F
1	Bicycle Segment LOS Score / LOS	2.71		B	2.78		C
1	Transit Segment LOS Score / LOS	1.71		A	4.98		E

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.35	883.24
Facility Travel Speed, mph	16.82	2.56
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.44	6.91
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.54	3.60

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.15	C	3.91	D
Bicycle Facility LOS Score / LOS	2.57	C	2.65	C
Transit Facility LOS Score / LOS	2.00	A	3.57	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

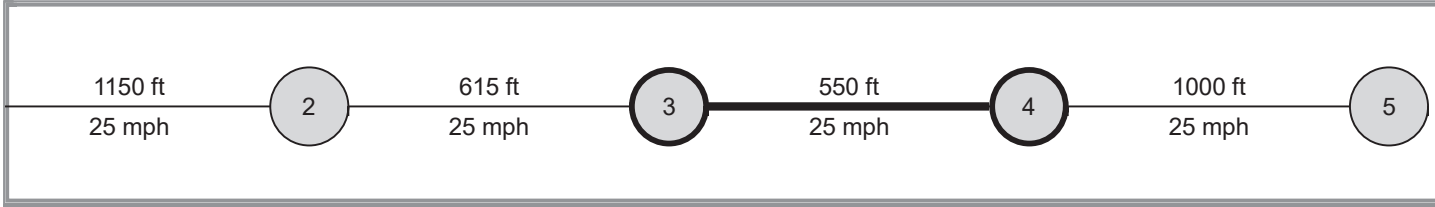
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h		never			never	
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	21.98			21.90		
4	Running Speed, mph	31.02			31.13		
4	Through Delay, s/veh	19.25			26.52		
4	Travel Time, s	41.23			48.42		
4	Travel Speed, mph	16.54			14.08		
4	Stop Rate, stops/veh	0.44			0.78		
4	Spatial Stop Rate, stops/mi	2.30			4.13		
4	Through vol/cap Ratio	0.30			0.39		
4	Percent of Base FFS	44.67			38.03		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.50			3.06		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.46		C	2.71		B
4	Bicycle Segment LOS Score / LOS	2.68		B	2.51		B
4	Transit Segment LOS Score / LOS	2.08		B	2.36		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	156.62	725.03
Facility Travel Speed, mph	14.43	3.12
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	38.98	8.42
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.65	3.53

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.24	C	3.44	C
Bicycle Facility LOS Score / LOS	2.63	C	2.50	C
Transit Facility LOS Score / LOS	2.25	C	3.42	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

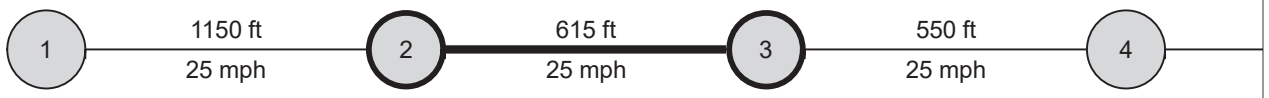
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h		never				
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.98			14.91		
3	Running Speed, mph	25.03			25.15		
3	Through Delay, s/veh	17.19			34.86		
3	Travel Time, s	32.17			49.77		
3	Travel Speed, mph	11.66			7.53		
3	Stop Rate, stops/veh	0.53			0.87		
3	Spatial Stop Rate, stops/mi	5.06			8.38		
3	Through vol/cap Ratio	0.43			0.37		
3	Percent of Base FFS	31.49			20.35		
3	Level of Service	E			F		
3	Auto Traveler Perception Score	2.98			3.62		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.26		C	3.14		C
3	Bicycle Segment LOS Score / LOS	2.44		B	2.38		B
3	Transit Segment LOS Score / LOS	2.61		B	3.17		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	156.62	725.03
Facility Travel Speed, mph	14.43	3.12
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	38.98	8.42
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.65	3.53

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.24	C	3.44	C
Bicycle Facility LOS Score / LOS	2.63	C	2.50	C
Transit Facility LOS Score / LOS	2.25	C	3.42	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

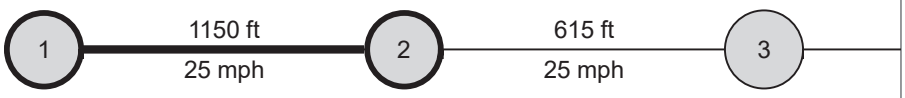
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h					never	
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	16.08			15.67		
2	Running Speed, mph	26.08			26.75		
2	Through Delay, s/veh	22.50			24.63		
2	Travel Time, s	38.58			40.31		
2	Travel Speed, mph	10.87			10.40		
2	Stop Rate, stops/veh	0.56			0.58		
2	Spatial Stop Rate, stops/mi	4.84			4.95		
2	Through vol/cap Ratio	0.48			0.46		
2	Percent of Base FFS	29.36			28.10		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.94			2.96		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.27		C	2.98		C
2	Bicycle Segment LOS Score / LOS	2.61		B	2.25		B
2	Transit Segment LOS Score / LOS	2.79		C	2.76		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	156.62	725.03
Facility Travel Speed, mph	14.43	3.12
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	38.98	8.42
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.65	3.53

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.24	C	3.44	C
Bicycle Facility LOS Score / LOS	2.63	C	2.50	C
Transit Facility LOS Score / LOS	2.25	C	3.42	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

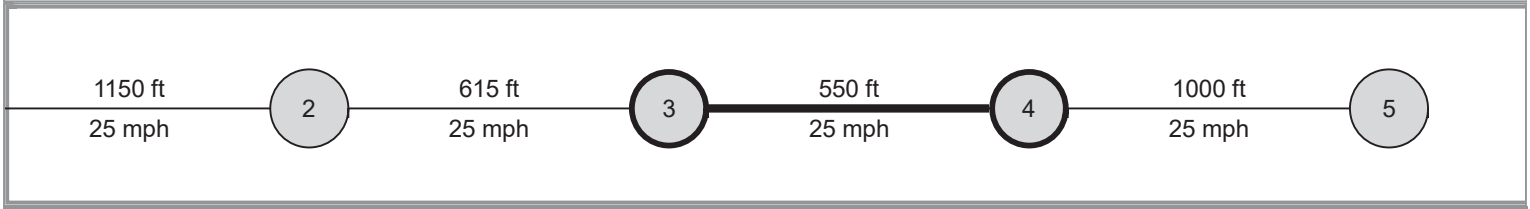
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		0.04				
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.39			46.06		
1	Running Speed, mph	32.14			17.02		
1	Through Delay, s/veh	20.25			540.48		
1	Travel Time, s	44.65			586.53		
1	Travel Speed, mph	17.56			1.34		
1	Stop Rate, stops/veh	0.54			2.59		
1	Spatial Stop Rate, stops/mi	2.49			11.87		
1	Through vol/cap Ratio	0.43			2.17		
1	Percent of Base FFS	47.44			3.61		
1	Level of Service	D			F		
1	Auto Traveler Perception Score	2.53			4.56		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.03		C	4.47		E
1	Bicycle Segment LOS Score / LOS	2.67		B	2.69		B
1	Transit Segment LOS Score / LOS	1.95		A	4.82		E

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	156.62	725.03
Facility Travel Speed, mph	14.43	3.12
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	38.98	8.42
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.65	3.53

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.24	C	3.44	C
Bicycle Facility LOS Score / LOS	2.63	C	2.50	C
Transit Facility LOS Score / LOS	2.25	C	3.42	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

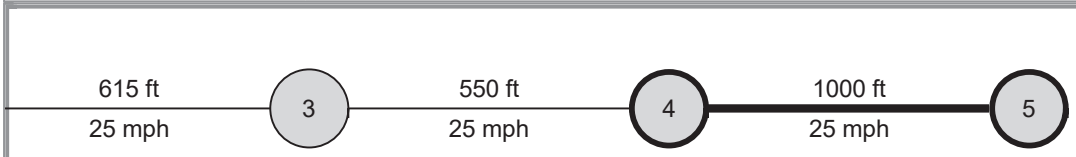
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.91			15.15		
3	Running Speed, mph	25.15			24.75		
3	Through Delay, s/veh	14.24			18.12		
3	Travel Time, s	29.15			33.27		
3	Travel Speed, mph	12.86			11.27		
3	Stop Rate, stops/veh	0.44			0.51		
3	Spatial Stop Rate, stops/mi	4.23			4.86		
3	Through vol/cap Ratio	0.33			0.61		
3	Percent of Base FFS	34.75			30.44		
3	Level of Service	E			E		
3	Auto Traveler Perception Score	2.83			2.94		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.10		C	3.56		D
3	Bicycle Segment LOS Score / LOS	2.36		B	2.55		B
3	Transit Segment LOS Score / LOS	2.44		B	2.72		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.26	895.03
Facility Travel Speed, mph	16.83	2.53
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.47	6.82
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.53	3.57

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.16	C	3.94	D
Bicycle Facility LOS Score / LOS	2.58	C	2.65	C
Transit Facility LOS Score / LOS	1.99	A	3.60	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

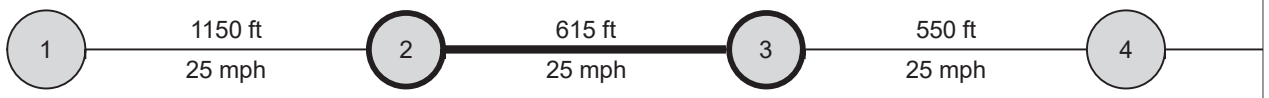
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h		never			never	
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	21.79			22.22		
4	Running Speed, mph	31.28			30.68		
4	Through Delay, s/veh	15.49			36.54		
4	Travel Time, s	37.28			58.76		
4	Travel Speed, mph	18.29			11.60		
4	Stop Rate, stops/veh	0.37			0.85		
4	Spatial Stop Rate, stops/mi	1.95			4.49		
4	Through vol/cap Ratio	0.20			0.66		
4	Percent of Base FFS	49.40			31.34		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.44			3.13		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.24		C	3.04		C
4	Bicycle Segment LOS Score / LOS	2.58		B	2.66		B
4	Transit Segment LOS Score / LOS	1.86		A	2.73		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	131.83	830.26
Facility Travel Speed, mph	17.14	2.72
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.31	7.35
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.49

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.16	C	3.87	D
Bicycle Facility LOS Score / LOS	2.57	C	2.64	C
Transit Facility LOS Score / LOS	1.97	A	3.56	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

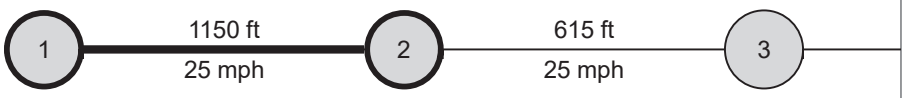
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	15.96			15.87		
2	Running Speed, mph	26.28			26.42		
2	Through Delay, s/veh	12.35			47.18		
2	Travel Time, s	28.30			63.05		
2	Travel Speed, mph	14.82			6.65		
2	Stop Rate, stops/veh	0.35			0.89		
2	Spatial Stop Rate, stops/mi	2.96			7.67		
2	Through vol/cap Ratio	0.38			0.82		
2	Percent of Base FFS	40.02			17.96		
2	Level of Service	D			F		
2	Auto Traveler Perception Score	2.61			3.48		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.18		C	3.35		C
2	Bicycle Segment LOS Score / LOS	2.49		B	2.48		B
2	Transit Segment LOS Score / LOS	2.27		B	3.37		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.26	895.03
Facility Travel Speed, mph	16.83	2.53
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.47	6.82
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.53	3.57

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.16	C	3.94	D
Bicycle Facility LOS Score / LOS	2.58	C	2.65	C
Transit Facility LOS Score / LOS	1.99	A	3.60	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

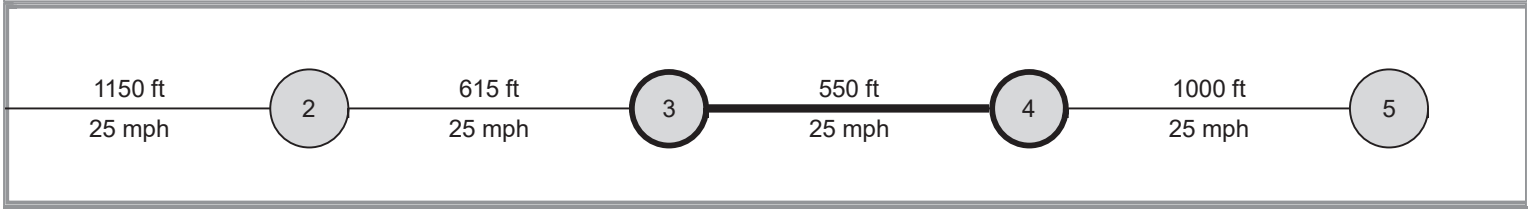
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.48			46.06		
1	Running Speed, mph	32.03			17.02		
1	Through Delay, s/veh	14.30			697.37		
1	Travel Time, s	38.78			743.42		
1	Travel Speed, mph	20.22			1.05		
1	Stop Rate, stops/veh	0.44			2.81		
1	Spatial Stop Rate, stops/mi	2.03			12.92		
1	Through vol/cap Ratio	0.36			2.52		
1	Percent of Base FFS	54.61			2.85		
1	Level of Service	C			F		
1	Auto Traveler Perception Score	2.45			4.75		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.10		C	5.20		F
1	Bicycle Segment LOS Score / LOS	2.71		B	2.78		C
1	Transit Segment LOS Score / LOS	1.71		A	4.99		E

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.26	895.03
Facility Travel Speed, mph	16.83	2.53
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.47	6.82
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.53	3.57

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.16	C	3.94	D
Bicycle Facility LOS Score / LOS	2.58	C	2.65	C
Transit Facility LOS Score / LOS	1.99	A	3.60	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

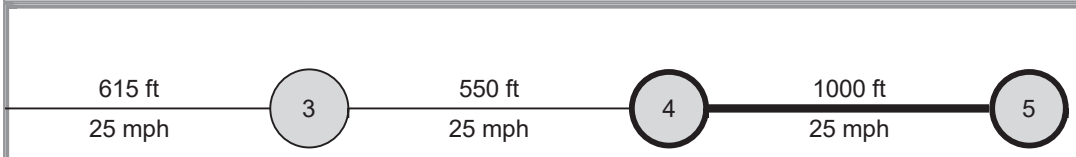
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.99			14.95		
3	Running Speed, mph	25.02			25.08		
3	Through Delay, s/veh	18.80			36.33		
3	Travel Time, s	33.79			51.28		
3	Travel Speed, mph	11.10			7.31		
3	Stop Rate, stops/veh	0.56			0.88		
3	Spatial Stop Rate, stops/mi	5.37			8.48		
3	Through vol/cap Ratio	0.44			0.41		
3	Percent of Base FFS	29.98			19.75		
3	Level of Service	F			F		
3	Auto Traveler Perception Score	3.04			3.64		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.27		C	3.22		C
3	Bicycle Segment LOS Score / LOS	2.45		B	2.40		B
3	Transit Segment LOS Score / LOS	2.69		B	3.22		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	158.03	772.03
Facility Travel Speed, mph	14.30	2.93
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	38.63	7.91
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.66	3.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.25	C	3.50	C
Bicycle Facility LOS Score / LOS	2.63	C	2.52	C
Transit Facility LOS Score / LOS	2.27	C	3.46	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

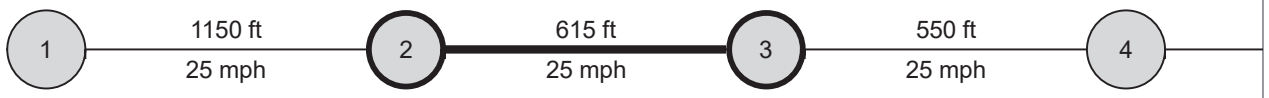
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	22.00			21.91		
4	Running Speed, mph	30.99			31.12		
4	Through Delay, s/veh	19.24			28.71		
4	Travel Time, s	41.24			50.62		
4	Travel Speed, mph	16.53			13.47		
4	Stop Rate, stops/veh	0.43			0.80		
4	Spatial Stop Rate, stops/mi	2.30			4.24		
4	Through vol/cap Ratio	0.31			0.41		
4	Percent of Base FFS	44.66			36.38		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.49			3.08		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.48		C	2.72		B
4	Bicycle Segment LOS Score / LOS	2.68		B	2.51		B
4	Transit Segment LOS Score / LOS	2.09		B	2.44		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	158.03	772.03
Facility Travel Speed, mph	14.30	2.93
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	38.63	7.91
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.66	3.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.25	C	3.50	C
Bicycle Facility LOS Score / LOS	2.63	C	2.52	C
Transit Facility LOS Score / LOS	2.27	C	3.46	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

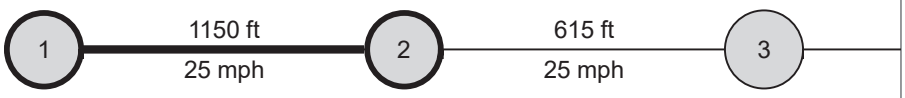
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	16.09			15.70		
2	Running Speed, mph	26.06			26.70		
2	Through Delay, s/veh	22.25			23.18		
2	Travel Time, s	38.34			38.88		
2	Travel Speed, mph	10.94			10.78		
2	Stop Rate, stops/veh	0.56			0.54		
2	Spatial Stop Rate, stops/mi	4.81			4.60		
2	Through vol/cap Ratio	0.49			0.50		
2	Percent of Base FFS	29.54			29.13		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.93			2.89		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.28		C	3.04		C
2	Bicycle Segment LOS Score / LOS	2.62		B	2.28		B
2	Transit Segment LOS Score / LOS	2.78		C	2.72		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	158.03	772.03
Facility Travel Speed, mph	14.30	2.93
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	38.63	7.91
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.66	3.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.25	C	3.50	C
Bicycle Facility LOS Score / LOS	2.63	C	2.52	C
Transit Facility LOS Score / LOS	2.27	C	3.46	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

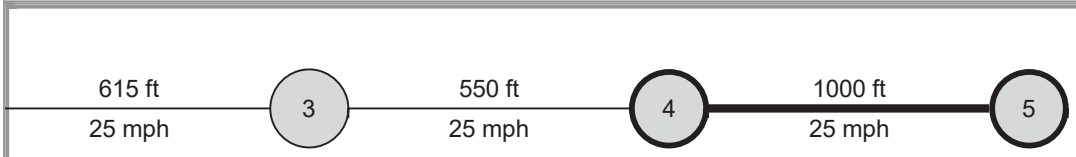
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.39			46.06		
1	Running Speed, mph	32.14			17.02		
1	Through Delay, s/veh	20.26			585.19		
1	Travel Time, s	44.65			631.25		
1	Travel Speed, mph	17.56			1.24		
1	Stop Rate, stops/veh	0.54			2.66		
1	Spatial Stop Rate, stops/mi	2.50			12.21		
1	Through vol/cap Ratio	0.43			2.27		
1	Percent of Base FFS	47.43			3.36		
1	Level of Service	D			F		
1	Auto Traveler Perception Score	2.53			4.62		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.03		C	4.55		E
1	Bicycle Segment LOS Score / LOS	2.68		B	2.70		B
1	Transit Segment LOS Score / LOS	1.95		A	4.87		E

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	158.03	772.03
Facility Travel Speed, mph	14.30	2.93
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	38.63	7.91
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.66	3.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.25	C	3.50	C
Bicycle Facility LOS Score / LOS	2.63	C	2.52	C
Transit Facility LOS Score / LOS	2.27	C	3.46	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_AM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

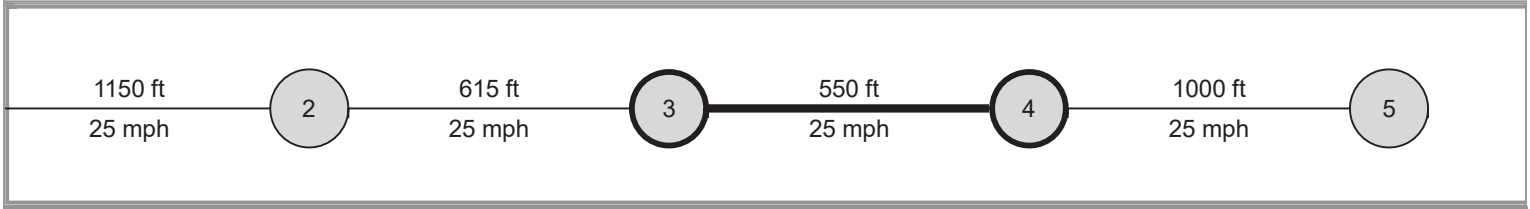
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	21.86			22.27		
4	Running Speed, mph	31.19			30.62		
4	Through Delay, s/veh	17.93			26.00		
4	Travel Time, s	39.79			48.27		
4	Travel Speed, mph	17.14			14.13		
4	Stop Rate, stops/veh	0.42			0.72		
4	Spatial Stop Rate, stops/mi	2.22			3.82		
4	Through vol/cap Ratio	0.21			0.60		
4	Percent of Base FFS	46.29			38.16		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.48			3.00		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.32		C	3.03		C
4	Bicycle Segment LOS Score / LOS	2.61		B	2.67		B
4	Transit Segment LOS Score / LOS	1.99		A	2.42		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.92	1009.57
Facility Travel Speed, mph	16.75	2.24
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.25	6.05
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.54	3.61

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.19	C	4.03	D
Bicycle Facility LOS Score / LOS	2.59	C	2.67	C
Transit Facility LOS Score / LOS	2.01	B	3.62	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_AM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

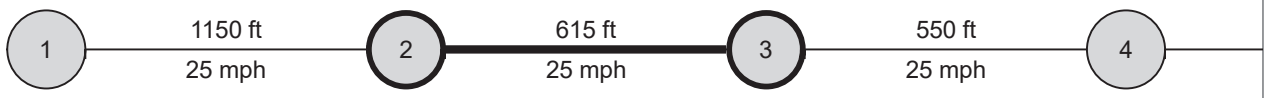
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.91			15.16		
3	Running Speed, mph	25.15			24.73		
3	Through Delay, s/veh	13.99			24.52		
3	Travel Time, s	28.90			39.68		
3	Travel Speed, mph	12.98			9.45		
3	Stop Rate, stops/veh	0.44			0.65		
3	Spatial Stop Rate, stops/mi	4.18			6.28		
3	Through vol/cap Ratio	0.36			0.62		
3	Percent of Base FFS	35.05			25.53		
3	Level of Service	E			F		
3	Auto Traveler Perception Score	2.82			3.21		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.11		C	3.59		D
3	Bicycle Segment LOS Score / LOS	2.36		B	2.56		B
3	Transit Segment LOS Score / LOS	2.42		B	2.97		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.92	1009.57
Facility Travel Speed, mph	16.75	2.24
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.25	6.05
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.54	3.61

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.19	C	4.03	D
Bicycle Facility LOS Score / LOS	2.59	C	2.67	C
Transit Facility LOS Score / LOS	2.01	B	3.62	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_AM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

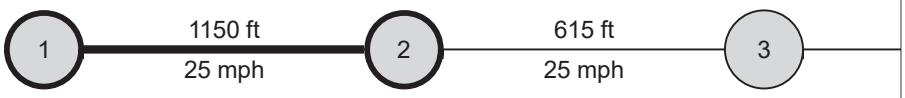
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	15.97			15.88		
2	Running Speed, mph	26.26			26.40		
2	Through Delay, s/veh	11.67			47.77		
2	Travel Time, s	27.64			63.65		
2	Travel Speed, mph	15.17			6.59		
2	Stop Rate, stops/veh	0.32			0.90		
2	Spatial Stop Rate, stops/mi	2.78			7.70		
2	Through vol/cap Ratio	0.38			0.83		
2	Percent of Base FFS	40.98			17.80		
2	Level of Service	D			F		
2	Auto Traveler Perception Score	2.57			3.48		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.19		C	3.36		C
2	Bicycle Segment LOS Score / LOS	2.50		B	2.49		B
2	Transit Segment LOS Score / LOS	2.23		B	3.38		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.92	1009.57
Facility Travel Speed, mph	16.75	2.24
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.25	6.05
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.54	3.61

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.19	C	4.03	D
Bicycle Facility LOS Score / LOS	2.59	C	2.67	C
Transit Facility LOS Score / LOS	2.01	B	3.62	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_AM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

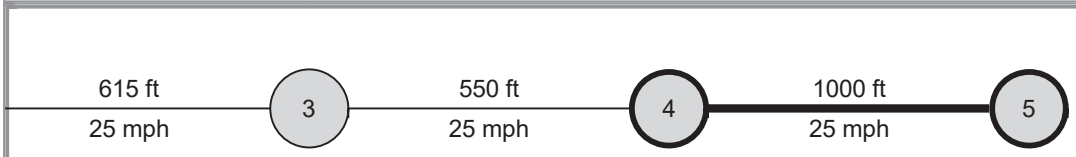
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.51			46.06		
1	Running Speed, mph	31.99			17.02		
1	Through Delay, s/veh	14.08			811.92		
1	Travel Time, s	38.59			857.97		
1	Travel Speed, mph	20.32			0.91		
1	Stop Rate, stops/veh	0.43			2.94		
1	Spatial Stop Rate, stops/mi	1.99			13.51		
1	Through vol/cap Ratio	0.34			2.77		
1	Percent of Base FFS	54.88			2.47		
1	Level of Service	C			F		
1	Auto Traveler Perception Score	2.45			4.85		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.12		C	5.48		F
1	Bicycle Segment LOS Score / LOS	2.72		B	2.83		C
1	Transit Segment LOS Score / LOS	1.71		A	5.10		F

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	134.92	1009.57
Facility Travel Speed, mph	16.75	2.24
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	45.25	6.05
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.54	3.61

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.19	C	4.03	D
Bicycle Facility LOS Score / LOS	2.59	C	2.67	C
Transit Facility LOS Score / LOS	2.01	B	3.62	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

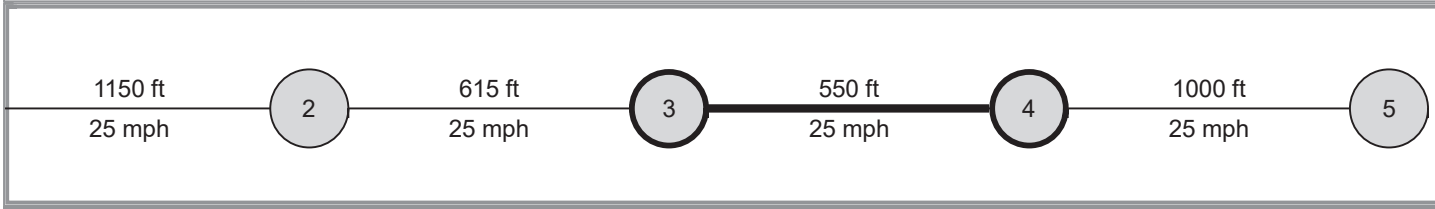
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h		never			never	
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	22.04			21.97		
4	Running Speed, mph	30.94			31.03		
4	Through Delay, s/veh	20.50			26.66		
4	Travel Time, s	42.54			48.64		
4	Travel Speed, mph	16.03			14.02		
4	Stop Rate, stops/veh	0.44			0.77		
4	Spatial Stop Rate, stops/mi	2.30			4.09		
4	Through vol/cap Ratio	0.36			0.43		
4	Percent of Base FFS	43.29			37.87		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.50			3.05		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.52		D	2.68		B
4	Bicycle Segment LOS Score / LOS	2.70		B	2.52		B
4	Transit Segment LOS Score / LOS	2.15		B	2.38		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	161.83	932.41
Facility Travel Speed, mph	13.97	2.42
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	37.73	6.55
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.68	3.55

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.33	C	3.64	D
Bicycle Facility LOS Score / LOS	2.66	C	2.54	C
Transit Facility LOS Score / LOS	2.32	C	3.50	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

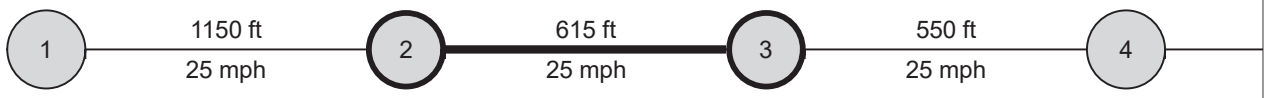
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h		never				
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	15.02			14.96		
3	Running Speed, mph	24.97			25.06		
3	Through Delay, s/veh	20.11			36.18		
3	Travel Time, s	35.13			51.15		
3	Travel Speed, mph	10.67			7.33		
3	Stop Rate, stops/veh	0.60			0.87		
3	Spatial Stop Rate, stops/mi	5.76			8.40		
3	Through vol/cap Ratio	0.47			0.43		
3	Percent of Base FFS	28.83			19.80		
3	Level of Service	F			F		
3	Auto Traveler Perception Score	3.11			3.62		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.33		C	3.24		C
3	Bicycle Segment LOS Score / LOS	2.46		B	2.42		B
3	Transit Segment LOS Score / LOS	2.75		C	3.22		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	161.83	932.41
Facility Travel Speed, mph	13.97	2.42
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	37.73	6.55
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.68	3.55

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.33	C	3.64	D
Bicycle Facility LOS Score / LOS	2.66	C	2.54	C
Transit Facility LOS Score / LOS	2.32	C	3.50	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

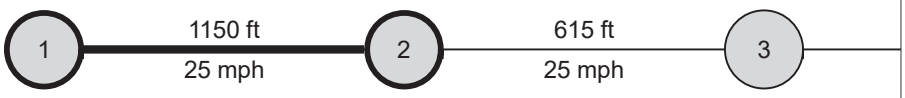
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h					never	
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	16.17			15.71		
2	Running Speed, mph	25.94			26.68		
2	Through Delay, s/veh	22.42			22.75		
2	Travel Time, s	38.58			38.47		
2	Travel Speed, mph	10.87			10.90		
2	Stop Rate, stops/veh	0.56			0.52		
2	Spatial Stop Rate, stops/mi	4.83			4.49		
2	Through vol/cap Ratio	0.53			0.52		
2	Percent of Base FFS	29.36			29.44		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.94			2.87		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.35		C	3.06		C
2	Bicycle Segment LOS Score / LOS	2.64		B	2.29		B
2	Transit Segment LOS Score / LOS	2.81		C	2.71		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	161.83	932.41
Facility Travel Speed, mph	13.97	2.42
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	37.73	6.55
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.68	3.55

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.33	C	3.64	D
Bicycle Facility LOS Score / LOS	2.66	C	2.54	C
Transit Facility LOS Score / LOS	2.32	C	3.50	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

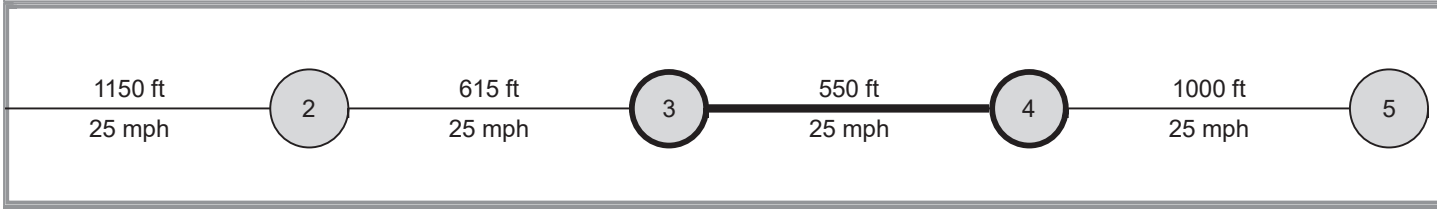
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		0.03				
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.53			46.06		
1	Running Speed, mph	31.97			17.02		
1	Through Delay, s/veh	21.04			748.10		
1	Travel Time, s	45.57			794.16		
1	Travel Speed, mph	17.21			0.99		
1	Stop Rate, stops/veh	0.56			2.87		
1	Spatial Stop Rate, stops/mi	2.59			13.20		
1	Through vol/cap Ratio	0.48			2.63		
1	Percent of Base FFS	46.47			2.67		
1	Level of Service	D			F		
1	Auto Traveler Perception Score	2.54			4.80		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.14		C	4.97		E
1	Bicycle Segment LOS Score / LOS	2.73		B	2.76		C
1	Transit Segment LOS Score / LOS	2.01		B	5.04		F

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	161.83	932.41
Facility Travel Speed, mph	13.97	2.42
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	37.73	6.55
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.68	3.55

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.33	C	3.64	D
Bicycle Facility LOS Score / LOS	2.66	C	2.54	C
Transit Facility LOS Score / LOS	2.32	C	3.50	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

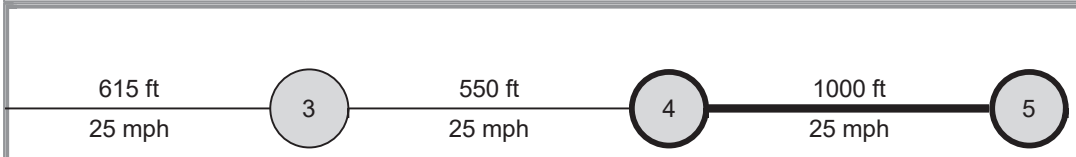
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.94			15.16		
3	Running Speed, mph	25.10			24.73		
3	Through Delay, s/veh	15.01			17.48		
3	Travel Time, s	29.95			32.64		
3	Travel Speed, mph	12.52			11.49		
3	Stop Rate, stops/veh	0.47			0.49		
3	Spatial Stop Rate, stops/mi	4.47			4.66		
3	Through vol/cap Ratio	0.35			0.62		
3	Percent of Base FFS	33.82			31.03		
3	Level of Service	E			E		
3	Auto Traveler Perception Score	2.87			2.90		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.15		C	3.57		D
3	Bicycle Segment LOS Score / LOS	2.39		B	2.56		B
3	Transit Segment LOS Score / LOS	2.49		B	2.69		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	132.61	1011.08
Facility Travel Speed, mph	17.04	2.24
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.04	6.04
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	4.05	D
Bicycle Facility LOS Score / LOS	2.60	C	2.68	C
Transit Facility LOS Score / LOS	1.98	A	3.64	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

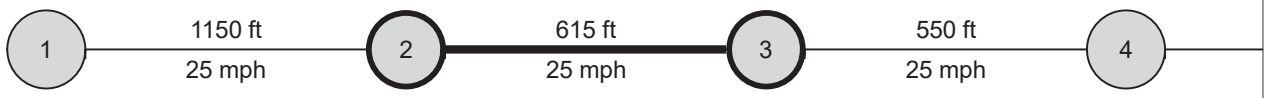
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	21.85			22.27		
4	Running Speed, mph	31.20			30.62		
4	Through Delay, s/veh	14.78			33.65		
4	Travel Time, s	36.64			55.92		
4	Travel Speed, mph	18.61			12.19		
4	Stop Rate, stops/veh	0.35			0.82		
4	Spatial Stop Rate, stops/mi	1.87			4.32		
4	Through vol/cap Ratio	0.20			0.66		
4	Percent of Base FFS	50.27			32.94		
4	Level of Service	C			E		
4	Auto Traveler Perception Score	2.43			3.09		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.31		C	3.08		C
4	Bicycle Segment LOS Score / LOS	2.61		B	2.68		B
4	Transit Segment LOS Score / LOS	1.85		A	2.66		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	132.61	1011.08
Facility Travel Speed, mph	17.04	2.24
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.04	6.04
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	4.05	D
Bicycle Facility LOS Score / LOS	2.60	C	2.68	C
Transit Facility LOS Score / LOS	1.98	A	3.64	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

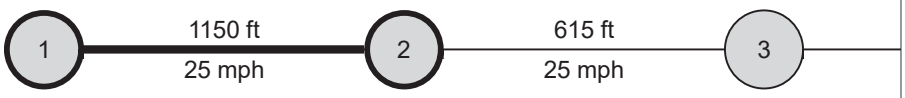
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	16.00			15.88		
2	Running Speed, mph	26.21			26.40		
2	Through Delay, s/veh	11.39			47.23		
2	Travel Time, s	27.39			63.11		
2	Travel Speed, mph	15.31			6.64		
2	Stop Rate, stops/veh	0.31			0.89		
2	Spatial Stop Rate, stops/mi	2.69			7.64		
2	Through vol/cap Ratio	0.41			0.83		
2	Percent of Base FFS	41.36			17.95		
2	Level of Service	D			F		
2	Auto Traveler Perception Score	2.56			3.47		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.22		C	3.36		C
2	Bicycle Segment LOS Score / LOS	2.53		B	2.49		B
2	Transit Segment LOS Score / LOS	2.23		B	3.37		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	132.61	1011.08
Facility Travel Speed, mph	17.04	2.24
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.04	6.04
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	4.05	D
Bicycle Facility LOS Score / LOS	2.60	C	2.68	C
Transit Facility LOS Score / LOS	1.98	A	3.64	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

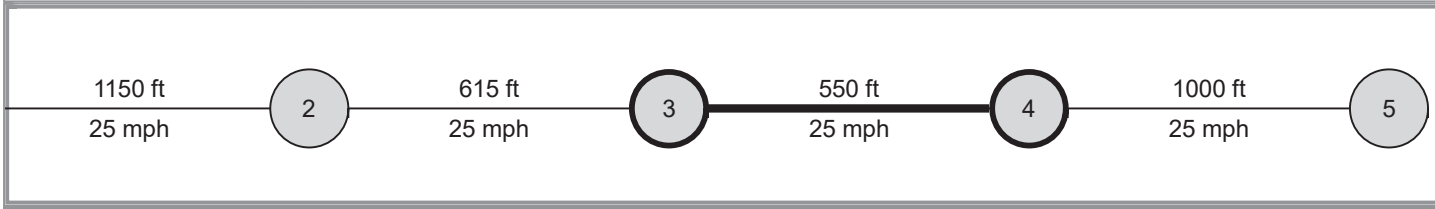
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.51			46.06		
1	Running Speed, mph	31.99			17.02		
1	Through Delay, s/veh	14.13			813.36		
1	Travel Time, s	38.63			859.41		
1	Travel Speed, mph	20.29			0.91		
1	Stop Rate, stops/veh	0.44			2.94		
1	Spatial Stop Rate, stops/mi	2.00			13.52		
1	Through vol/cap Ratio	0.35			2.78		
1	Percent of Base FFS	54.82			2.46		
1	Level of Service	C			F		
1	Auto Traveler Perception Score	2.45			4.85		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.12		C	5.49		F
1	Bicycle Segment LOS Score / LOS	2.73		B	2.83		C
1	Transit Segment LOS Score / LOS	1.71		A	5.10		F

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	132.61	1011.08
Facility Travel Speed, mph	17.04	2.24
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.04	6.04
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.58

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	4.05	D
Bicycle Facility LOS Score / LOS	2.60	C	2.68	C
Transit Facility LOS Score / LOS	1.98	A	3.64	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

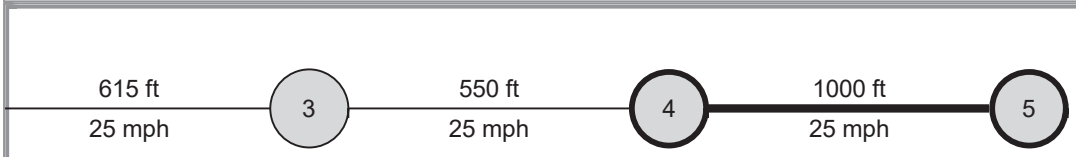
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	15.03			15.01		
3	Running Speed, mph	24.95			24.99		
3	Through Delay, s/veh	21.79			35.50		
3	Travel Time, s	36.82			50.51		
3	Travel Speed, mph	10.18			7.42		
3	Stop Rate, stops/veh	0.62			0.85		
3	Spatial Stop Rate, stops/mi	5.97			8.17		
3	Through vol/cap Ratio	0.49			0.48		
3	Percent of Base FFS	27.51			20.05		
3	Level of Service	F			F		
3	Auto Traveler Perception Score	3.15			3.58		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.34		C	3.32		C
3	Bicycle Segment LOS Score / LOS	2.47		B	2.44		B
3	Transit Segment LOS Score / LOS	2.82		C	3.22		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	164.50	978.08
Facility Travel Speed, mph	13.74	2.31
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	37.11	6.24
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.69	3.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.34	C	3.71	D
Bicycle Facility LOS Score / LOS	2.66	C	2.56	C
Transit Facility LOS Score / LOS	2.35	C	3.54	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

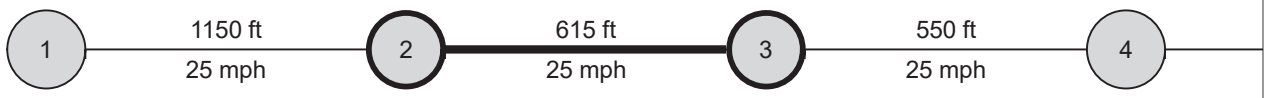
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	22.06			21.98		
4	Running Speed, mph	30.90			31.02		
4	Through Delay, s/veh	22.26			30.14		
4	Travel Time, s	44.33			52.12		
4	Travel Speed, mph	15.38			13.08		
4	Stop Rate, stops/veh	0.47			0.81		
4	Spatial Stop Rate, stops/mi	2.50			4.28		
4	Through vol/cap Ratio	0.36			0.46		
4	Percent of Base FFS	41.55			35.34		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.53			3.09		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.55		D	2.69		B
4	Bicycle Segment LOS Score / LOS	2.70		B	2.52		B
4	Transit Segment LOS Score / LOS	2.22		B	2.49		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	164.50	978.08
Facility Travel Speed, mph	13.74	2.31
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	37.11	6.24
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.69	3.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.34	C	3.71	D
Bicycle Facility LOS Score / LOS	2.66	C	2.56	C
Transit Facility LOS Score / LOS	2.35	C	3.54	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

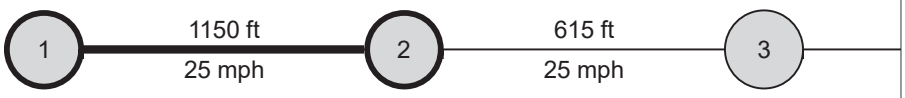
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	16.18			15.74		
2	Running Speed, mph	25.92			26.63		
2	Through Delay, s/veh	21.60			20.98		
2	Travel Time, s	37.77			36.73		
2	Travel Speed, mph	11.10			11.42		
2	Stop Rate, stops/veh	0.55			0.47		
2	Spatial Stop Rate, stops/mi	4.70			4.01		
2	Through vol/cap Ratio	0.54			0.56		
2	Percent of Base FFS	29.99			30.84		
2	Level of Service	F			E		
2	Auto Traveler Perception Score	2.91			2.79		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.36		C	3.12		C
2	Bicycle Segment LOS Score / LOS	2.64		B	2.32		B
2	Transit Segment LOS Score / LOS	2.78		C	2.66		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	164.50	978.08
Facility Travel Speed, mph	13.74	2.31
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	37.11	6.24
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.69	3.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.34	C	3.71	D
Bicycle Facility LOS Score / LOS	2.66	C	2.56	C
Transit Facility LOS Score / LOS	2.35	C	3.54	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

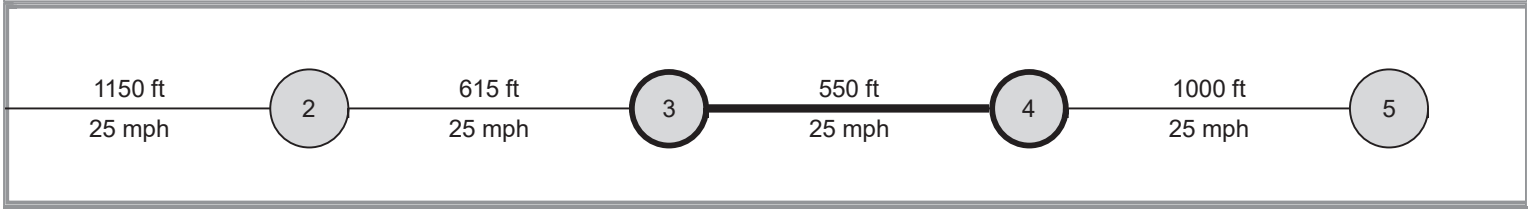
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.53			46.06		
1	Running Speed, mph	31.97			17.02		
1	Through Delay, s/veh	21.06			792.67		
1	Travel Time, s	45.58			838.72		
1	Travel Speed, mph	17.20			0.93		
1	Stop Rate, stops/veh	0.56			2.92		
1	Spatial Stop Rate, stops/mi	2.59			13.43		
1	Through vol/cap Ratio	0.48			2.73		
1	Percent of Base FFS	46.46			2.53		
1	Level of Service	D			F		
1	Auto Traveler Perception Score	2.54			4.84		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.14		C	5.09		F
1	Bicycle Segment LOS Score / LOS	2.73		B	2.77		C
1	Transit Segment LOS Score / LOS	2.01		B	5.08		F

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	164.50	978.08
Facility Travel Speed, mph	13.74	2.31
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	37.11	6.24
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.69	3.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.34	C	3.71	D
Bicycle Facility LOS Score / LOS	2.66	C	2.56	C
Transit Facility LOS Score / LOS	2.35	C	3.54	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

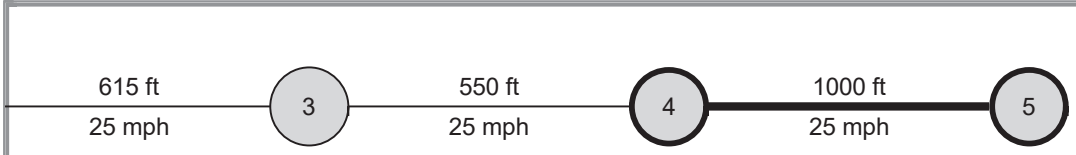
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.90			15.12		
3	Running Speed, mph	25.16			24.80		
3	Through Delay, s/veh	13.22			17.77		
3	Travel Time, s	28.13			32.89		
3	Travel Speed, mph	13.33			11.40		
3	Stop Rate, stops/veh	0.42			0.50		
3	Spatial Stop Rate, stops/mi	4.00			4.83		
3	Through vol/cap Ratio	0.32			0.57		
3	Percent of Base FFS	36.01			30.79		
3	Level of Service	E			E		
3	Auto Traveler Perception Score	2.78			2.94		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.09		C	3.51		D
3	Bicycle Segment LOS Score / LOS	2.36		B	2.54		B
3	Transit Segment LOS Score / LOS	2.38		B	2.69		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	132.03	826.12
Facility Travel Speed, mph	17.12	2.74
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.24	7.39
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.55

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.15	C	3.86	D
Bicycle Facility LOS Score / LOS	2.57	C	2.64	C
Transit Facility LOS Score / LOS	1.97	A	3.56	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

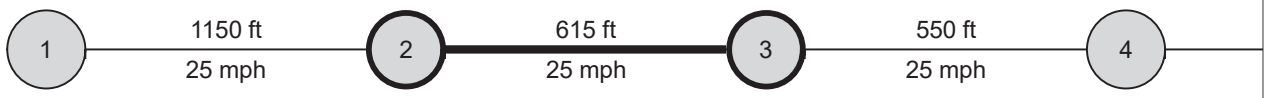
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	21.80			22.20		
4	Running Speed, mph	31.28			30.71		
4	Through Delay, s/veh	15.63			32.34		
4	Travel Time, s	37.43			54.54		
4	Travel Speed, mph	18.22			12.50		
4	Stop Rate, stops/veh	0.37			0.81		
4	Spatial Stop Rate, stops/mi	1.97			4.26		
4	Through vol/cap Ratio	0.20			0.62		
4	Percent of Base FFS	49.21			33.76		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.44			3.08		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.25		C	3.03		C
4	Bicycle Segment LOS Score / LOS	2.58		B	2.66		B
4	Transit Segment LOS Score / LOS	1.87		A	2.61		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	132.03	826.12
Facility Travel Speed, mph	17.12	2.74
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.24	7.39
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.55

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.15	C	3.86	D
Bicycle Facility LOS Score / LOS	2.57	C	2.64	C
Transit Facility LOS Score / LOS	1.97	A	3.56	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

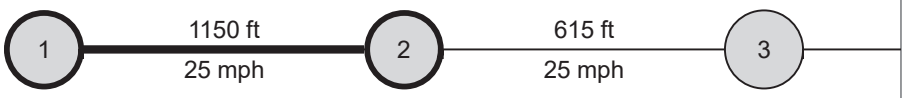
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	15.95			15.85		
2	Running Speed, mph	26.28			26.46		
2	Through Delay, s/veh	11.67			46.15		
2	Travel Time, s	27.62			62.00		
2	Travel Speed, mph	15.18			6.76		
2	Stop Rate, stops/veh	0.33			0.89		
2	Spatial Stop Rate, stops/mi	2.84			7.61		
2	Through vol/cap Ratio	0.37			0.78		
2	Percent of Base FFS	41.01			18.27		
2	Level of Service	D			F		
2	Auto Traveler Perception Score	2.59			3.47		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.17		C	3.31		C
2	Bicycle Segment LOS Score / LOS	2.48		B	2.47		B
2	Transit Segment LOS Score / LOS	2.23		B	3.34		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	132.03	826.12
Facility Travel Speed, mph	17.12	2.74
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.24	7.39
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.55

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.15	C	3.86	D
Bicycle Facility LOS Score / LOS	2.57	C	2.64	C
Transit Facility LOS Score / LOS	1.97	A	3.56	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_AM Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

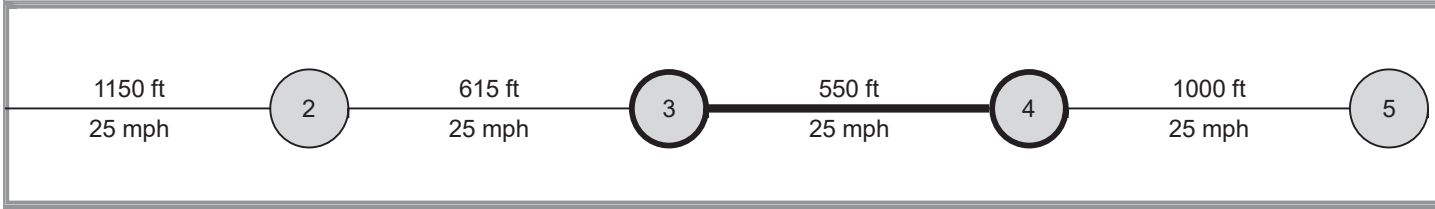
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.47			46.06		
1	Running Speed, mph	32.04			17.02		
1	Through Delay, s/veh	14.39			630.62		
1	Travel Time, s	38.85			676.68		
1	Travel Speed, mph	20.18			1.16		
1	Stop Rate, stops/veh	0.44			2.72		
1	Spatial Stop Rate, stops/mi	2.04			12.51		
1	Through vol/cap Ratio	0.37			2.37		
1	Percent of Base FFS	54.51			3.13		
1	Level of Service	C			F		
1	Auto Traveler Perception Score	2.45			4.68		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.09		C	5.06		F
1	Bicycle Segment LOS Score / LOS	2.70		B	2.76		C
1	Transit Segment LOS Score / LOS	1.71		A	4.92		E

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	132.03	826.12
Facility Travel Speed, mph	17.12	2.74
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.24	7.39
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.55

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.15	C	3.86	D
Bicycle Facility LOS Score / LOS	2.57	C	2.64	C
Transit Facility LOS Score / LOS	1.97	A	3.56	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

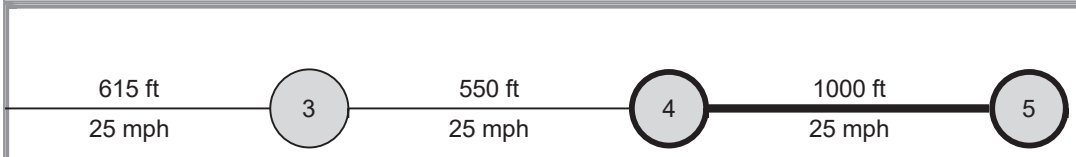
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.98			14.93		
3	Running Speed, mph	25.04			25.12		
3	Through Delay, s/veh	15.68			35.76		
3	Travel Time, s	30.66			50.69		
3	Travel Speed, mph	12.23			7.40		
3	Stop Rate, stops/veh	0.48			0.89		
3	Spatial Stop Rate, stops/mi	4.59			8.52		
3	Through vol/cap Ratio	0.43			0.39		
3	Percent of Base FFS	33.04			19.98		
3	Level of Service	E			F		
3	Auto Traveler Perception Score	2.89			3.65		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.24		C	3.18		C
3	Bicycle Segment LOS Score / LOS	2.44		B	2.39		B
3	Transit Segment LOS Score / LOS	2.54		B	3.20		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	153.74	701.38
Facility Travel Speed, mph	14.70	3.22
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	39.71	8.70
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.64	3.53

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.24	C	3.44	C
Bicycle Facility LOS Score / LOS	2.62	C	2.50	C
Transit Facility LOS Score / LOS	2.23	B	3.42	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

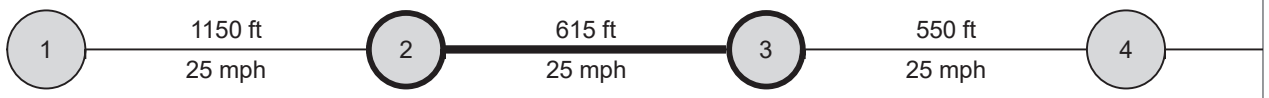
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	21.98			21.87		
4	Running Speed, mph	31.02			31.18		
4	Through Delay, s/veh	18.82			27.44		
4	Travel Time, s	40.80			49.30		
4	Travel Speed, mph	16.71			13.83		
4	Stop Rate, stops/veh	0.44			0.79		
4	Spatial Stop Rate, stops/mi	2.31			4.19		
4	Through vol/cap Ratio	0.29			0.38		
4	Percent of Base FFS	45.14			37.36		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.50			3.07		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.47		C	2.72		B
4	Bicycle Segment LOS Score / LOS	2.67		B	2.50		B
4	Transit Segment LOS Score / LOS	2.06		B	2.39		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	153.74	701.38
Facility Travel Speed, mph	14.70	3.22
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	39.71	8.70
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.64	3.53

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.24	C	3.44	C
Bicycle Facility LOS Score / LOS	2.62	C	2.50	C
Transit Facility LOS Score / LOS	2.23	B	3.42	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

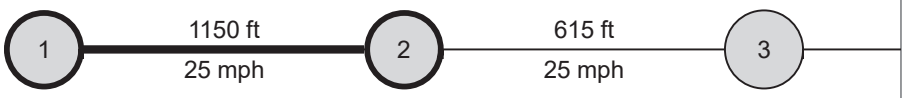
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	16.08			15.69		
2	Running Speed, mph	26.08			26.73		
2	Through Delay, s/veh	21.55			24.78		
2	Travel Time, s	37.63			40.46		
2	Travel Speed, mph	11.14			10.36		
2	Stop Rate, stops/veh	0.55			0.58		
2	Spatial Stop Rate, stops/mi	4.74			4.97		
2	Through vol/cap Ratio	0.47			0.48		
2	Percent of Base FFS	30.10			27.99		
2	Level of Service	E			F		
2	Auto Traveler Perception Score	2.92			2.96		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.27		C	3.01		C
2	Bicycle Segment LOS Score / LOS	2.60		B	2.27		B
2	Transit Segment LOS Score / LOS	2.75		B	2.77		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	153.74	701.38
Facility Travel Speed, mph	14.70	3.22
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	39.71	8.70
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.64	3.53

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.24	C	3.44	C
Bicycle Facility LOS Score / LOS	2.62	C	2.50	C
Transit Facility LOS Score / LOS	2.23	B	3.42	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

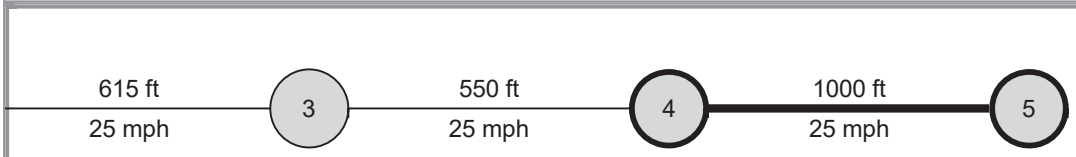
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.39			46.06		
1	Running Speed, mph	32.15			17.02		
1	Through Delay, s/veh	20.27			514.87		
1	Travel Time, s	44.65			560.93		
1	Travel Speed, mph	17.56			1.40		
1	Stop Rate, stops/veh	0.54			2.54		
1	Spatial Stop Rate, stops/mi	2.50			11.67		
1	Through vol/cap Ratio	0.43			2.11		
1	Percent of Base FFS	47.43			3.78		
1	Level of Service	D			F		
1	Auto Traveler Perception Score	2.53			4.53		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.03		C	4.42		E
1	Bicycle Segment LOS Score / LOS	2.67		B	2.68		B
1	Transit Segment LOS Score / LOS	1.95		A	4.79		E

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	153.74	701.38
Facility Travel Speed, mph	14.70	3.22
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	39.71	8.70
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.64	3.53

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.24	C	3.44	C
Bicycle Facility LOS Score / LOS	2.62	C	2.50	C
Transit Facility LOS Score / LOS	2.23	B	3.42	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

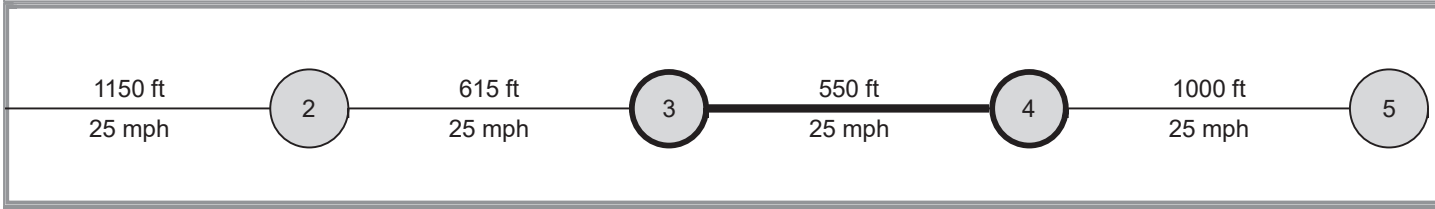
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	21.81			22.18		
4	Running Speed, mph	31.26			30.74		
4	Through Delay, s/veh	15.77			25.13		
4	Travel Time, s	37.58			47.31		
4	Travel Speed, mph	18.14			14.41		
4	Stop Rate, stops/veh	0.38			0.72		
4	Spatial Stop Rate, stops/mi	2.00			3.80		
4	Through vol/cap Ratio	0.21			0.54		
4	Percent of Base FFS	49.01			38.93		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.45			3.00		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.26		C	3.00		C
4	Bicycle Segment LOS Score / LOS	2.59		B	2.65		B
4	Transit Segment LOS Score / LOS	1.88		A	2.37		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	131.62	816.36
Facility Travel Speed, mph	17.17	2.77
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.38	7.48
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.59

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.14	C	3.84	D
Bicycle Facility LOS Score / LOS	2.56	C	2.63	C
Transit Facility LOS Score / LOS	1.96	A	3.54	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	116
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

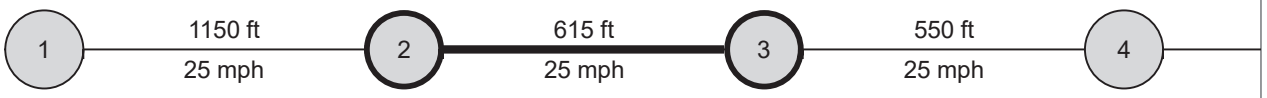
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h		never			never	
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.87			15.11		
3	Running Speed, mph	25.21			24.82		
3	Through Delay, s/veh	8.68			26.59		
3	Travel Time, s	23.55			41.70		
3	Travel Speed, mph	15.92			8.99		
3	Stop Rate, stops/veh	0.30			0.73		
3	Spatial Stop Rate, stops/mi	2.85			6.96		
3	Through vol/cap Ratio	0.32			0.58		
3	Percent of Base FFS	43.01			24.29		
3	Level of Service	D			F		
3	Auto Traveler Perception Score	2.59			3.34		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.05		C	3.51		D
3	Bicycle Segment LOS Score / LOS	2.33		B	2.55		B
3	Transit Segment LOS Score / LOS	2.07		B	3.02		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	139.10	785.45
Facility Travel Speed, mph	16.25	2.88
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	43.89	7.77
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.64	3.46

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.13	C	3.72	D
Bicycle Facility LOS Score / LOS	2.58	C	2.64	C
Transit Facility LOS Score / LOS	2.05	B	3.29	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

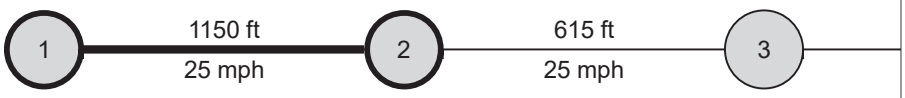
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	15.92			15.84		
2	Running Speed, mph	26.34			26.47		
2	Through Delay, s/veh	11.96			48.39		
2	Travel Time, s	27.88			64.23		
2	Travel Speed, mph	15.04			6.53		
2	Stop Rate, stops/veh	0.34			0.92		
2	Spatial Stop Rate, stops/mi	2.94			7.88		
2	Through vol/cap Ratio	0.34			0.77		
2	Percent of Base FFS	40.63			17.63		
2	Level of Service	D			F		
2	Auto Traveler Perception Score	2.60			3.52		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.13		C	3.29		C
2	Bicycle Segment LOS Score / LOS	2.45		B	2.46		B
2	Transit Segment LOS Score / LOS	2.24		B	3.37		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	131.62	816.36
Facility Travel Speed, mph	17.17	2.77
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.38	7.48
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.59

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.14	C	3.84	D
Bicycle Facility LOS Score / LOS	2.56	C	2.63	C
Transit Facility LOS Score / LOS	1.96	A	3.54	D

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

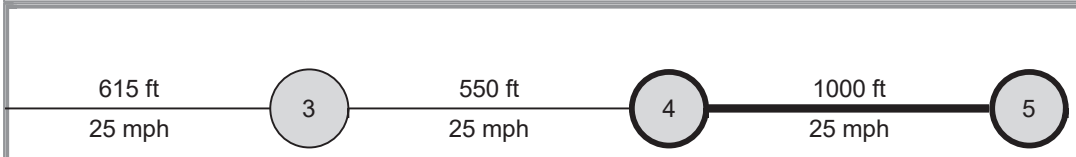
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement		6			2	
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph		37.02			37.02	
1	Running Time, s		24.47			46.06	
1	Running Speed, mph		32.04			17.02	
1	Through Delay, s/veh		14.11			618.38	
1	Travel Time, s		38.57			664.43	
1	Travel Speed, mph		20.33			1.18	
1	Stop Rate, stops/veh		0.44			2.71	
1	Spatial Stop Rate, stops/mi		2.01			12.43	
1	Through vol/cap Ratio		0.37			2.34	
1	Percent of Base FFS		54.91			3.19	
1	Level of Service		C			F	
1	Auto Traveler Perception Score		2.45			4.66	
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.10		C	5.08		F
1	Bicycle Segment LOS Score / LOS	2.70		B	2.76		C
1	Transit Segment LOS Score / LOS	1.70		A	4.91		E

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	131.40	803.92
Facility Travel Speed, mph	17.20	2.81
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	46.46	7.59
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.52	3.54

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.14	C	3.86	D
Bicycle Facility LOS Score / LOS	2.56	C	2.63	C
Transit Facility LOS Score / LOS	1.96	A	3.49	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Arguello St	Whipple Avenue and El Camino Real		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	25	25	2	2	1000	1000	50	50	0	0	70	70	0.0	0.0

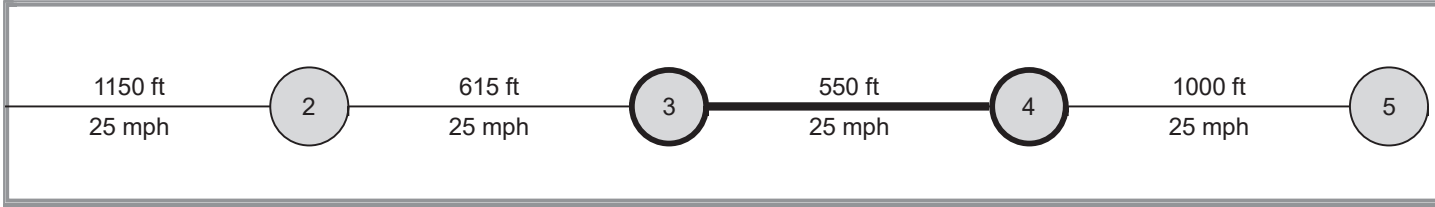
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h		never			never	
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	37.02			37.02		
4	Running Time, s	21.96			21.86		
4	Running Speed, mph	31.05			31.19		
4	Through Delay, s/veh	18.98			25.21		
4	Travel Time, s	40.94			47.07		
4	Travel Speed, mph	16.65			14.49		
4	Stop Rate, stops/veh	0.44			0.77		
4	Spatial Stop Rate, stops/mi	2.34			4.08		
4	Through vol/cap Ratio	0.28			0.36		
4	Percent of Base FFS	44.99			39.13		
4	Level of Service	D			E		
4	Auto Traveler Perception Score	2.50			3.05		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.44		C	2.71		B
4	Bicycle Segment LOS Score / LOS	2.67		B	2.50		B
4	Transit Segment LOS Score / LOS	2.07		B	2.31		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	152.52	653.89
Facility Travel Speed, mph	14.82	3.46
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	40.03	9.34
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.63	3.52

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.38	C
Bicycle Facility LOS Score / LOS	2.62	C	2.49	C
Transit Facility LOS Score / LOS	2.22	B	3.38	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Industrial/V	Whipple Avenue and Arguello Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	25	25	2	2	550	550	50	50	0	0	70	70	0.0	0.0

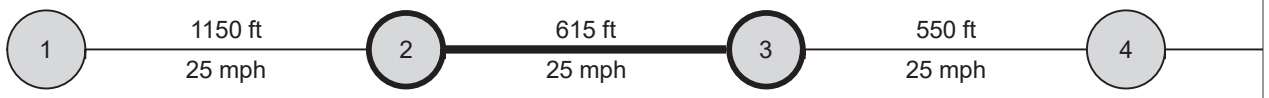
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
3	Bay/Lane Spillback Time, h		never				
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	37.02			37.02		
3	Running Time, s	14.97			14.89		
3	Running Speed, mph	25.05			25.19		
3	Through Delay, s/veh	14.09			33.93		
3	Travel Time, s	29.06			48.82		
3	Travel Speed, mph	12.90			7.68		
3	Stop Rate, stops/veh	0.44			0.87		
3	Spatial Stop Rate, stops/mi	4.25			8.36		
3	Through vol/cap Ratio	0.42			0.34		
3	Percent of Base FFS	34.86			20.75		
3	Level of Service	E			F		
3	Auto Traveler Perception Score	2.83			3.62		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.23		C	3.10		C
3	Bicycle Segment LOS Score / LOS	2.43		B	2.37		B
3	Transit Segment LOS Score / LOS	2.45		B	3.14		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	152.52	653.89
Facility Travel Speed, mph	14.82	3.46
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	40.03	9.34
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.63	3.52

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.38	C
Bicycle Facility LOS Score / LOS	2.62	C	2.49	C
Transit Facility LOS Score / LOS	2.22	B	3.38	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and Veterans B	Whipple Avenue and Industrial/Winslow S		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	25	25	2	3	615	615	50	50	0	0	70	70	0.0	0.0

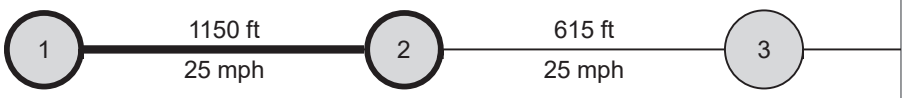
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h					never	
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	37.02			37.02		
2	Running Time, s	16.07			15.66		
2	Running Speed, mph	26.10			26.78		
2	Through Delay, s/veh	21.81			26.11		
2	Travel Time, s	37.88			41.77		
2	Travel Speed, mph	11.07			10.04		
2	Stop Rate, stops/veh	0.56			0.61		
2	Spatial Stop Rate, stops/mi	4.78			5.26		
2	Through vol/cap Ratio	0.46			0.44		
2	Percent of Base FFS	29.90			27.12		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.93			3.02		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.25		C	2.95		C
2	Bicycle Segment LOS Score / LOS	2.59		B	2.24		B
2	Transit Segment LOS Score / LOS	2.76		C	2.80		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	152.52	653.89
Facility Travel Speed, mph	14.82	3.46
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	40.03	9.34
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.63	3.52

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.38	C
Bicycle Facility LOS Score / LOS	2.62	C	2.49	C
Transit Facility LOS Score / LOS	2.22	B	3.38	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	5
Analyst		Analysis Date	3/30/2021	Number of Segments	4
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex_PM_Whipple Ave.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	Whipple Avenue and US 101 NB	Whipple Avenue and Veterans Boulevard		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	25	25	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

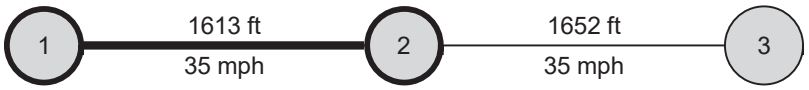
		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		0.05				
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	37.02			37.02		
1	Running Time, s	24.39			46.06		
1	Running Speed, mph	32.15			17.02		
1	Through Delay, s/veh	20.26			470.18		
1	Travel Time, s	44.64			516.24		
1	Travel Speed, mph	17.56			1.52		
1	Stop Rate, stops/veh	0.54			2.46		
1	Spatial Stop Rate, stops/mi	2.50			11.29		
1	Through vol/cap Ratio	0.43			2.01		
1	Percent of Base FFS	47.44			4.10		
1	Level of Service	D			F		
1	Auto Traveler Perception Score	2.53			4.46		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.03		C	4.33		E
1	Bicycle Segment LOS Score / LOS	2.67		B	2.66		B
1	Transit Segment LOS Score / LOS	1.95		A	4.73		E

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	152.52	653.89
Facility Travel Speed, mph	14.82	3.46
Facility Base Free Flow Speed, mph	37.02	37.02
Facility Percent of Base FFS	40.03	9.34
Facility Level of Service	D	F
Facility Auto Traveler Perception Score	2.63	3.52

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.38	C
Bicycle Facility LOS Score / LOS	2.62	C	2.49	C
Transit Facility LOS Score / LOS	2.22	B	3.38	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_AM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

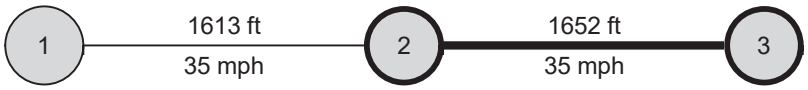
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.94			29.74		
1	Running Speed, mph	36.74			36.98		
1	Through Delay, s/veh	30.82			28.77		
1	Travel Time, s	60.76			58.52		
1	Travel Speed, mph	18.10			18.79		
1	Stop Rate, stops/veh	0.73			0.64		
1	Spatial Stop Rate, stops/mi	2.37			2.09		
1	Through vol/cap Ratio	0.77			0.54		
1	Percent of Base FFS	43.38			45.05		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.51			2.69		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.09		D	3.65		D
1	Bicycle Segment LOS Score / LOS	2.87		C	2.78		C
1	Transit Segment LOS Score / LOS	2.03		B	1.93		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	180.20	200.43
Facility Travel Speed, mph	12.35	11.11
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	29.61	26.62
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.63	2.73

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.99	D	3.65	D
Bicycle Facility LOS Score / LOS	2.85	C	2.80	C
Transit Facility LOS Score / LOS	2.53	C	2.65	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_AM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

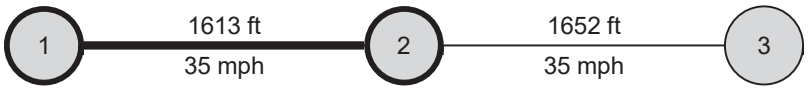
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.38			30.61		
2	Running Speed, mph	37.08			36.79		
2	Through Delay, s/veh	89.06			111.30		
2	Travel Time, s	119.44			141.91		
2	Travel Speed, mph	9.43			7.94		
2	Stop Rate, stops/veh	1.22			1.24		
2	Spatial Stop Rate, stops/mi	3.90			3.96		
2	Through vol/cap Ratio	1.04			1.14		
2	Percent of Base FFS	22.60			19.02		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.77			2.78		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.90		D	3.65		D
2	Bicycle Segment LOS Score / LOS	2.84		C	2.81		C
2	Transit Segment LOS Score / LOS	3.03		C	3.36		C

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	180.20	200.43
Facility Travel Speed, mph	12.35	11.11
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	29.61	26.62
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.63	2.73

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.99	D	3.65	D
Bicycle Facility LOS Score / LOS	2.85	C	2.80	C
Transit Facility LOS Score / LOS	2.53	C	2.65	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

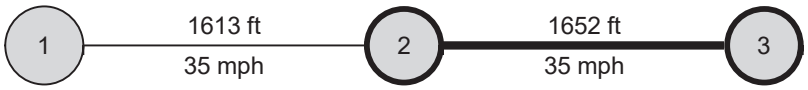
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.77			29.94		
1	Running Speed, mph	36.94			36.74		
1	Through Delay, s/veh	29.84			31.65		
1	Travel Time, s	59.62			61.58		
1	Travel Speed, mph	18.45			17.86		
1	Stop Rate, stops/veh	0.71			0.71		
1	Spatial Stop Rate, stops/mi	2.31			2.34		
1	Through vol/cap Ratio	0.74			0.75		
1	Percent of Base FFS	44.22			42.81		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.50			2.73		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.94		D	3.80		D
1	Bicycle Segment LOS Score / LOS	2.84		C	2.86		C
1	Transit Segment LOS Score / LOS	1.97		A	2.05		B

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	160.03	186.52
Facility Travel Speed, mph	13.91	11.94
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	33.34	28.61
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.59	2.71

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.94	D	3.71	D
Bicycle Facility LOS Score / LOS	2.85	C	2.86	C
Transit Facility LOS Score / LOS	2.38	C	2.64	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

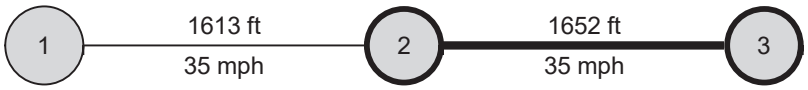
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.43			30.68		
2	Running Speed, mph	37.01			36.71		
2	Through Delay, s/veh	69.98			94.26		
2	Travel Time, s	100.42			124.94		
2	Travel Speed, mph	11.22			9.02		
2	Stop Rate, stops/veh	1.08			1.08		
2	Spatial Stop Rate, stops/mi	3.47			3.45		
2	Through vol/cap Ratio	0.99			1.13		
2	Percent of Base FFS	26.89			21.61		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.69			2.69		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.95		D	3.62		D
2	Bicycle Segment LOS Score / LOS	2.86		C	2.86		C
2	Transit Segment LOS Score / LOS	2.79		C	3.22		C

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	160.03	186.52
Facility Travel Speed, mph	13.91	11.94
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	33.34	28.61
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.59	2.71

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.94	D	3.71	D
Bicycle Facility LOS Score / LOS	2.85	C	2.86	C
Transit Facility LOS Score / LOS	2.38	C	2.64	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_AM_El Camino Real.xu	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

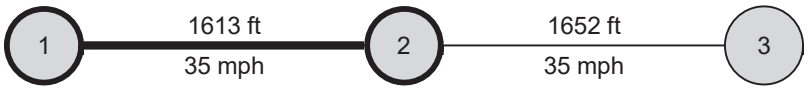
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.39			30.62		
2	Running Speed, mph	37.07			36.78		
2	Through Delay, s/veh	90.99			107.28		
2	Travel Time, s	121.38			137.91		
2	Travel Speed, mph	9.28			8.17		
2	Stop Rate, stops/veh	1.23			1.21		
2	Spatial Stop Rate, stops/mi	3.94			3.87		
2	Through vol/cap Ratio	1.05			1.13		
2	Percent of Base FFS	22.24			19.58		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.77			2.76		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.91		D	3.65		D
2	Bicycle Segment LOS Score / LOS	2.84		C	2.82		C
2	Transit Segment LOS Score / LOS	3.05		C	3.33		C

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	182.17	197.04
Facility Travel Speed, mph	12.22	11.30
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	29.29	27.08
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.64	2.73

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.00	D	3.66	D
Bicycle Facility LOS Score / LOS	2.85	C	2.80	C
Transit Facility LOS Score / LOS	2.54	C	2.65	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_AM_El Camino Real.xu	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

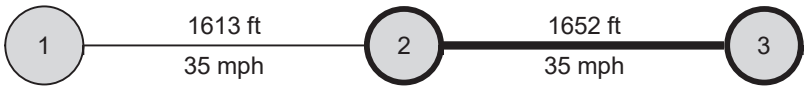
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.94			29.74		
1	Running Speed, mph	36.74			36.98		
1	Through Delay, s/veh	30.85			29.39		
1	Travel Time, s	60.79			59.13		
1	Travel Speed, mph	18.09			18.60		
1	Stop Rate, stops/veh	0.73			0.64		
1	Spatial Stop Rate, stops/mi	2.37			2.10		
1	Through vol/cap Ratio	0.77			0.55		
1	Percent of Base FFS	43.36			44.58		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.51			2.69		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.09		D	3.66		D
1	Bicycle Segment LOS Score / LOS	2.87		C	2.78		C
1	Transit Segment LOS Score / LOS	2.03		B	1.95		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	182.17	197.04
Facility Travel Speed, mph	12.22	11.30
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	29.29	27.08
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.64	2.73

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.00	D	3.66	D
Bicycle Facility LOS Score / LOS	2.85	C	2.80	C
Transit Facility LOS Score / LOS	2.54	C	2.65	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_PM_El Camino Real.xu	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

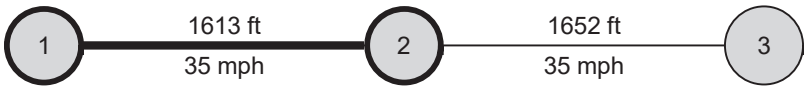
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.46			30.68		
2	Running Speed, mph	36.98			36.71		
2	Through Delay, s/veh	73.31			94.87		
2	Travel Time, s	103.77			125.55		
2	Travel Speed, mph	10.85			8.97		
2	Stop Rate, stops/veh	1.11			1.09		
2	Spatial Stop Rate, stops/mi	3.55			3.49		
2	Through vol/cap Ratio	1.00			1.13		
2	Percent of Base FFS	26.02			21.50		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.71			2.70		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.98		D	3.63		D
2	Bicycle Segment LOS Score / LOS	2.86		C	2.86		C
2	Transit Segment LOS Score / LOS	2.84		C	3.22		C

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	163.38	187.33
Facility Travel Speed, mph	13.63	11.88
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	32.66	28.48
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.60	2.71

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.96	D	3.71	D
Bicycle Facility LOS Score / LOS	2.85	C	2.86	C
Transit Facility LOS Score / LOS	2.41	C	2.64	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Back+P_PM_El Camino Real.xu	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

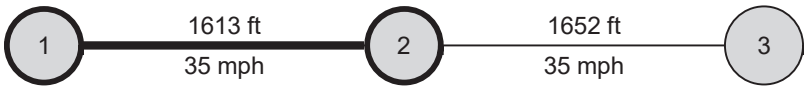
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.77			29.94		
1	Running Speed, mph	36.94			36.74		
1	Through Delay, s/veh	29.85			31.92		
1	Travel Time, s	59.62			61.85		
1	Travel Speed, mph	18.45			17.78		
1	Stop Rate, stops/veh	0.71			0.71		
1	Spatial Stop Rate, stops/mi	2.31			2.34		
1	Through vol/cap Ratio	0.74			0.75		
1	Percent of Base FFS	44.21			42.62		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.50			2.73		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.94		D	3.80		D
1	Bicycle Segment LOS Score / LOS	2.84		C	2.86		C
1	Transit Segment LOS Score / LOS	1.97		A	2.06		B

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	165.27	185.10
Facility Travel Speed, mph	13.47	12.03
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	32.29	28.83
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.60	2.71

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.97	D	3.71	D
Bicycle Facility LOS Score / LOS	2.86	C	2.86	C
Transit Facility LOS Score / LOS	2.42	C	2.63	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_AM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

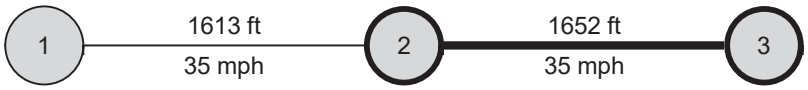
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	30.50			29.34		
1	Running Speed, mph	36.06			37.49		
1	Through Delay, s/veh	62.24			26.41		
1	Travel Time, s	92.74			55.75		
1	Travel Speed, mph	11.86			19.73		
1	Stop Rate, stops/veh	1.05			0.59		
1	Spatial Stop Rate, stops/mi	3.44			1.93		
1	Through vol/cap Ratio	1.05			0.38		
1	Percent of Base FFS	28.42			47.29		
1	Level of Service	F			D		
1	Auto Traveler Perception Score	2.69			2.66		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.54		E	3.33		C
1	Bicycle Segment LOS Score / LOS	2.98		C	2.69		B
1	Transit Segment LOS Score / LOS	2.80		C	1.77		A

Facility Output Data	**Southbound**	**Northbound**
Facility Travel Time, s	362.01	416.04
Facility Travel Speed, mph	6.15	5.35
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	14.74	12.83
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.93	2.97

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.49	E	3.46	C
Bicycle Facility LOS Score / LOS	2.97	C	2.74	C
Transit Facility LOS Score / LOS	3.39	C	2.96	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_AM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

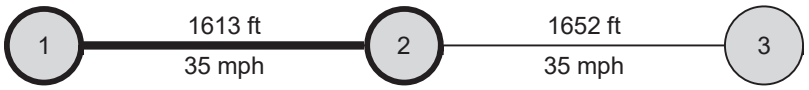
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	31.05			30.53		
2	Running Speed, mph	36.27			36.89		
2	Through Delay, s/veh	238.22			329.76		
2	Travel Time, s	269.27			360.29		
2	Travel Speed, mph	4.18			3.13		
2	Stop Rate, stops/veh	1.99			2.18		
2	Spatial Stop Rate, stops/mi	6.36			6.96		
2	Through vol/cap Ratio	1.41			1.64		
2	Percent of Base FFS	10.03			7.49		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	3.22			3.34		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	4.44		E	3.59		D
2	Bicycle Segment LOS Score / LOS	2.96		C	2.80		C
2	Transit Segment LOS Score / LOS	3.96		D	4.12		D

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	362.01	416.04
Facility Travel Speed, mph	6.15	5.35
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	14.74	12.83
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.93	2.97

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.49	E	3.46	C
Bicycle Facility LOS Score / LOS	2.97	C	2.74	C
Transit Facility LOS Score / LOS	3.39	C	2.96	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

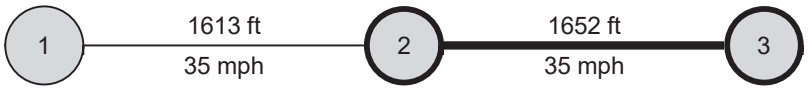
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.90			29.52		
1	Running Speed, mph	36.78			37.26		
1	Through Delay, s/veh	31.97			27.75		
1	Travel Time, s	61.87			57.27		
1	Travel Speed, mph	17.78			19.20		
1	Stop Rate, stops/veh	0.74			0.63		
1	Spatial Stop Rate, stops/mi	2.44			2.07		
1	Through vol/cap Ratio	0.81			0.54		
1	Percent of Base FFS	42.61			46.03		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.52			2.69		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.06		D	3.48		C
1	Bicycle Segment LOS Score / LOS	2.88		C	2.82		C
1	Transit Segment LOS Score / LOS	2.05		B	1.85		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	236.81	416.55
Facility Travel Speed, mph	9.40	5.34
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	22.53	12.81
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.72	2.98

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.08	D	3.58	D
Bicycle Facility LOS Score / LOS	2.90	C	2.89	C
Transit Facility LOS Score / LOS	2.79	C	2.99	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

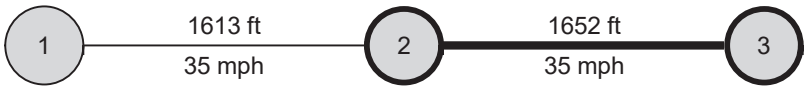
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.60			30.77		
2	Running Speed, mph	36.81			36.61		
2	Through Delay, s/veh	144.33			328.51		
2	Travel Time, s	174.94			359.28		
2	Travel Speed, mph	6.44			3.14		
2	Stop Rate, stops/veh	1.56			2.17		
2	Spatial Stop Rate, stops/mi	4.97			6.95		
2	Through vol/cap Ratio	1.19			1.65		
2	Percent of Base FFS	15.43			7.51		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.96			3.34		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	4.09		D	3.67		D
2	Bicycle Segment LOS Score / LOS	2.91		C	2.95		C
2	Transit Segment LOS Score / LOS	3.51		D	4.10		D

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	236.81	416.55
Facility Travel Speed, mph	9.40	5.34
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	22.53	12.81
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.72	2.98

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.08	D	3.58	D
Bicycle Facility LOS Score / LOS	2.90	C	2.89	C
Transit Facility LOS Score / LOS	2.79	C	2.99	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_AM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

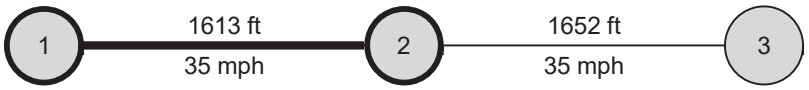
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	31.06			30.53		
2	Running Speed, mph	36.26			36.89		
2	Through Delay, s/veh	240.52			319.81		
2	Travel Time, s	271.58			350.35		
2	Travel Speed, mph	4.15			3.22		
2	Stop Rate, stops/veh	2.00			2.15		
2	Spatial Stop Rate, stops/mi	6.39			6.87		
2	Through vol/cap Ratio	1.42			1.62		
2	Percent of Base FFS	9.94			7.71		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	3.23			3.32		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	4.45		E	3.59		D
2	Bicycle Segment LOS Score / LOS	2.96		C	2.80		C
2	Transit Segment LOS Score / LOS	3.97		D	4.11		D

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	364.59	406.67
Facility Travel Speed, mph	6.11	5.47
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	14.64	13.12
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.94	2.96

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.49	E	3.46	C
Bicycle Facility LOS Score / LOS	2.97	C	2.75	C
Transit Facility LOS Score / LOS	3.40	C	2.96	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_AM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

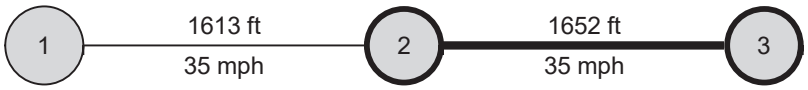
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	30.50			29.34		
1	Running Speed, mph	36.06			37.48		
1	Through Delay, s/veh	62.51			26.98		
1	Travel Time, s	93.01			56.32		
1	Travel Speed, mph	11.82			19.53		
1	Stop Rate, stops/veh	1.05			0.59		
1	Spatial Stop Rate, stops/mi	3.45			1.94		
1	Through vol/cap Ratio	1.05			0.38		
1	Percent of Base FFS	28.34			46.80		
1	Level of Service	F			D		
1	Auto Traveler Perception Score	2.69			2.66		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.54		E	3.33		C
1	Bicycle Segment LOS Score / LOS	2.98		C	2.69		B
1	Transit Segment LOS Score / LOS	2.81		C	1.79		A

Facility Output Data	**Southbound**	**Northbound**
Facility Travel Time, s	364.59	406.67
Facility Travel Speed, mph	6.11	5.47
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	14.64	13.12
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.94	2.96

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.49	E	3.46	C
Bicycle Facility LOS Score / LOS	2.97	C	2.75	C
Transit Facility LOS Score / LOS	3.40	C	2.96	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

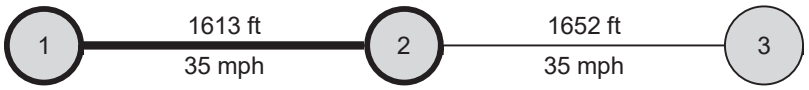
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.63			30.76		
2	Running Speed, mph	36.77			36.62		
2	Through Delay, s/veh	150.64			323.45		
2	Travel Time, s	181.27			354.21		
2	Travel Speed, mph	6.21			3.18		
2	Stop Rate, stops/veh	1.59			2.16		
2	Spatial Stop Rate, stops/mi	5.07			6.89		
2	Through vol/cap Ratio	1.21			1.63		
2	Percent of Base FFS	14.89			7.62		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.98			3.33		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	4.12		D	3.67		D
2	Bicycle Segment LOS Score / LOS	2.92		C	2.95		C
2	Transit Segment LOS Score / LOS	3.55		D	4.09		D

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	243.13	411.67
Facility Travel Speed, mph	9.16	5.41
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	21.95	12.96
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.73	2.98

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.09	D	3.58	D
Bicycle Facility LOS Score / LOS	2.90	C	2.89	C
Transit Facility LOS Score / LOS	2.81	C	2.99	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Cu+P_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

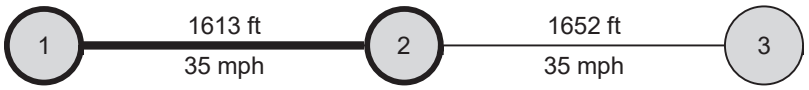
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.90			29.52		
1	Running Speed, mph	36.78			37.26		
1	Through Delay, s/veh	31.95			27.94		
1	Travel Time, s	61.85			57.46		
1	Travel Speed, mph	17.78			19.14		
1	Stop Rate, stops/veh	0.74			0.63		
1	Spatial Stop Rate, stops/mi	2.44			2.08		
1	Through vol/cap Ratio	0.81			0.54		
1	Percent of Base FFS	42.62			45.88		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.52			2.69		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.06		D	3.48		C
1	Bicycle Segment LOS Score / LOS	2.88		C	2.82		C
1	Transit Segment LOS Score / LOS	2.05		B	1.86		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	243.13	411.67
Facility Travel Speed, mph	9.16	5.41
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	21.95	12.96
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.73	2.98

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.09	D	3.58	D
Bicycle Facility LOS Score / LOS	2.90	C	2.89	C
Transit Facility LOS Score / LOS	2.81	C	2.99	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

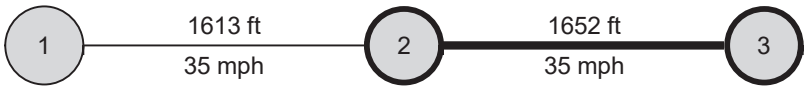
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.84			29.75		
1	Running Speed, mph	36.85			36.97		
1	Through Delay, s/veh	29.56			28.53		
1	Travel Time, s	59.40			58.28		
1	Travel Speed, mph	18.51			18.87		
1	Stop Rate, stops/veh	0.70			0.64		
1	Spatial Stop Rate, stops/mi	2.29			2.08		
1	Through vol/cap Ratio	0.73			0.54		
1	Percent of Base FFS	44.38			45.23		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.49			2.69		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.00		D	3.66		D
1	Bicycle Segment LOS Score / LOS	2.84		C	2.78		C
1	Transit Segment LOS Score / LOS	1.97		A	1.92		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	158.77	175.94
Facility Travel Speed, mph	14.02	12.65
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	33.61	30.33
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.59	2.69

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.91	D	3.63	D
Bicycle Facility LOS Score / LOS	2.83	C	2.79	C
Transit Facility LOS Score / LOS	2.37	C	2.53	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

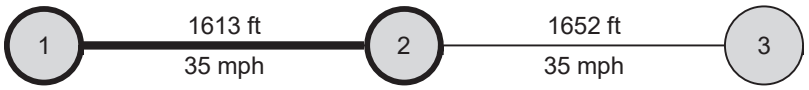
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.28			30.53		
2	Running Speed, mph	37.20			36.90		
2	Through Delay, s/veh	69.09			87.14		
2	Travel Time, s	99.37			117.66		
2	Travel Speed, mph	11.34			9.57		
2	Stop Rate, stops/veh	1.08			1.08		
2	Spatial Stop Rate, stops/mi	3.44			3.44		
2	Through vol/cap Ratio	0.95			1.07		
2	Percent of Base FFS	27.17			22.94		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.69			2.69		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.81		D	3.60		D
2	Bicycle Segment LOS Score / LOS	2.81		C	2.80		C
2	Transit Segment LOS Score / LOS	2.75		C	3.12		C

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	158.77	175.94
Facility Travel Speed, mph	14.02	12.65
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	33.61	30.33
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.59	2.69

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.91	D	3.63	D
Bicycle Facility LOS Score / LOS	2.83	C	2.79	C
Transit Facility LOS Score / LOS	2.37	C	2.53	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

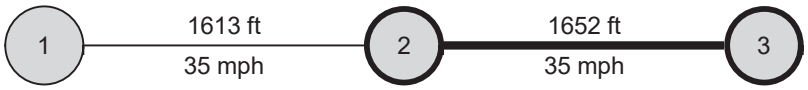
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.70			29.94		
1	Running Speed, mph	37.03			36.73		
1	Through Delay, s/veh	28.76			31.33		
1	Travel Time, s	58.46			61.27		
1	Travel Speed, mph	18.81			17.95		
1	Stop Rate, stops/veh	0.69			0.71		
1	Spatial Stop Rate, stops/mi	2.24			2.34		
1	Through vol/cap Ratio	0.70			0.75		
1	Percent of Base FFS	45.09			43.02		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.49			2.73		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.87		D	3.80		D
1	Bicycle Segment LOS Score / LOS	2.82		C	2.85		C
1	Transit Segment LOS Score / LOS	1.92		A	2.04		B

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	147.50	186.94
Facility Travel Speed, mph	15.09	11.91
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	36.18	28.54
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.56	2.71

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.87	D	3.70	D
Bicycle Facility LOS Score / LOS	2.82	C	2.85	C
Transit Facility LOS Score / LOS	2.26	C	2.64	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

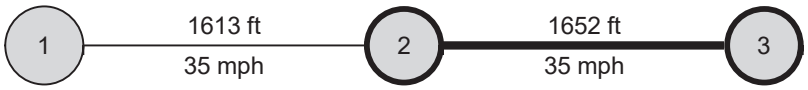
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.34			30.68		
2	Running Speed, mph	37.13			36.72		
2	Through Delay, s/veh	58.70			94.99		
2	Travel Time, s	89.04			125.67		
2	Travel Speed, mph	12.65			8.96		
2	Stop Rate, stops/veh	1.00			1.06		
2	Spatial Stop Rate, stops/mi	3.19			3.40		
2	Through vol/cap Ratio	0.91			1.12		
2	Percent of Base FFS	30.32			21.48		
2	Level of Service	E			F		
2	Auto Traveler Perception Score	2.64			2.68		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.86		D	3.60		D
2	Bicycle Segment LOS Score / LOS	2.83		C	2.85		C
2	Transit Segment LOS Score / LOS	2.59		B	3.23		C

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	147.50	186.94
Facility Travel Speed, mph	15.09	11.91
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	36.18	28.54
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.56	2.71

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.87	D	3.70	D
Bicycle Facility LOS Score / LOS	2.82	C	2.85	C
Transit Facility LOS Score / LOS	2.26	C	2.64	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_AM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

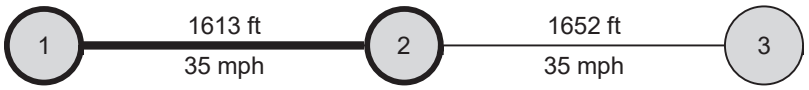
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.29			30.55		
2	Running Speed, mph	37.19			36.88		
2	Through Delay, s/veh	69.19			85.65		
2	Travel Time, s	99.48			116.20		
2	Travel Speed, mph	11.32			9.69		
2	Stop Rate, stops/veh	1.08			1.06		
2	Spatial Stop Rate, stops/mi	3.45			3.40		
2	Through vol/cap Ratio	0.96			1.06		
2	Percent of Base FFS	27.14			23.23		
2	Level of Service	F			F		
2	Auto Traveler Perception Score	2.69			2.68		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.82		D	3.61		D
2	Bicycle Segment LOS Score / LOS	2.81		C	2.80		C
2	Transit Segment LOS Score / LOS	2.75		C	3.11		C

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	158.89	175.08
Facility Travel Speed, mph	14.01	12.71
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	33.58	30.48
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.59	2.68

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.91	D	3.63	D
Bicycle Facility LOS Score / LOS	2.83	C	2.79	C
Transit Facility LOS Score / LOS	2.37	C	2.53	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_AM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

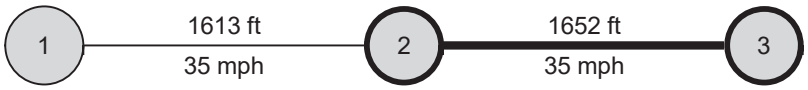
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.84			29.75		
1	Running Speed, mph	36.85			36.97		
1	Through Delay, s/veh	29.56			29.13		
1	Travel Time, s	59.41			58.88		
1	Travel Speed, mph	18.51			18.68		
1	Stop Rate, stops/veh	0.70			0.64		
1	Spatial Stop Rate, stops/mi	2.29			2.10		
1	Through vol/cap Ratio	0.73			0.55		
1	Percent of Base FFS	44.37			44.77		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.49			2.69		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.00		D	3.66		D
1	Bicycle Segment LOS Score / LOS	2.85		C	2.78		C
1	Transit Segment LOS Score / LOS	1.97		A	1.94		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	158.89	175.08
Facility Travel Speed, mph	14.01	12.71
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	33.58	30.48
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.59	2.68

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.91	D	3.63	D
Bicycle Facility LOS Score / LOS	2.83	C	2.79	C
Transit Facility LOS Score / LOS	2.37	C	2.53	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Brewster Av	El Camino Real and Jefferson Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	35	35	2	2	1652	1652	50	50	0	0	70	70	0.0	0.0

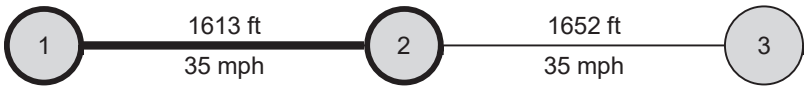
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.72			41.72		
2	Running Time, s	30.37			30.68		
2	Running Speed, mph	37.09			36.71		
2	Through Delay, s/veh	59.12			93.98		
2	Travel Time, s	89.48			124.66		
2	Travel Speed, mph	12.59			9.04		
2	Stop Rate, stops/veh	1.00			1.06		
2	Spatial Stop Rate, stops/mi	3.19			3.38		
2	Through vol/cap Ratio	0.92			1.12		
2	Percent of Base FFS	30.17			21.66		
2	Level of Service	E			F		
2	Auto Traveler Perception Score	2.64			2.68		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.89		D	3.61		D
2	Bicycle Segment LOS Score / LOS	2.84		C	2.85		C
2	Transit Segment LOS Score / LOS	2.61		B	3.22		C

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	147.94	186.15
Facility Travel Speed, mph	15.05	11.96
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	36.07	28.66
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.56	2.70

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.88	D	3.70	D
Bicycle Facility LOS Score / LOS	2.83	C	2.85	C
Transit Facility LOS Score / LOS	2.27	C	2.64	C

HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	3
Analyst		Analysis Date	3/31/2021	Number of Segments	2
Jurisdiction		Time Period		Number of Iterations	15
File Name	Ex+P_PM_El Camino Real.xus	Analysis Year	2021	System Cycle Length, s	125
Intersections	El Camino Real and Whipple Av	El Camino Real and Brewster Avenue		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	35	35	2	2	1613	1613	50	50	0	0	70	70	0.0	0.0

		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.72			41.72		
1	Running Time, s	29.70			29.94		
1	Running Speed, mph	37.03			36.73		
1	Through Delay, s/veh	28.76			31.54		
1	Travel Time, s	58.46			61.49		
1	Travel Speed, mph	18.81			17.89		
1	Stop Rate, stops/veh	0.69			0.71		
1	Spatial Stop Rate, stops/mi	2.24			2.34		
1	Through vol/cap Ratio	0.70			0.75		
1	Percent of Base FFS	45.09			42.87		
1	Level of Service	D			D		
1	Auto Traveler Perception Score	2.49			2.73		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.87		D	3.80		D
1	Bicycle Segment LOS Score / LOS	2.82		C	2.85		C
1	Transit Segment LOS Score / LOS	1.92		A	2.05		B

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	147.94	186.15
Facility Travel Speed, mph	15.05	11.96
Facility Base Free Flow Speed, mph	41.72	41.72
Facility Percent of Base FFS	36.07	28.66
Facility Level of Service	E	F
Facility Auto Traveler Perception Score	2.56	2.70

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.88	D	3.70	D
Bicycle Facility LOS Score / LOS	2.83	C	2.85	C
Transit Facility LOS Score / LOS	2.27	C	2.64	C

E - Signal Warrants

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **A Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	253	53															
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	210	66												Y			
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	463	119		0	0	**0**	0	0	**0**	0	0	**0**	0	1	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Warren Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Standish Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	107	17															
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	75	26															
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	182	43		0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **A Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	255	53															
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	211	66												Y			
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	466	119		0	0	**0**	0	0	**0**	0	0	**0**	0	1	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Warren Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Standish Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	107	18															
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	75	36															
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	182	54		0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Driveway 1** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	666	50		Y						Y			Y				
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	557	248		Y	Y	**Y**		Y		Y	Y	**Y**		Y		**Y**	
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	1,223	298		2	1	**1**	0	1	**0**	2	1	**1**	1	1	**0**	**1**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Driveway 2** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
						MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES						**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM	TO	07:30 AM																	
07:30 AM	TO	08:30 AM	522	3		Y						Y							
08:30 AM	TO	09:30 AM																	
09:30 AM	TO	10:30 AM																	
10:30 AM	TO	11:30 AM																	
11:00 AM	TO	12:00 PM																	
12:30 PM	TO	01:30 PM																	
01:30 PM	TO	02:30 PM																	
02:30 PM	TO	03:30 PM																	
03:30 PM	TO	04:30 PM																	
04:30 PM	TO	05:30 PM																	
05:30 PM	TO	06:30 PM	566	14		Y						Y							
06:30 PM	TO	07:30 PM																	
07:30 PM	TO	08:30 PM																	
08:30 PM	TO	09:30 PM																	
09:30 PM	TO	10:30 PM																	
			1,088	17		2	0	**0**	0	0	**0**	2	0	**0**	0	0	**0**	**0**	**0**
						8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
						NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **A Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Background Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	263	55															
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	219	68												Y			
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	482	123		0	0	**0**	0	0	**0**	0	0	**0**	0	1	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Warren Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Standish Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Background Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
						MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES						**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM	TO	07:30 AM																	
07:30 AM	TO	08:30 AM	111	17															
08:30 AM	TO	09:30 AM																	
09:30 AM	TO	10:30 AM																	
10:30 AM	TO	11:30 AM																	
11:00 AM	TO	12:00 PM																	
12:30 PM	TO	01:30 PM																	
01:30 PM	TO	02:30 PM																	
02:30 PM	TO	03:30 PM																	
03:30 PM	TO	04:30 PM																	
04:30 PM	TO	05:30 PM																	
05:30 PM	TO	06:30 PM	77	27															
06:30 PM	TO	07:30 PM																	
07:30 PM	TO	08:30 PM																	
08:30 PM	TO	09:30 PM																	
09:30 PM	TO	10:30 PM																	
			188	44		0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**	**0**
						8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
						NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **A Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Background Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
						MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES						**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM	TO	07:30 AM																	
07:30 AM	TO	08:30 AM	265	55															
08:30 AM	TO	09:30 AM																	
09:30 AM	TO	10:30 AM																	
10:30 AM	TO	11:30 AM																	
11:00 AM	TO	12:00 PM																	
12:30 PM	TO	01:30 PM																	
01:30 PM	TO	02:30 PM																	
02:30 PM	TO	03:30 PM																	
03:30 PM	TO	04:30 PM																	
04:30 PM	TO	05:30 PM																	
05:30 PM	TO	06:30 PM	220	68												Y			
06:30 PM	TO	07:30 PM																	
07:30 PM	TO	08:30 PM																	
08:30 PM	TO	09:30 PM																	
09:30 PM	TO	10:30 PM																	
			485	123		0	0	**0**	0	0	**0**	0	0	**0**	0	1	**0**	**0**	**0**
						8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
						NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Warren Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Standish Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Background Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	111	18															
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	77	37															
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	188	55		0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Driveway 1** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Background Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
						MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES						**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM	TO	07:30 AM																	
07:30 AM	TO	08:30 AM	685	50		Y						Y			Y				
08:30 AM	TO	09:30 AM																	
09:30 AM	TO	10:30 AM																	
10:30 AM	TO	11:30 AM																	
11:00 AM	TO	12:00 PM																	
12:30 PM	TO	01:30 PM																	
01:30 PM	TO	02:30 PM																	
02:30 PM	TO	03:30 PM																	
03:30 PM	TO	04:30 PM																	
04:30 PM	TO	05:30 PM																	
05:30 PM	TO	06:30 PM	594	248		Y	Y	**Y**		Y		Y	Y	**Y**		Y		**Y**	
06:30 PM	TO	07:30 PM																	
07:30 PM	TO	08:30 PM																	
08:30 PM	TO	09:30 PM																	
09:30 PM	TO	10:30 PM																	
			1,279	298		2	1	**1**	0	1	**0**	2	1	**1**	1	1	**0**	**1**	**0**
						8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
						NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Driveway 2** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Existing Plus Background Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
						MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES						**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM	TO	07:30 AM																	
07:30 AM	TO	08:30 AM	544	3		Y						Y							
08:30 AM	TO	09:30 AM																	
09:30 AM	TO	10:30 AM																	
10:30 AM	TO	11:30 AM																	
11:00 AM	TO	12:00 PM																	
12:30 PM	TO	01:30 PM																	
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02:30 PM	TO	03:30 PM																	
03:30 PM	TO	04:30 PM																	
04:30 PM	TO	05:30 PM																	
05:30 PM	TO	06:30 PM	602	14		Y						Y			Y				
06:30 PM	TO	07:30 PM																	
07:30 PM	TO	08:30 PM																	
08:30 PM	TO	09:30 PM																	
09:30 PM	TO	10:30 PM																	
			1,146	17		2	0	**0**	0	0	**0**	2	0	**0**	1	0	**0**	**0**	**0**
						8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
						NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **A Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Cumulative Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	263	55															
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	220	68												Y			
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	483	123		0	0	**0**	0	0	**0**	0	0	**0**	0	1	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Warren Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Standish Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Cumulative Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	111	17															
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	77	27															
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	188	44		0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **A Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Cumulative Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
						MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES						**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM	TO	07:30 AM																	
07:30 AM	TO	08:30 AM	265	55															
08:30 AM	TO	09:30 AM																	
09:30 AM	TO	10:30 AM																	
10:30 AM	TO	11:30 AM																	
11:00 AM	TO	12:00 PM																	
12:30 PM	TO	01:30 PM																	
01:30 PM	TO	02:30 PM																	
02:30 PM	TO	03:30 PM																	
03:30 PM	TO	04:30 PM																	
04:30 PM	TO	05:30 PM																	
05:30 PM	TO	06:30 PM	221	68												Y			
06:30 PM	TO	07:30 PM																	
07:30 PM	TO	08:30 PM																	
08:30 PM	TO	09:30 PM																	
09:30 PM	TO	10:30 PM																	
			486	123		0	0	**0**	0	0	**0**	0	0	**0**	0	1	**0**	**0**	**0**
						8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
						NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Warren Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Standish Street** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Cumulative Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	111	18															
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	77	37															
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	188	55		0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Driveway 1** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Cumulative Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
				MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES →				**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM	704	50		Y						Y			Y				
08:30 AM TO 09:30 AM																	
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM																	
05:30 PM TO 06:30 PM	595	248		Y	Y	**Y**		Y		Y	Y	**Y**		Y		**Y**	
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	1,299	298		2	1	**1**	0	1	**0**	2	1	**1**	1	1	**0**	**1**	**0**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Arguello Street** NB SB # OF APPROACH LANES: **1**

MINOR STREET: **Driveway 2** EB WB # OF APPROACH LANES: **1**

CITY, STATE: **Redwood City, California**

COMMENTS: **Cumulative Plus Project Conditions**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
						MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES						**500**	**150**		**750**	**75**		**400**	**120**		**600**	**60**		**60**	**75**
06:30 AM	TO	07:30 AM																	
07:30 AM	TO	08:30 AM	563	3		Y						Y							
08:30 AM	TO	09:30 AM																	
09:30 AM	TO	10:30 AM																	
10:30 AM	TO	11:30 AM																	
11:00 AM	TO	12:00 PM																	
12:30 PM	TO	01:30 PM																	
01:30 PM	TO	02:30 PM																	
02:30 PM	TO	03:30 PM																	
03:30 PM	TO	04:30 PM																	
04:30 PM	TO	05:30 PM																	
05:30 PM	TO	06:30 PM	603	14		Y						Y			Y				
06:30 PM	TO	07:30 PM																	
07:30 PM	TO	08:30 PM																	
08:30 PM	TO	09:30 PM																	
09:30 PM	TO	10:30 PM																	
			1,166	17		2	0	**0**	0	0	**0**	2	0	**0**	1	0	**0**	**0**	**0**
						8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
						NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

06/09/21
Kimley-Horn and Associates

F – Childcare Queuing Outputs

Projected Queuing for Childcare Facility

Assumptions:

Drop-Off

5 min dwell

1.12 veh / min Capacity

Demand

AM peak hour (7-9 AM)

24 veh

Total Arrival Time

30 min

Arrival Rate

0.80 veh / min

Unserved Rate (Arrival - Departure)

-0.32 veh / min

Queue:	Unserved Queue:
0 veh	0 veh
0 feet	0 feet

Pick-Up

5 min dwell

1.12 veh / min Capacity

PM peak hour (4-6 PM)

25 veh

Total Arrival Time

30 min

Arrival Rate

0.83 veh / min

Unserved Rate (Arrival - Departure)

-0.29 veh / min

Queue:	Unserved Queue:
0 veh	0 veh
0 feet	0 feet

Queue Storage:

5.6 veh

140 feet

25 feet / veh

Kimley»Horn

11/15/2021

Projected Queuing for Childcare Facility

Assumptions:

Drop-Off

6 min dwell

0.93 veh / min Capacity

Demand

AM peak hour (7-9 AM)

24 veh

Total Arrival Time

30 min

Arrival Rate

0.80 veh / min

Unserved Rate (Arrival - Departure)

-0.13 veh / min

Queue:	Unserved Queue:
0 veh	0 veh
0 feet	0 feet

Pick-Up

6 min dwell

0.93 veh / min Capacity

PM peak hour (4-6 PM)

25 veh

Total Arrival Time

30 min

Arrival Rate

0.83 veh / min

Unserved Rate (Arrival - Departure)

-0.10 veh / min

Queue:	Unserved Queue:
0 veh	0 veh
0 feet	0 feet

Queue Storage:

5.6 veh

140 feet

25 feet / veh

Projected Queuing for Childcare Facility

Assumptions:

Drop-Off

7 min dwell

0.80 veh / min Capacity

Demand

AM peak hour (7-9 AM)

24 veh

Total Arrival Time

30 min

Arrival Rate

0.80 veh / min

Unserved Rate (Arrival - Departure)

0.00 veh / min

Queue:	Unserved Queue:
0 veh	0 veh
0 feet	0 feet

Pick-Up

7 min dwell

0.80 veh / min Capacity

PM peak hour (4-6 PM)

25 veh

Total Arrival Time

30 min

Arrival Rate

0.83 veh / min

Unserved Rate (Arrival - Departure)

0.03 veh / min

Queue:	Unserved Queue:
1 veh	0 veh
25 feet	0 feet

Queue Storage:

5.6 veh

140 feet

25 feet / veh

Projected Queuing for Childcare Facility

Assumptions:

Drop-Off

8 min dwell

0.70 veh / min Capacity

Demand

AM peak hour (7-9 AM)

24 veh

Total Arrival Time

30 min

Arrival Rate

0.80 veh / min

Unserved Rate (Arrival - Departure)

0.10 veh / min

Queue:	Unserved Queue:
3 veh	0 veh
75 feet	0 feet

Pick-Up

8 min dwell

0.70 veh / min Capacity

PM peak hour (4-6 PM)

25 veh

Total Arrival Time

30 min

Arrival Rate

0.83 veh / min

Unserved Rate (Arrival - Departure)

0.13 veh / min

Queue:	Unserved Queue:
4 veh	0 veh
100 feet	0 feet

Queue Storage:

5.6 veh

140 feet

25 feet / veh

Projected Queuing for Childcare Facility

Assumptions:

Drop-Off

9 min dwell

0.62 veh / min Capacity

Demand

AM peak hour (7-9 AM)

24 veh

Total Arrival Time

30 min

Arrival Rate

0.80 veh / min

Unserved Rate (Arrival - Departure)

0.18 veh / min

Queue:	Unserved Queue:
5 veh	0 veh
133 feet	0 feet

Pick-Up

9 min dwell

0.62 veh / min Capacity

PM peak hour (4-6 PM)

25 veh

Total Arrival Time

30 min

Arrival Rate

0.83 veh / min

Unserved Rate (Arrival - Departure)

0.21 veh / min

Queue:	Unserved Queue:
6 veh	1 veh
158 feet	18 feet

Queue Storage:

5.6 veh

140 feet

25 feet / veh

Kimley»Horn

Projected Queuing forChildcare Facility

Assumptions:

Drop-Off
- 10 min dwell
- 0.56 veh / min Capacity

Demand

AM peak hour (7-9 AM)
- 24 veh

Total Arrival Time
- 30 min

Arrival Rate
- 0.80 veh / min

Unserved Rate (Arrival - Departure)
- 0.24 veh / min

Queue:	Unserved Queue:
7 veh	2 veh
180 feet	40 feet

Pick-Up
- 10 min dwell
- 0.56 veh / min Capacity

PM peak hour (4-6 PM)
- 25 veh

Total Arrival Time
- 30 min

Arrival Rate
- 0.83 veh / min

Unserved Rate (Arrival - Departure)
- 0.27 veh / min

Queue:	Unserved Queue:
8 veh	3 veh
205 feet	65 feet

Queue Storage:
- 5.6 veh
- 140 feet
- 25 feet / veh

Kimley»Horn

MEMORANDUM

To: Community Development Department
City of Redwood City

Date: November 8, 2022

Subject: Updated Trip Generation for 1111-1227 Arguello Street

---

The purpose of this memorandum is to summarize a trip generation comparison between the November 2021 and October 2022 project description for the proposed 1111-1127 Arguello Development (Project) in the City of Redwood City (City).

Background

The Project will redevelop an approximately 3.5-acre site, which consists of 6 parcels (1111, 1125, 1203, 1209, 1219, 1227 Arguello Street) into a mixed-use development consisting of office, childcare, and residential uses. Kimley-Horn completed a Local Transportation Analysis (LTA) in November 2021. Since the completion of the LTA, the project description has been updated. The land use intensity for the two project descriptions is listed in **Table 1**. The October 2022 project description results in a decrease in office square footage and an increase in residential square footage, however, it should be noted that the number of dwelling units remain the same.

Table 1: Project Description

Land Use	Nov. 2021 LTA	Oct 2022 Project Description
Office	301,261 SF	294,376 SF
Affordable Housing	33 dwelling units	33 dwelling units*
Childcare Facility	4,132 SF	4,132 SF

* 2022 residential square footage increased, but the number of dwelling units remained the same.

Project Description Trip Generation

A trip generation analysis was conducted to determine the number of trips the October 2022 Project Description would generate. The trip generation was determined using the same methodology as the LTA, which utilized data from Institute of Transportation Engineer's (ITE) publication, *Trip Generation, 10th Edition.* In addition, trip reductions were applied to account for internal capture, transit reduction, and TDM requirements.

Table 2 presents the overall trip generation for the October 2022 Project Description. The proposed project will generate 1,847 daily trips, 208 trips in the AM peak hour and 218 trips in the PM peak hour.

Table 2: October 2022 Project Description Trip Generation

ITE Land Use Code	Land Use	Units	Daily Rate/Equation	AM Peak			PM Peak		
				Rate/Equation	In%	Out%	Rate/Equation	In%	Out%
221	Multifamily Housing (Mid-Rise)	Dwelling Unit(s)	T = 5.45(X) - 1.75	0.36	26%	74%	0.44	61%	39%
565	Day Care Center	1,000 Sq Ft	47.62	11.00	52%	47%	11.12	47%	53%
710	General Office Building	1,000 Sq Ft	Ln(T) = 0.97Ln(X) + 2.50	T = 0.94(X) + 26.49	86%	14%	Ln(T) = 0.95Ln(X) + 0.36	16%	84%

ITE Land Use Code	Land Use	Size	Units	Daily Trips	AM Peak			PM Peak		
					Total	In	Out	Total	In	Out
221	Residential	33	Dwelling Unit(s)	178	12	3	9	15	9	6
565	Childcare	4.132	1,000 Sq Ft	197	45	23	22	46	22	24
710	Office	294.376	1,000 Sq Ft	3,024	303	261	42	318	51	267
Subtotal				**3,399**	**360**	**287**	**73**	**379**	**82**	**297**
Internal Capture (Daily:7%, AM: 8%, PM:5%)[1]				-213	-28	-14	-14	-18	-9	-9
Transit Reduction (Daily 5.6%, AM 7.3%, PM 6.0%)[2]				-178	-24	-20	-4	-21	-4	-17
TDM Reduction (Daily 34%, AM 28%, PM 32%)[3]				-1,161	-100	-93	-7	-122	-16	-105
Total External Trips				**1,847**	**208**	**160**	**48**	**218**	**53**	**166**

Source: ITE *Trip Generation, 10th Edition*

[1]Internal Capture calculated using ITE *Trip Generation Handbook, 3rd Edition* methodology. ITE methodology does not include calculation for weekday daily, therefore an average percentage of AM and PM hours were assumed for daily internal capture.

[2]Based on transit reduction assumed in Redwood City Downtown Precise Plan EIR.

[3]Based on RWCmoves target SOV share of 52% for office uses and 44% for residential uses after accounting for internal capture and downtown precise plan transit reduction

Trip Generation Comparison

The October 2022 project trip generation from **Table 2** was compared with LTA project trip generation (**Table 11** of the LTA). The trip generation comparison is summarized in **Table 3**. The October 2022 project description will generate fewer daily, AM peak hour, and PM peak hour trips than what was analyzed in the LTA. It can be anticipated that the October 2022 project description would not result in any new traffic deficiencies.

Table 3: Trip Generation Comparison

	Daily	AM Peak	PM Peak
2021 LTA	1,887	212	223
2022 Project Description	1,847	208	218
Difference	**-40**	**-4**	**-5**

Conclusion

A trip generation comparison was conducted to determine the change in number of trips between the 2021 and 2022 project descriptions for the 1111-1127 Arguello Development in Redwood City. The 2022 project description results in a decrease in office square footage and an increase in residential square footage, however, it should be noted that the number of dwelling units remain the same. The trip generation comparison found that the 2022 project description would result in fewer daily, AM peak hour, and PM peak hour trips and would not result in any new traffic deficiencies.

Appendix F
Water Supply Assessment

WATER SUPPLY ASSESSMENT

for the proposed

ARGUELLO STREET MIXED USE PROJECT

December 5, 2022

Prepared by the
CITY OF REDWOOD CITY
PUBLIC WORKS SERVICES DEPARTMENT

1. OVERVIEW

On September 3, 2021, the City of Redwood City (City) Public Works Services Department received a request from the Community Development & Transportation Department to prepare a Water Supply Assessment (WSA) for the Arguello Street Mixed Use Project (Project). This WSA has been prepared in accordance with California Water Code Section 10910, subdivision(g)(2), and is to be presented to the Redwood City Council for its consideration prior to circulation of the environmental.

Water Use Characteristics

City staff and Project engineers used the City's Engineering Standards for Water System Design Criteria (known as " Attachment Q") to develop demand estimates for the Project. These estimates are summarized in Table 1.

Table 1. Project Water Demand (afy)

	Existing Demand	Proposed Project Demand	Potable Demand	Recycled Demand	Net New Potable Demand
Residential (a)	0.5	4.9	3.4	1.5	3.0
Commercial (b)	2.8	43.8	8.8	35.0	6.0
Irrigation	0.5	2.5	0	2.5	-0.5
Other (c)	0	9.9	9.9	0	9.9
Total	**3.7**	**61.1**	**22.1**	**39.0**	**18.4**

a) Potable water for Residential uses is 70% of Proposed Project Demand, Recycled Water is 30% of Proposed Project Demand

b) Potable water for Commercial uses is 20% of Proposed Project Demand, Recycled Water is 80% of Proposed Project Demand

c) Includes child care facilities

This WSA has been developed to determine if the City has sufficient water to meet the expected future water demands of the Project together with those of existing customers and planned future development. As shown in the City's 2020 Urban Water Management Plan (UWMP), City-wide demand for potable water is projected to be 10,207 acre-feet per year (afy) in the year 2045, which is below the City's Individual Water Supply Guarantee (ISG) of 12,243 afy. This demand includes the proposed Project and anticipated growth in demand projected to occur between 2020 and 2045.

2018 Bay-Delta Plan Amendment

In December 2018, the State Water Resources Control Board (SWRCB) adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) to establish water quality objectives to maintain the health of the Bay-Delta ecosystem. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the Bay-Delta. The Bay-Delta Plan Amendment

requires the release of 40% of the "unimpaired flow"[1] on the three tributaries from February through June in every year type, whether wet, normal, dry, or critically dry.

If the Bay-Delta Plan Amendment is implemented, the SFPUC will be able to meet the projected water demands presented in this Urban Water Management Plan (UWMP) in normal years but would experience supply shortages in single dry years or multiple dry years. Implementation of the Bay-Delta Plan Amendment will require rationing in all single dry years and multiple dry years. The SFPUC has initiated an Alternative Water Supply Planning Program (AWSP) to ensure that San Francisco can meet its Retail and Wholesale Customer water needs, address projected dry years shortages, and limit rationing to a maximum 20 percent system-wide in accordance with adopted SFPUC policies. This program is in early planning stages and is intended to meet future water supply challenges and vulnerabilities such as environmental flow needs and other regulatory changes; earthquakes, disasters, and emergencies; increases in population and employment; and climate change. As the region faces future challenges – both known and unknown – the SFPUC is considering this suite of diverse nontraditional supplies and leveraging regional partnerships to meet Retail and Wholesale Customer needs through 2045.

The SWRCB has stated that it intends to implement the Bay-Delta Plan Amendment on the Tuolumne River by the year 2022, assuming all required approvals are obtained by that time. But implementation of the Plan Amendment is uncertain for several reasons.

First, since adoption of the Bay-Delta Plan Amendment, over a dozen lawsuits have been filed in both state and federal courts, challenging the SWRCB's adoption of the Bay-Delta Plan Amendment, including a legal challenge filed by the federal government, at the request of the U.S. Department of Interior, Bureau of Reclamation. This litigation is in the early stages and there have been no dispositive court rulings as of this date.

Second, the Bay-Delta Plan Amendment is not self-implementing and does not automatically allocate responsibility for meeting its new flow requirements to the SFPUC or any other water rights holders. Rather, the Bay-Delta Plan Amendment merely provides a regulatory framework for flow allocation, which must be accomplished by other regulatory and/or adjudicatory proceedings, such as a comprehensive water rights adjudication or, in the case of the Tuolumne River, may be implemented through the water quality certification process set forth in section 401 of the Clean Water Act as part of the Federal Energy Regulatory Commission's licensing proceedings for the Don Pedro and La Grange hydroelectric projects. It is currently unclear when the license amendment process is expected to be completed. This process and the other regulatory and/or adjudicatory proceedings would likely face legal challenges and have lengthy timelines, and quite possibly could result in a different assignment of flow responsibility (and therefore a different water supply impact on the SFPUC).

Third, in recognition of the obstacles to implementation of the Bay-Delta Plan Amendment, the SWRCB Resolution No. 2018-0059 adopting the Bay-Delta Plan Amendment directed staff to help complete a "Delta watershed-wide agreement, including potential flow measures for the Tuolumne River" by March 1, 2019, and to incorporate such agreements as an "alternative" for a future amendment to the Bay-Delta Plan to be presented to the SWRCB "as early as possible after December 1, 2019." In accordance with the

[1] "Unimpaired flow represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds." (Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Dec. 12, 2018) p.17, fn. 14, available at https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.)

SWRCB's instruction, on March 1, 2019, SFPUC, in partnership with other key stakeholders, submitted a proposed project description for the Tuolumne River that could be the basis for a voluntary substitute agreement with the SWRCB ("March 1st Proposed Voluntary Agreement"). On March 26, 2019, the Commission adopted Resolution No. 19-0057 to support the SFPUC's participation in the Voluntary Agreement negotiation process. To date, those negotiations are ongoing under the California Natural Resources Agency and the leadership of the Newsom administration[2].

For all these reasons, whether and when the Bay-Delta Plan Amendment will be implemented, and how those amendments if implemented will affect the SFPUC's, and thereby Redwood City's, water supply is currently uncertain and possibly speculative. Given this uncertainty, this WSA analyzes water supply and demand through 2045 under two scenarios:

1. With full implementation of the Bay-Delta Plan Amendment in 2023
2. Without implementation of the Bay-Delta Plan Amendment

WSA Determination

Scenario 1, With full implementation of the Bay-Delta Plan Amendment in 2023: The City has sufficient water to meet all of its expected future water demands, including the demands of the proposed Project, in normal years. In dry years with the implementation of its Water Shortage Contingency Plan the City will be able to meet the expected future demand, including the demands of the Project. However, shortfalls represent a significant challenge for the community, and in a single dry year or first dry year the anticipated supply shortfall is between 36% and 47%. In prolonged dry conditions with up to five multiple dry years the shortfall could increase to 55%. This determination is contingent upon the use of recycled water which requires an extension of the recycled water distribution pipeline to the Project location.

Scenario 2, Without implementation of the Bay-Delta Plan Amendment: The City has sufficient water to meet all of its expected future water demands, including the demands of the proposed Project, in normal years and dry years through 2040. In 2045 they City has sufficient supply in all years with the exception of the fourth and fifth dry years in a multiple dry year scenario. When supplies will not meet demand, the City would implement its Water Shortage Contingency Plan (WSCP) to curtail demands and ensure that its supplies remain sufficient to serve all users, including the proposed Project. This determination is contingent upon the use of recycled water which requires an extension of the recycled water distribution pipeline to the Project location.

2. BACKGROUND

State Laws

During 2001, the California Legislature enacted two laws – SB 610 (Costa) and SB 221 (Kuehl) – each designed to achieve greater coordination during the land use planning process between water suppliers and local land use agencies when considering certain large-scale development projects.

SB 610 requires preparation of a WSA for any development whose approval is subject to the California Environmental Quality Act (CEQA) and which meets the definition of "project" in Water Code Section 10910 (g)(1), (2) – i.e., residential development projects of more than 500 dwelling units or other types of

[2] California Natural Resources Agency, "Voluntary Agreements to Improve Habitat and Flow in the Delta and its Watersheds," available at https://files.resources.ca.gov/voluntary-agreements/.

developments (e.g., hotels and motels, commercial buildings, industrial parks, etc.) using a comparable amount of water.

The WSA must describe the proposed project's water demand over a 20-year period, identify the sources of water available to meet that demand and include an assessment of whether or not those water supplies are, or will be, sufficient to meet the demand for water associated with the proposed project, in addition to the demand of existing customers and other planned future development. The available water supply must be based on three water supply scenarios: normal year, single dry year, and multiple dry years. If the conclusion is that water supplies are or will be insufficient, then the WSA is to describe plans (if any) for acquiring additional water supplies, and the measures that are being undertaken to acquire and develop those supplies.

SB 221 is similar in many respects to SB 610. However, it applies only to residential projects of 500 units or more and requires the land use planning agency to include as a condition of approval of a tentative map, parcel map or development agreement a requirement that "sufficient water supply" be available. Proof of a sufficient water supply must be based on a written verification from the public water system that will serve the development.

Thus, the WSA required by SB 610 is to be prepared sufficiently early in the development review process that it can be incorporated in the CEQA evaluation and documentation of the project. SB 221, by contrast, becomes operative at the point that the City is considering approval of a tentative subdivision map.

The City's Roles and Responsibilities Under SB 610

Both SB 610 and SB 221 were drafted on the assumption that the land use planning agency (i.e., the city or county) is not the water supplier for the proposed project. The statutes thus identify distinct duties on the city/county and on the water supplier – which is assumed to be an entirely separate agency. In the case of Redwood City, this assumption is not applicable since the City performs both roles. However, the statute's terminology, while awkward, can be adapted to the City's situation relatively easily.

The "City," as that term is used in the statute, means the components of city government that have responsibilities for the land use decision process. At the staff level, in Redwood City this is the Community Development & Transportation Department, Planning and Housing Division.

The "water supplier," for SB 610 purposes, can be understood to mean the Public Works Services Department, which is responsible for the City's Water Enterprise Fund.

The "governing body," as used in SB 610, refers to the City Council, which is required to approve the WSA at a regular or special meeting.

In Redwood City, the Community Development & Transportation Department is responsible for requesting the preparation of the WSA, including sufficient information about the project. The Public Works Services Department is responsible for preparing the WSA. The City Council is responsible for approving the WSA. The Community Development Department then directs the inclusion of the WSA in the environmental documentation of the project.

Use of the WSA

As noted above, the WSA shall be included in the environmental document prepared for the project. In the case of the 1125 Arguello Street Mixed Use Project, it will be included in the Draft EIR prepared for the project.

At the stage of project approval/disapproval, the City "shall determine based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses." If the City determines at that point that water supplies will not be sufficient, it must include that determination in its findings for the project.

Urban Water Management Plan (UWMP)

A foundational document for compliance with both SB 610 and SB 221 is the Urban Water Management Plan (UWMP). Both of these statutes identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards set forth in both statutes. The City of Redwood City has adopted an UWMP pursuant to the State of California Urban Water Management Planning Act. The UWMP was last updated/adopted by the City Council on June 14, 2021 and duly forwarded to the California State Department of Water Resources (DWR). The water supply and demand analysis contained in this WSA is based on information contained within the City's adopted 2020 UWMP.

3. DETERMINATION OF APPLICABILITY OF SB 610 TO THE 1125 ARGUELLO MIXED USE PROJECT

The DWR has prepared a flowchart (see Attachment 1) to assist in the determination of the applicability of SB 610 to projects and identify what WSAs must address. Based on the City's review of the Project development application, the City has determined that the 1125 Arguello Street Mixed Use Project is subject to CEQA, and it is considered a "project" as defined by Water Code §10912. Therefore, the City, as both Lead Agency and Water Supplier, is required to prepare an SB 610 WSA. This Project was not specifically listed in the 2020 UWMP, but its demands are factored into the growth projections in the 2020 UWMP based on its consistency with the City 2010 General Plan.

4. REDWOOD CITY WATER SUPPLY

Potable Water Supply

The City of Redwood City receives 100% of its potable water supply from the San Francisco Regional Water System operated by the San Francisco Public Utilities Commission (SFPUC). Existing water supply entitlements, rights and/or water service contracts relevant to this water supply are:

1984 Settlement Agreement and Master Water Sales Contract between Suburban Purchasers and the City and County of San Francisco. The Master Contract primarily addresses the rate-making methodology used by San Francisco in setting wholesale water rates for its wholesale customers in addition to addressing water supply and water shortages for the regional water system. The Master Contract expired on June 30, 2009. The Master Contract provided for a 184 million gallon per day (mgd) "Supply Assurance" to the SFPUC's wholesale customers, subject to reduction in the event of drought, water shortage, earthquake, other acts of God, or rehabilitation and maintenance of the system. The Master Contract does not guarantee that San Francisco will meet peak daily or hourly customer demands when their annual usage exceeds the Supply Assurance. The SFPUC's wholesale customers have agreed to the allocation of 184 mgd Supply Assurance among themselves, with each entity's share of the Supply Assurance set forth on a schedule adopted in 1993. This Supply Assurance survives expiration of the Master Contract in 2009.

Water Supply Agreement between The City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County (July 2009). Redwood City, along with 26 other Bay Area water suppliers, signed the Water Supply Agreement and an Individual Water Sales Contract with San Francisco in 2009. Redwood City's contracted Supply Assurance from the SFPUC is 12,243 afy.

Recycled Water Supply

The Redwood City Council approved a recycled water project in 2003 with the goal of reducing demand on the Hetch Hetchy system. Silicon Valley Clean Water and Redwood City entered into agreements for the production and distribution of recycled water that is treated to the California State Title 22 standards for non-potable unrestricted use. The recycled water can be used for landscape irrigation, industrial applications, and other approved indoor uses such as toilet flushing in new commercial, and some multi-family buildings. The recycled water system has been designed to deliver up to 3,238 afy. Current demand on the recycled water system is approximately 856 afy. In 2008, the City Council of Redwood City adopted a Recycled Water Use Ordinance and established a Recycled Water Service Area. Specific uses of recycled water including landscape irrigation and toilet/urinal flushing are required within the Recycled Water Service Area for new developments. However, for properties outside of the Recycled Water Service Area recycled water use is voluntary.

Groundwater supply

Groundwater is not a source of potable water supply for Redwood City because of water quality, reliability, and long-term production capacity concerns. Local groundwater is currently used by a limited number of private well owners for domestic and irrigation uses. The City does not include groundwater as a source of supply in its 2020 UWMP. However, a preliminary assessment of groundwater production potential for the City conducted during the preparation of the 2020 UWMP found that sufficient groundwater supply may be available for the City to use as a source of back-up supply for emergency conditions (EKI, 2020; 2020 UWMP Appendix G).

Dry Year Water Supplies

Since adoption of the UWMP, the following milestones on the San Francisco Regional Water System have occurred:

- Calaveras Dam Replacement Project – Construction of the new dam was completed in September 2018, and the overall project was completed in June 2019.

- Regional Groundwater Storage and Recovery Project – Construction of this project is still underway. Phase 1 of the project, consisting of installation of 13 production wells, will be completed in 2019. Since May/June 2016, the project has been in a storage phase through periodic deliveries of RWS surface water in lieu of groundwater pumping by Daly City, San Bruno, and the California Water Service Company.

Summary of Current and Planned Water Supplies

As shown in Table 2 Redwood City's water supply and demand is balanced with some room for unplanned growth through 2045.

Table 2. Projected Supply vs. Demand for Normal Year Scenario

	Projected Water Demand (afy)				
	2025	**2030**	**2035**	**2040**	**2045**
Potable Water Supply	12,243	12,243	12,243	12,243	12,243
Potable Water Demand	9,520	9,623	9,880	9,995	10,207
Surplus or (Deficit)	*2,723*	*2,620*	*2,363*	*2,248*	*2,036*
Recycled Water Supply	3,238	3,238	3,238	3,238	3,238
Recycled Water Demand	1,286	1,426	1,686	1,701	1,716
Surplus or (Deficit)	*1,952*	*1,812*	*1,552*	*1,537*	*1,522*
Total Water Demand	**10,806**	**11,049**	**11,566**	**11,969**	**11,923**

Source: Redwood City, 2020 Urban Water Management Plan, Table 4-8

Additional Water Supplies

With the adoption of the Bay-Delta Plan Phase 1 (Bay-Delta Plan) by the State Water Resources Control Board in December of 2018, coupled with the uncertainties associated with litigation and the development of Voluntary Agreements that, if successful, would provide an alternative to the 40% unimpaired flow requirement that is required by the Bay-Delta Plan, BAWSCA redoubled its efforts to ensure that the SFPUC took necessary action to develop alternative water supplies such that they would be in place to fill any potential gap in supply by implementation of the Bay-Delta Plan and that the SFPUC would be able to meet its legal and contractual obligations to its Wholesale Customers.

In 2019, BAWSCA held numerous meetings with the SFPUC encouraging them to develop a division within their organization whose chief mission was to spearhead alternative water supply development. On June 25, 2019, BAWSCA provided a written and oral statement to the Commissioners urging the SFPUC to focus on developing new sources of supply in a manner similar to how it addressed the implementation of the Water System Improvement Program (WSIP). BAWSCA urged that a new water supply program was called for, with clear objectives, persistent focus, a dedicated team, adequate funding, and a plan for successful execution. The SFPUC Commission supported BAWSCA's recommendation and directed staff to undertake such an approach.

In early 2020, the SFPUC began implementation of the Alternative Water Supply Planning Program (AWSP), a program designed to investigate and plan for new water supplies to address future long-term water supply reliability challenges and vulnerabilities on the RWS.

Included in the AWSP is a suite of diverse, non-traditional supply projects that, to a great degree, leverage regional partnerships and are designed to meet the water supply needs of the SFPUC Retail and Wholesale Customers through 2045. As of the most recent Alternative Water Supply Planning Quarterly Update, SFPUC has budgeted $264 million over the next ten years to fund water supply projects. BAWSCA is heavily engaged with the SFPUC on its AWSP efforts.

The SFPUC is increasing and accelerating its efforts to acquire additional water supplies and explore other projects that would increase overall water supply resilience through the AWSP. The drivers for the program include: (1) the adoption of the Bay-Delta Plan Amendment and the resulting potential

limitations to RWS supply during dry years, (2) the net supply shortfall following the implementation of WSIP, (3) San Francisco's perpetual obligation to supply 184 MGD to the Wholesale Customers, (4) adopted LOS Goals to limit rationing to no more than 20 percent system-wide during droughts, and (5) the potential need to identify water supplies that would be required to offer permanent status to interruptible customers. Developing additional supplies through this program would reduce water supply shortfalls and reduce rationing associated with such shortfalls. The planning priorities guiding the framework of the AWSP are as follows:

1. Offset instream flow needs and meet regulatory requirements
2. Meet existing obligations to existing permanent customers
3. Make interruptible customers permanent
4. Meet increased demands of existing and interruptible customers

In conjunction with these planning priorities, the SFPUC considers how the program fits within the LOS Goals and Objectives related to water supply and sustainability when considering new water supply opportunities. The key LOS Goals and Objectives relevant to this effort can be summarized as:

- Meet dry-year delivery needs while limiting rationing to a maximum of 20 percent system-wide reduction in water service during extended droughts;
- Diversify water supply options during non-drought and drought periods;
- Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers;
- Meet, at a minimum, all current and anticipated legal requirements for protection of fish and wildlife habitat;
- Maintain operational flexibility (although this LOS Goal was not intended explicitly for the addition of new supplies, it is applicate here).

Together, the planning priorities and LOS Goals and Objectives provide a lens through which the SFPUC considers water supply options and opportunities to meet all foreseeable water supply needs.

In addition to the Daly City Recycled Water Expansion project[3], which was a potential project identified in the SFPUC's 2015 UWMP and had committed funding at that time, the SFPUC has taken action to fund the study of potential additional water supply projects. Capital projects under consideration to develop additional water supplies include surface water storage expansion, recycled water expansion, water transfers, desalination, and potable reuse. A more detailed list and descriptions of these efforts are provided below. The capital projects that are under consideration would be costly and are still in the early feasibility or conceptual planning stages. Because these water supply projects would take 10 to 30 years to implement, and because required environmental permitting negotiations may reduce the amount of water that can be developed, the yield from these projects are not currently incorporated into SFPUC's supply projections. State and federal grants and other financing opportunities would be pursued for eligible projects, to the extent feasible, to offset costs borne by ratepayers.

- *Daly City Recycled Water Expansion (Regional, Normal- and Dry-Year Supply).*

[3] While this potential project was identified in the 2015 UWMP, it has since been approved by Daly City following environmental review and has a higher likelihood of being implemented.

This project can produce up to 3 MGD of tertiary recycled water during the irrigation season (~7 months). On an average annual basis, this is equivalent to 1.25 MGD or 1,400 AFY. The project is envisioned to provide recycled water to 13 cemeteries and other smaller irrigation customers, offsetting existing groundwater pumping from the South Westside Groundwater Basin; this will free up groundwater, enhancing the reliability of the Basin. The project is a regional partnership between the SFPUC and Daly City. The irrigation customers are located largely within California Water Service's (Cal Water's) service area. RWS customers will benefit from the increased reliability of the South Westside Basin for additional drinking water supply during droughts. In this way, this project supports the GSR Project, which is under construction.

- *ACWD-USD Purified Water Partnership (Regional, Normal- and Dry-Year Supply).*
  This project could provide a new purified water supply utilizing Union Sanitary District's (USD) treated wastewater. Purified water produced by advanced water treatment at USD could be transmitted to the Quarry Lakes Groundwater Recharge Area to supplement recharge into the Niles Cone Groundwater Basin or put to other uses in Alameda County Water District's (ACWD) service area. With the additional water supply to ACWD, an in-lieu exchange with the SFPUC would result in more water left in the RWS. Additional water supply could also be directly transmitted to the SFPUC through a new intertie between ACWD and the SFPUC.

- *Crystal Springs Purified Water (Regional, Normal- and Dry-Year Supply).*
  The Crystal Springs Purified Water (PREP) Project is a purified water project that could provide 6-12 MGD of water supply through reservoir water augmentation at Crystal Springs Reservoir, which is a facility of the RWS. Treated wastewater from Silicon Valley Clean Water (SVCW) and/or the City of San Mateo would go through an advanced water treatment plant to produce purified water that meets state and federal drinking water quality standards. The purified water would then be transmitted 10 to 20 miles (depending on the alignment) to Crystal Springs Reservoir, blended with regional surface water supplies and treated again at Harry Tracy Water Treatment Plant. Project partners include the SFPUC, Bay Area Water Supply and Conservation Agency (BAWSCA), SVCW, CalWater, Redwood City, Foster City, and the City of San Mateo. Partner agencies are contributing financial and staff resources towards the work effort.

- *Los Vaqueros Reservoir Expansion (Regional, Dry Year Supply).*
  The Los Vaqueros Reservoir Expansion (LVE) Project is a storage project that will enlarge the existing reservoir located in northeastern Contra Costa County from 160,000 acre-feet to 275,000 acre-feet. While the existing reservoir is owned and operated by the Contra Costa Water District (CCWD), the expansion will have regional benefits and will be managed by a Joint Powers Authority (JPA) that will be set up prior to construction. Meanwhile, CCWD is leading the planning, design and environmental review efforts. CCWD's Board certified the EIS/EIR and approved the LVE Project on May 13, 2020. The additional storage capacity from the LVE Project would provide a dry year water supply benefit to the SFPUC. BAWSCA is working in concert with the SFPUC to support their work effort on the LVE project.
    - Conveyance Alternatives: The SFPUC is considering two main pathways to move water from storage in a prospective LVE Project to the SFPUC's service area, either directly to

RWS facilities or indirectly via an exchange with partner agencies. The SFPUC is evaluating potential alignments for conveyance.

- Bay Area Regional Reliability Shared Water Access Program (BARR SWAP): As part of the BARR Partnership, a consortium of 8 Bay Area water utilities (including ACWD, BAWSCA, CCWD, EBMUD, Marin Municipal Water District (MMWD), SFPUC, Valley Water, and Zone 7 Water Agency) are exploring opportunities to move water across the region as efficiently as possible, particularly during times of drought and emergencies. The BARR agencies are proposing two separate pilot projects in 2020-2021 through the Shared Water Access Program (SWAP) to test conveyance pathways and identify potential hurdles to better prepare for sharing water during a future drought or emergency. A strategy report identifying opportunities and considerations will accompany these pilot transfers and will be completed in 2021.
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- *Bay Area Brackish Water Desalination (Regional, Normal- and Dry-Year Supply).*
  The Bay Area Brackish Water Desalination (Regional Desalination) Project is a partnership between CCWD, the SFPUC, Valley Water, and Zone 7 Water Agency. The East Bay Municipal Utilities District (EBMUD) and ACWD may also participate in the project. The project could provide a new drinking water supply to the region by treating brackish water from CCWD's existing Mallard Slough intake in Contra Costa County. While this project has independent utility as a water supply project, for the current planning effort the SFPUC is considering it as a source of supply for storage in LVE. While the allocations remain to be determined among partners, the SFPUC is considering a water supply benefit of between 5 and 15 MGD during drought conditions when combined with storage at LVE.

- *Calaveras Reservoir Expansion (Regional, Dry Year Supply*).
  Calaveras Reservoir would be expanded to create 289,000 acre-feet (AF) additional capacity to store excess Regional Water System supplies or other source water in wet and normal years. In addition to reservoir enlargement, the project would involve infrastructure to pump water to the reservoir, such as pump stations and transmission facilities.

- *Groundwater Banking.*
  Groundwater banking in the Modesto Irrigation District (MID) and Turlock Irrigation District (TID) service areas could be used to provide some additional water supply to meet instream releases in dry years reducing water supply impacts to the SFPUC service area. For example, additional surface water could be provided to irrigators in wet years, which would offset the use of groundwater, thereby allowing the groundwater to remain in the basin rather than be consumptively used. The groundwater that remains in the basin can then be used in a subsequent dry year for irrigation, freeing up surface water that would have otherwise been delivered to irrigators to meet instream flow requirements. A feasibility study of this option is included in the proposed Tuolumne River Voluntary Agreement. Progress on this potential water supply option will depend on the negotiations of the Voluntary Agreement.

- *Inter-Basin Collaborations*.

Inter-Basin Collaborations could provide net water supply benefits in dry years by sharing responsibility for in-stream flows in the San Joaquin River and Delta more broadly among several tributary reservoir systems. One mechanism by which this could be accomplished would be to establish a partnership between interests on the Tuolumne River and those on the Stanislaus River, which would allow responsibility for streamflow to be assigned variably based on the annual hydrology. As is the case with Groundwater Banking, feasibility of this option is included in the proposed Tuolumne River Voluntary Agreement.

If all the projects identified through the current planning process can be implemented, there would still be a supply shortfall to meet projected needs. Furthermore, each of the supply options being considered has its own inherent challenges and uncertainties that may affect the SFPUC's ability to implement it.

Given the limited availability of water supply alternatives - unless the supply risks are significantly reduced or our needs change significantly - the SFPUC will continue to plan, develop and implement all project opportunities that can help bridge the anticipated water supply gaps during droughts. In 2019, the SFPUC completed a survey among water and wastewater agencies within the service area to identify additional opportunities for purified water. Such opportunities remain limited, but the SFPUC continues to pursue all possibilities.

5. THE 1125 ARGUELLO MIXED USE PROJECT AND ITS PROJECTED WATER DEMAND

Project Description

The proposed project includes six (6) existing contiguous developed lots totaling approximately 3.5 acres. The mixed-use redevelopment project includes approximately 300,000 SF of office space, 33 for sale multifamily residential units, and a 4,100 sq. ft. child care center. A copy of the proposed site plan is included below. The Project has a total estimated water demand of 54,656 gpd. The existing total water demand is 3,298 gpd for a net water demand increase of 51,267 gpd.

Projected Water Demand

The City bases its water demand projections on the adopted *City Engineering Standards for Water Demand Projection Criteria (Attachment Q).* Project engineers provided demand estimates in Attachment Q, which have been reviewed by the City's Engineering Division. A summary of existing and projected demand is included in the request to prepare this WSA.

Does the 2020 UWMP account for the 1125 Arguello Mixed Use Project demands?

Yes, although the 1125 Arguello Mixed Use Project was not specifically included in the 2020 UWMP it is consistent with the growth projections in the 2010 General Plan which formed the basis of the growth projections in the 2020 UWMP.

Recycled Water Uses

Redwood City Municipal Code Chapter 38, Article VIII, Sec. 38.50 requires that new Commercial Properties, and New Apartments and Condominiums within the Recycled Water Service Area shall use recycled water for landscape irrigation and internally for toilet flushing. The City's Recycled Water Development Standards (Attachment U) further prescribes the uses for recycled water and excludes the use of recycled water in tenant improvement spaces intended for retail uses, and makes the use of recycled water in child care facilities optional. For properties outside of the Recycled Water Service Area recycled water use is voluntary.

The Water Demand Projections worksheet (Attachment Q) does not differentiate between potable or recycled water uses. During the preparation of the UWMP the City did not have any existing properties using recycled water for internal uses, so estimates were used to identify the ratio of potable and recycled water for internal uses.

- For residential properties it was estimated that for all internal uses 75% would be for potable water and 25% would be for recycled water.
- For commercial properties is was estimated that for all internal uses 20% would be for potable water and 80% would be for recycled water.

A number of projects have been completed that have been dual plumbed for internal use of recycled water, but are not yet using recycled water because the Recycled Water Distribution System has not been expanded to service those properties. However, separate water meters were installed at these projects for future recycled water use and are currently using potable water. Actual demand was reviewed at these properties to verify the accuracy of the estimated ratio between potable and recycled water with the results closely matching the estimates.

- For residential properties actual demand for internal uses was 70% potable water and 30% recycled water.
- For commercial properties actual demand for internal uses was 20% potable water and 80% recycled water.

The 1125 Arguello Mixed Use Project is within the Recycled Water Service Area. To determine the ratio of potable and recycled water for the Project the actual demand ratios were applied to internal uses for commercial and residential uses. Areas identified for child care uses were allocated to 100% potable water, and landscape irrigation was allocated to 100% recycled water. A summary of these demands is available in Table 1.

Additionally, the recycled water distribution system pipelines terminate at the intersection of Walnut St. and Marshall St. in Redwood City and would need to be extended to and along the frontage of the Project in order to supply recycled water to the Project.

6. WATER SUPPLY SUFFICIENCY ANALYSIS

The following section provides a supply and demand comparison for the two scenarios described in Section 1 of this report. Procedures for determining SFPUC RWS supply availability are provided in the Water Shortage Allocation Plan (WSAP) between the SFPUC's Retail and Wholesale Customers which is referred to as Tier 1 of the WSAP. The WSAP further allocates the supplies amongst Wholesale Customers (BAWSCA Members) under Tier 2 of the WSAP to derive available supply for each wholesale customer including Redwood City.

For the purposes of 2020 UWMP development only, SFPUC and BAWSCA provided revised methodologies to allocate RWS supplies during projected future single dry and multiple dry years in instances where the projects supply shortfalls are greater than 20%. SFPUC and BAWSCA assumed that Tier One allocations for system-wide shortfalls of 16% to 20% would apply for all shortfalls greater than 20%. BAWSCA also provided a revised methodology to allocate RWS supplies to Wholesale Agencies. The inclusion of the following revised methodologies, which serve as the preliminary basis for the 2020 UWMP supply reliability analyses, does not in any way imply an agreement by BAWSCA member agencies as to the exact allocation methodologies.

1. When the average Wholesale Customers' RWS shortages are 10 percent or less, an equal percent reduction will be applied across all agencies. This is consistent with the existing Tier Two requirement of a minimum 10 percent cutback in any Tier Two application scenario.

2. When average Wholesale Customers' shortages are between 10 and 20 percent, the Tier Two Plan will be applied.
3. When the average Wholesale Customers' RWS shortages are greater than 20 percent, an equal percent reduction will be applied across all agencies.

Scenario 1: With full implementation of the Bay-Delta Plan Amendment in 2023
Under this Scenario this WSA determines that the City has sufficient water supplies to serve the Project and all other existing and planned future demands, in normal years. In dry years with the implementation of its Water Shortage Contingency Plan (WSCP) the City will be able to meet future demand, including the demands of the Project. However, shortfalls represent a significant challenge for the community, and in a single dry year or first dry year the anticipated supply shortfall is between 36% and 47%. In prolonged dry conditions with up to five multiple dry years the shortfall could increase to 55%.

The WSCP lists a number of actions to be taken by the City and water customers in the event of a water shortage for the purpose of reducing water demands, and includes 6 stages of curtailment levels, ranging from 10 percent to greater than 50 percent depending on the severity of the water shortage. For a single dry year water shortage beginning in the year 2025 the WSCP indicates a Stage 4 water shortage (up to 40%) will need to be declared, and in a multiple dry year scenario a Stage 5 water shortage (up to 50%) will need to be declared. Based on projected water demand in the years 2040 and 2045 a Stage 6 shortage will need to be declared in the fourth and fifth years of a drought, and represents a significant reduction in water demands that must be met including no irrigation with potable water, a 35% reduction in commercial, institutional, and industrial (CII) water use, and indoor per capita or per person daily use of 27 gallons.

Table 3. Water Allocation Program Cutbacks by Customer Sector (Table 6-3, WSCP, June 2021)

Stage Reduction Goal	10%	20%	30%	40%	50%	>50%
Customer Sector	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Residential Indoor Allocation	50 gpcd	45 gpcd	40 gpcd	34 gpcd	31 gpcd	27 gpcd
Residential Outdoor Allocation	15%	35%	65%	80%	90%	100%
Commercial (CII) Reduction	3%	7%	10%	20%	30%	35%
Irrigation Accounts Reduction	15%	35%	65%	80%	90%	100%
Recycled Water Reduction	0%	0%	0%	0%	0%	0%

gpcd= gallons per capita per day

Because the Project's water demands are included in the 2020 UWMP the Project would not change the water shortage Stage that would need to be declared, and the Project would not require additional curtailments from existing or planned customers beyond the curtailments that would be required without the Project. Table 4 includes the reduction in potable water demand anticipated due to the implementation of the Bay Delta Plan for each dry year scenario.

Table 4. Potable Water Supply and Shortage Levels with Bay Delta Plan

Year Type		2025	2030	2035	2040	2045
Normal Supply		12,243	12,243	12,243	12,243	12,243
2020 UWMP Projected Potable Demand		9,852	9,520	9,623	9,995	10,207
Single Dry Year Supply		6,049	6,060	6,150	6,217	5,433
Multiple Dry Years Supply	First year	6,049	6,060	6,150	6,217	5,433
	Second year	5,186	5,197	5,265	5,332	5,433
	Third year	5,186	5,197	5,265	5,332	5,433
	Fourth year	5,186	5,197	5,265	4,705	4,615
	Fifth year	5,186	5,197	4,828	4,705	4,615
Percent Shortage **based on Projected Demand**						
Normal Year		0%	0%	0%	0%	0%
Single Dry Year		38.6%	36.3%	36.1%	37.8%	46.8%
Multiple Dry Years Shortage	First year	38.6%	36.3%	36.1%	37.8%	46.8%
	Second year	47.4%	45.4%	45.3%	46.7%	46.8%
	Third year	47.4%	45.4%	45.3%	46.7%	46.8%
	Fourth year	47.4%	45.4%	45.3%	52.9%	54.8%
	Fifth year	47.4%	45.4%	49.8%	52.9%	54.8%

The above conclusions assume that the Project includes the use of recycled water which would require an extension of the City's Recycled Water pipeline to the Project, and subsequent compliance with the recycling water requirements in the City's Municipal Code (Chapter 38, Article VIII (Section 38.50 et seq.)). Redwood City is not currently limited in its recycled water capacity and has sufficient supply for the project in normal and dry years. The Project's anticipated net demand for recycled water is 39.0 afy, which is well within the City's available recycled water supplies.

Scenario 2: Without Implementation of the Bay-Delta Plan Amendment

Under this Scenario this WSA determines that the City has sufficient water to meet all of its expected future water demands, including the demands of the proposed Project, in normal years and dry years through 2040. In the year 2045 they City has sufficient supply in all years with the exception of the fourth and fifth consecutive dry years in a multiple dry year scenario. When supplies will not meet demand, the City would implement its Water Shortage Contingency Plan (WSCP) to curtail demands and ensure that its supplies remain sufficient to serve all users, including the proposed Project. For a fourth and fifth consecutive dry year in 2045 the WSCP indicates a Stage 2 water shortage will need to be declared.

Table 5. Potable Water Supply and Shortage Levels Without Bay Delta Plan (afy)

Year Type	2025	2030	2035	2040	2045
Normal Supply	12,243	12,243	12,243	12,243	12,243
2020 UWMP Projected Potable Demand	9,852	9,520	9,623	9,995	10,207
Single Dry Year Supply	9,852	9,520	9,623	9,995	10,207

Multiple Dry Years Supply	First year	9,852	9,520	9,623	9,995	10,207
	Second year	9,852	9,520	9,623	9,995	10,207
	Third year	9,852	9,520	9,623	9,995	10,207
	Fourth year	9,852	9,520	9,623	9,995	9,074
	Fifth year	9,852	9,520	9,623	9,995	9,074
Percent Shortage based on Projected Demand						
Normal Year		0%	0%	0%	0%	0%
Single Dry Year		0%	0%	0%	0%	0%
Multiple Dry Years Shortage	First year	0%	0%	0%	0%	0%
	Second year	0%	0%	0%	0%	0%
	Third year	0%	0%	0%	0%	0%
	Fourth year	0%	0%	0%	0%	11.1%
	Fifth year	0%	0%	0%	0%	11.1%

The above conclusions assume that the Project includes the use of recycled water which would require an extension of the City's Recycled Water pipeline to the Project, and subsequent compliance with the recycling water requirements in the City's Municipal Code (Chapter 38, Article VIII (Section 38.50 et seq.)). Redwood City is not currently limited in its recycled water capacity and has sufficient supply for the project in normal and dry years. The Project's anticipated net demand for recycled water is 39.0 afy, which is well within the City's available recycled water supplies.

7. REFERENCES

• City of Redwood City 2020 Urban Water Management Plan (UWMP).

• *Water Supply & Development, A User's Guide to California Statutes including SB 221 (Kuehl) & SB 610 (Costa).* Association of California Water Agencies, 2002.

• 1984 Master Sales Agreement between Suburban Purchasers and the City and County of San Francisco.

• *2018 Amended and Restated Water Supply Agreement between The City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County*.

• *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001.* California Department of Water Resources, October 2003.

8. ATTACHMENTS

Attachment 1: SB 610 Flowchart

Attachment 2: 1125 Arguello Mixed Use - Attachment Q Worksheets

Attachment 1

SB 610 Flowchart

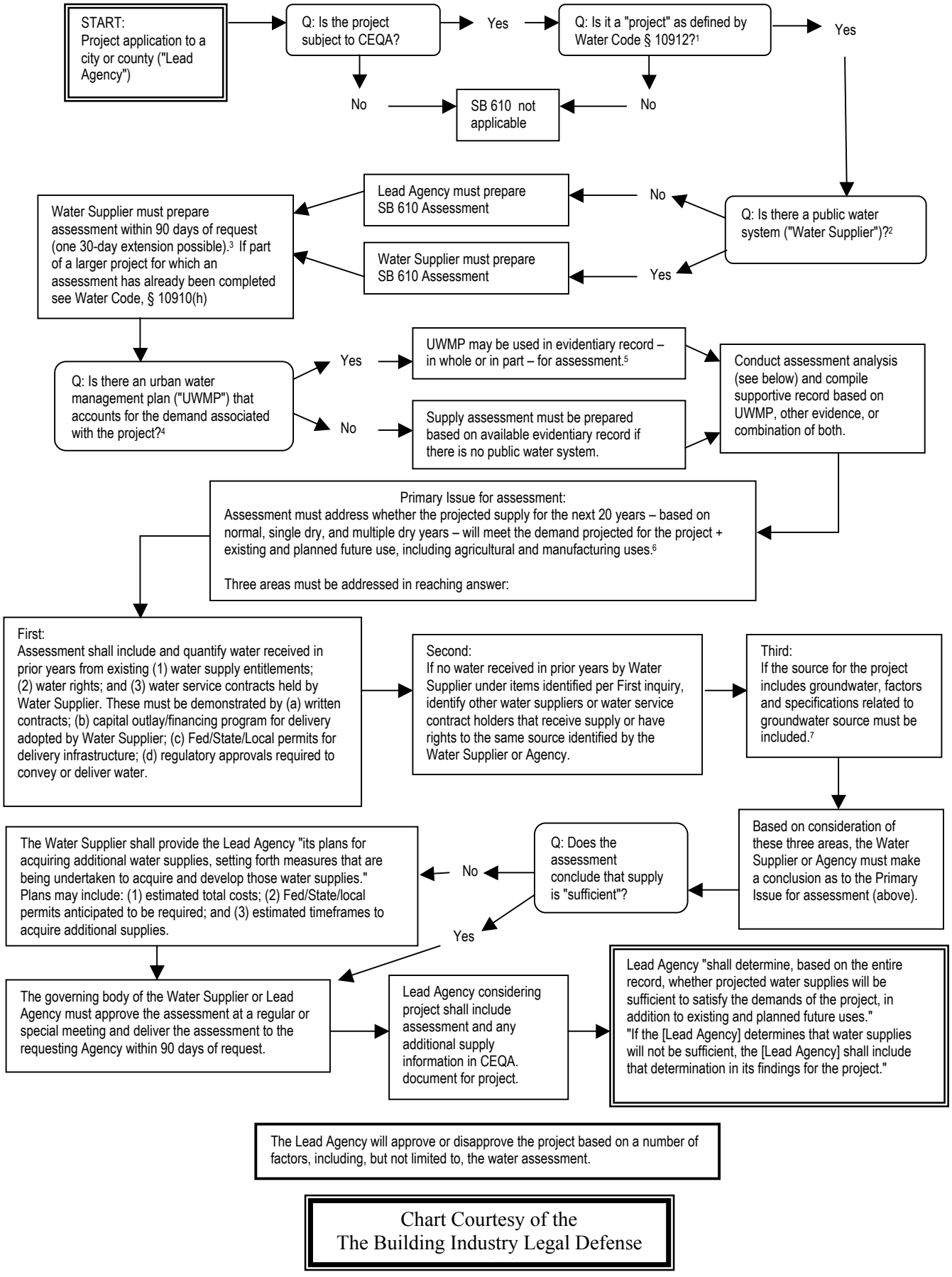

Chart Courtesy of the
The Building Industry Legal Defense

Notes for SB 610 Flowchart

Footnote 1:
California Water Code section 10912.
For the purposes of this part, the following terms have the following meanings:
(a) "Project" means any of the following:
(1) A proposed residential development of more than 500 dwelling units.
(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
(4) A proposed hotel or motel, or both, having more than 500 rooms.
(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
(6) A mixed-use project that includes one or more of the projects specified in this subdivision.
(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.
(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

Footnote 2:
California Water Code section 10912.
(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. A public water system includes all of the following:
(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.
(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.
(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption. It also means a system that will become a public water supplier if the project puts it over 3,000 service connections.

Footnote 3:
California Water Code section 10910, subdivision (g)(1).
Footnote 4:
The requirement for and contents of an urban water management plan are provided in California Water Code section 10631, as amended by SB 610 in 2001.
Footnote 5:
California Water Code section 10910, subdivision (c)(2) provides that the UWMP may be used, but it may or may not provide all of the information needed.
Footnote 6:
See California Water Code section 10910, subdivisions (c)(3) & (4); see also Government Code section 66473.7, subdivision (a)(2) [SB 221]
Footnote 7:
California Water Code section 10910, subdivision (f):
(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water assessment:
(1) A review of any information contained in urban water management plan relevant to the identified water supply for proposed project.
(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.
(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Attachment 2

ATTACHMENT Q (1 of 3) (Existing Condition)

WATER DEMAND PROJECTION WORKSHEET

JOB TITLE 1111 Arguello
JOB NUMBER _____
JOB LOCATION _____

CAL. BY ABS
CHKD. BY AAS
DATE 08/16/2021

INDOOR WATER DEMAND PROJECTION

A. RESIDENTIAL

1. Multi - Family
_____ Units X 2.2 Persons = _____ Persons

2. Single Family
_____ Units X 3.4 Persons = _____ Persons

_____ Persons X 60* GPD = _____ **GPD Projected**

B. OFFICE/COMMERCIAL

11,070 sqft X 0.13 gpd/sqft = 1,439 **GPD Projected**

C. HOTEL

_____ rooms X 195 gpd/room = _____ **GPD Projected**

D. RESTAURANTS

_____ seats X 30 gpd/seat = _____ **GPD Projected**

E. ALL OTHERS SEE PAGE 3:

= _____ **GPD Projected**

LANDSCAPING WATER DEMAND PROJECTION

A. RESIDENTIAL

17 gpd X _____ persons = _____ **GPD Projected**

B. COMMERCIAL

_____ sqft X 3.5 cuft of water /sqft of landscape per year = _____ **CUFT/YR**

To convert to GPD:

_____ cuft/yr X 7.48 gal/cuft X 1 yr/365 days = _____ **GPD Projected**

TOTAL DOMESTIC WATER DEMAND PROJECTION

INDOOR + LANDSCAPING PROJECTION = 1,439 **GPD Projected**

* From SFPUC Demand Study by URS, " Projected Water Usage for BAWSCA Agencies " , Tech Memo of August 2006.

ATTACHMENT Q (2 of 3)

WATER DEMAND PROJECTION WORKSHEET
OCCUPANT LOADS

JOB TITLE _____ CAL. BY _____
JOB NUMBER _____ CHKD. BY _____
JOB LOCATION _____ DATE _____

DESIGNED USE OF THE FACILITY	OCCUPANT LOAD OF FLOOR AREA
A. SCHOOL/CLASSROOM	20 sqft/person
B. HEALTH CLUB	50 sqft/person/shift (3 shifts per day)
C. MANUFACTURING AREAS	200 sqft/person
D. NURSERIES (DAY-CARE)	35 sqft/person
E. STORAGE FACILITIES	300 sqft/person

ATTACHMENT Q (3 of 3)

WATER DEMAND PROJECTION WORKSHEET
UNIT LOADS

JOB TITLE _____ CAL. BY _____
JOB NUMBER _____ CHKD. BY _____
JOB LOCATION _____ DATE _____

TYPE OF ESTABLISHMENT	VOLUME OF CONSUMPTION/DAY
Assembly Halls	2 gal per seat
Bowling Alley	75 gal per lane
Churches	7 gal per seat
Dance Halls	2 gal per person
General Hospitals	0.27 gal per sqft
Health Clubs	25 gal per person
Laundries	400 gal per machine
Manufacturing (excluding industrial usage)	30 gal per person/shift
Motels with bath, toilet and kitchen wastes	170 gal per room
Nursing homes/Daycare	75 gal per person
Medical Offices (other than hospitals)	0.18 gal per sqft
Research and Development	0.21 gal per sqft
Schools	35 gal per person
Service Station	750 gal per bay
Storage facilities	1 gal per person
Stores (Retail type)	450 gal per 25 ft frontage
(Food -- non-restaurant type)	900 gal per 25 ft frontage
Trailer parks or tourist camps (with built-in bath)	50 gal per person

ATTACHMENT Q (1 of 3) (Existing Condition)

WATER DEMAND PROJECTION WORKSHEET

JOB TITLE 1125 Arguello
JOB NUMBER
JOB LOCATION
CAL. BY ABS
CHKD. BY AAS
DATE 08/16/2021

INDOOR WATER DEMAND PROJECTION

A. RESIDENTIAL

1. Multi - Family
   _____ Units X 2.2 Persons = _____ Persons

2. Single Family
   2 Units X 3.4 Persons = 6.8 Persons

6.8 Persons X 60* GPD = 408 **GPD Projected**

B. OFFICE/COMMERCIAL

18,045 sqft X 0.13 gpd/sqft = 1,046 **GPD Projected**

C. HOTEL

_____ rooms X 195 gpd/room = _____ **GPD Projected**

D. RESTAURANTS

_____ seats X 30 gpd/seat = _____ **GPD Projected**

E. ALL OTHERS SEE PAGE 3:

= _____ **GPD Projected**

LANDSCAPING WATER DEMAND PROJECTION

A. RESIDENTIAL

17 gpd X 6.8 persons = 116 **GPD Projected**

B. COMMERCIAL

4,032 sqft X 3.5 cuft of water /sqft of landscape per year = 14,112 **CUFT/YR**

To convert to GPD:

14,112 cuft/yr X 7.48 gal/cuft X 1 yr/365 days = 289 **GPD Projected**

TOTAL DOMESTIC WATER DEMAND PROJECTION

INDOOR + LANDSCAPING PROJECTION = 1,859 **GPD Projected**

* From SFPUC Demand Study by URS, " Projected Water Usage for BAWSCA Agencies " , Tech Memo of August 2006.

ATTACHMENT Q (2 of 3)

WATER DEMAND PROJECTION WORKSHEET
OCCUPANT LOADS

JOB TITLE _____ CAL. BY _____
JOB NUMBER _____ CHKD. BY _____
JOB LOCATION _____ DATE _____

DESIGNED USE OF THE FACILITY	OCCUPANT LOAD OF FLOOR AREA
A. SCHOOL/CLASSROOM	20 sqft/person
B. HEALTH CLUB	50 sqft/person/shift (3 shifts per day)
C. MANUFACTURING AREAS	200 sqft/person
D. NURSERIES (DAY-CARE)	35 sqft/person
E. STORAGE FACILITIES	300 sqft/person

ATTACHMENT Q (3 of 3)

WATER DEMAND PROJECTION WORKSHEET
UNIT LOADS

JOB TITLE _____ CAL. BY _____
JOB NUMBER _____ CHKD. BY _____
JOB LOCATION _____ DATE _____

TYPE OF ESTABLISHMENT	VOLUME OF CONSUMPTION/DAY
Assembly Halls	2 gal per seat
Bowling Alley	75 gal per lane
Churches	7 gal per seat
Dance Halls	2 gal per person
General Hospitals	0.27 gal per sqft
Health Clubs	25 gal per person
Laundries	400 gal per machine
Manufacturing (excluding industrial usage)	30 gal per person/shift
Motels with bath, toilet and kitchen wastes	170 gal per room
Nursing homes/Daycare	75 gal per person
Medical Offices (other than hospitals)	0.18 gal per sqft
Research and Development	0.21 gal per sqft
Schools	35 gal per person
Service Station	750 gal per bay
Storage facilities	1 gal per person
Stores (Retail type)	450 gal per 25 ft frontage
(Food -- non-restaurant type)	900 gal per 25 ft frontage
Trailer parks or tourist camps (with built-in bath)	50 gal per person

ATTACHMENT Q (1 of 3) (Proposed Condition)

WATER DEMAND PROJECTION WORKSHEET

JOB TITLE 1111 Arguello
JOB NUMBER
JOB LOCATION
CAL. BY ABS
CHKD. BY AAS
DATE 08/16/2021

INDOOR WATER DEMAND PROJECTION

A. RESIDENTIAL

1. Multi - Family
   33 Units X 2.2 Persons = 73 Persons

2. Single Family
   _____ Units X 3.4 Persons = _____ Persons

73 Persons X 60* GPD = 4,380 **GPD Projected**

B. OFFICE/COMMERCIAL

_____ sqft X 0.13 gpd/sqft = _____ **GPD Projected**

C. HOTEL

_____ rooms X 195 gpd/room = _____ **GPD Projected**

D. RESTAURANTS

_____ seats X 30 gpd/seat = _____ **GPD Projected**

E. ALL OTHERS SEE PAGE 3:

= _____ **GPD Projected**

LANDSCAPING WATER DEMAND PROJECTION

A. RESIDENTIAL

17 gpd X 73 persons = 1,241 **GPD Projected**

B. COMMERCIAL

_____ sqft X 3.5 cuft of water /sqft of landscape per year = _____ **CUFT/YR**

To convert to GPD:

_____ cuft/yr X 7.48 gal/cuft X 1 yr/365 days = _____ **GPD Projected**

TOTAL DOMESTIC WATER DEMAND PROJECTION

INDOOR + LANDSCAPING PROJECTION = 5,621 **GPD Projected**

Indoor Recycled Water Demand = 30% of Indoor Water = 1,314 GPD

Total Recycled Water Demand = Indoor + Landscaping 2,555 GPD

* From SFPUC Demand Study by URS, " Projected Water Usage for BAWSCA Agencies " , Tech Memo of August 2006.

ATTACHMENT Q (2 of 3)

WATER DEMAND PROJECTION WORKSHEET
OCCUPANT LOADS

JOB TITLE _____ CAL. BY _____
JOB NUMBER _____ CHKD. BY _____
JOB LOCATION _____ DATE _____

DESIGNED USE OF THE FACILITY	OCCUPANT LOAD OF FLOOR AREA
A. SCHOOL/CLASSROOM	20 sqft/person
B. HEALTH CLUB	50 sqft/person/shift (3 shifts per day)
C. MANUFACTURING AREAS	200 sqft/person
D. NURSERIES (DAY-CARE)	35 sqft/person
E. STORAGE FACILITIES	300 sqft/person

ATTACHMENT Q (3 of 3)

WATER DEMAND PROJECTION WORKSHEET
UNIT LOADS

JOB TITLE _____ CAL. BY _____
JOB NUMBER _____ CHKD. BY _____
JOB LOCATION _____ DATE _____

TYPE OF ESTABLISHMENT	VOLUME OF CONSUMPTION/DAY
Assembly Halls	2 gal per seat
Bowling Alley	75 gal per lane
Churches	7 gal per seat
Dance Halls	2 gal per person
General Hospitals	0.27 gal per sqft
Health Clubs	25 gal per person
Laundries	400 gal per machine
Manufacturing (excluding industrial usage)	30 gal per person/shift
Motels with bath, toilet and kitchen wastes	170 gal per room
Nursing homes/Daycare	75 gal per person
Medical Offices (other than hospitals)	0.18 gal per sqft
Research and Development	0.21 gal per sqft
Schools	35 gal per person
Service Station	750 gal per bay
Storage facilities	1 gal per person
Stores (Retail type)	450 gal per 25 ft frontage
(Food -- non-restaurant type)	900 gal per 25 ft frontage
Trailer parks or tourist camps (with built-in bath)	50 gal per person

ATTACHMENT Q (1 of 3) (Proposed Condition)

WATER DEMAND PROJECTION WORKSHEET

JOB TITLE 1125 Arguello
JOB NUMBER _____
JOB LOCATION _____

CAL. BY ABS
CHKD. BY AAS
DATE 08/16/2021

INDOOR WATER DEMAND PROJECTION

A. RESIDENTIAL

1. Multi - Family
_____ Units X 2.2 Persons = _____ Persons

2. Single Family
_____ Units X 3.4 Persons = _____ Persons

_____ Persons X 60* GPD = _____ **GPD Projected**

B. OFFICE/COMMERCIAL

304,550 sqft X 0.13 gpd/sqft = 39,072 **GPD Projected**

C. HOTEL

_____ rooms X 195 gpd/room = _____ **GPD Projected**

D. RESTAURANTS

_____ seats X 30 gpd/seat = _____ **GPD Projected**

E. ALL OTHERS SEE PAGE 3:

= 8,854 **GPD Projected**

LANDSCAPING WATER DEMAND PROJECTION

A. RESIDENTIAL

17 gpd X _____ persons = _____ **GPD Projected**

B. COMMERCIAL

14,190 sqft X 3.5 cuft of water /sqft of landscape per year = 49,665 **CUFT/YR**

To convert to GPD:

49,665 cuft/yr X 7.48 gal/cuft X 1 yr/365 days = 1,018 **GPD Projected**

TOTAL DOMESTIC WATER DEMAND PROJECTION

INDOOR + LANDSCAPING PROJECTION = 48,944 **GPD Projected**

Indoor Recycled Water Demand = 30% of Daycare/ 80% of Office = 33,914 GPD

Total Recycled Water Demand = Indoor + Landscaping = 34,932 GPD

* From SFPUC Demand Study by URS, " Projected Water Usage for BAWSCA Agencies " , Tech Memo of August 2006.

ATTACHMENT Q (2 of 3)

WATER DEMAND PROJECTION WORKSHEET
OCCUPANT LOADS

JOB TITLE _____ CAL. BY _____
JOB NUMBER _____ CHKD. BY _____
JOB LOCATION _____ DATE _____

DESIGNED USE OF THE FACILITY	OCCUPANT LOAD OF FLOOR AREA
A. SCHOOL/CLASSROOM	20 sqft/person
B. HEALTH CLUB	50 sqft/person/shift (3 shifts per day)
C. MANUFACTURING AREAS	200 sqft/person
D. NURSERIES (DAY-CARE)	35 sqft/person
E. STORAGE FACILITIES	300 sqft/person

4132 SF total for 3 childcare buildings
4132/35 = 118 persons

ATTACHMENT Q (3 of 3)

WATER DEMAND PROJECTION WORKSHEET
UNIT LOADS

JOB TITLE _____ CAL. BY _____
JOB NUMBER _____ CHKD. BY _____
JOB LOCATION _____ DATE _____

TYPE OF ESTABLISHMENT	VOLUME OF CONSUMPTION/DAY
Assembly Halls	2 gal per seat
Bowling Alley	75 gal per lane
Churches	7 gal per seat
Dance Halls	2 gal per person
General Hospitals	0.27 gal per sqft
Health Clubs	25 gal per person
Laundries	400 gal per machine
Manufacturing (excluding industrial usage)	30 gal per person/shift
Motels with bath, toilet and kitchen wastes	170 gal per room
Nursing homes/Daycare	75 gal per person
Medical Offices (other than hospitals)	0.18 gal per sqft
Research and Development	0.21 gal per sqft
Schools	35 gal per person
Service Station	750 gal per bay
Storage facilities	1 gal per person
Stores (Retail type)	450 gal per 25 ft frontage
(Food -- non-restaurant type)	900 gal per 25 ft frontage
Trailer parks or tourist camps (with built-in bath)	50 gal per person

118 persons * 75 gal/person = 8854 GPD