INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

3890 AND 3898 DEPOT ROAD PROJECT

HAYWARD, CALIFORNIA

LSA

January 2023

This page intentionally left blank

January 27, 2023

Alameda County Clerk
1106 Madison Street, 1st Floor
Oakland, CA 94607

SUBJECT: **Notice of Intent to Adopt a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program to allow for the Development of an Industrial Building and Associated Site Improvements at 3890 and 3898 Depot Road, Assessor Parcel Numbers 439-0070-013-01 and 439-0070-014-00 in the City of Hayward.**

First Industrial Realty Trust, Inc.
3620 Happy Valley Road, Suite 201, Lafayette, CA 94569

Please post this letter with the attached Initial Study and Mitigated Negative Declaration for a period of 20 days to conform to Section 15072 of the California Environmental Quality Act (CEQA) Guidelines. The specific posted comment period is from **Friday, January 27, 2023 to Thursday, February 16, 2023 at 5:00 p.m.** The project site is not on a list compiled pursuant to Government Code Section 65962.5.

Copies of the Initial Study and Mitigated Negative Declaration are available for public review at Hayward City Hall at 777 B Street, Hayward on the First-Floor Permit Center, Monday through Thursday from 8:00 a.m. to 5:00 p.m. and City Clerk's Office. Copies of the Initial Study and Mitigated Negative Declaration are also available for public review at the Weekes Branch Library located at 27300 Patrick Avenue Hayward, California, and on the City's website at http://www.hayward-ca.gov/content/projects-under-environmental-review-0. Please see the Library and Community Services webpage at http://www.library.ci.hayward.ca.us/ for library days and hours.

If the Mitigated Negative Declaration is adopted and approved, the City will promptly file a Notice of Determination (NOD) for the project with the Alameda County Clerk's Office. If you have any questions or concerns regarding this project, please feel free to contact me at (510) 583-5340 or via email at taylor.richard@hayward-ca.gov.

Sincerely,

Taylor Richard

Taylor Richard, Assistant Planner

Attachment: Mitigated Negative Declaration for Application No. ____

This page intentionally left blank

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

3890 AND 3898 DEPOT ROAD PROJECT

HAYWARD, CALIFORNIA

Submitted to:

Taylor Richard, Assistant Planner
Planning Division
City of Hayward
777 B Street
Hayward, California 94541

Prepared by:

LSA
157 Park Place
Pt. Richmond, California 94801
(510) 236-6810

Project No. HAY2001.07

LSA

January 2023

This page intentionally left blank

TABLE OF CONTENTS

FIGURES AND TABLES

FIGURES

TABLES

APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
ACDEH	Alameda County Department of Environmental Health
ACTC	Alameda County Transportation Commission
ACWD	Alameda County Water District
AIA	airport influence area
air basin	San Francisco Bay Area Air Basin
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
APN	Assessor's Parcel Number
APSA	Aboveground Petroleum Storage Act
BAAQMD	Bay Area Air Quality Management District
Basin Plan	Water Quality Control Plan
BMPs	Best Management Practices
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
Cal/EPA	California EPA
CalGreen	California Green Building Standards Code
Cal/OSHA	California OSHA
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERS	California Environmental Reporting System
CGP	Construction General Permit

CGS	California Geological Survey
CH_4	methane
City	City of Hayward
Clean Air Plan	BAAQMD 2017 Clean Air Plan
CMP	Congestion Management Program
CNDD	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
CRPR	California Rare Plant Ranks
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted sound level
DOSH	Division of Occupational Safety and Health
DOT	Department of Transportation
DIR	Department of Industrial Relations
DTSC	Department of Toxic Substances Control
EBMUD	East Bay Municipal Utility District
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
ESL	Environmental Screening Levels
EV	electric vehicle
FAR	floor area ratio
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GHG	greenhouse gas
GSA	Groundwater Sustainability Agency

GWh	gigawatt-hours
GWP	Global Warming Potential
HASP	Health and Safety Plan
HFCs	Hydrofluorocarbons
HFD	Hayward Fire Department
HMBP	Hazardous Materials Business Plan
HPD	Hayward Police Department
HVAC	heating, ventilation, and air conditioning
IC	Industrial Corridor
IG	General Industrial
ITE	Institute of Transportation Engineers
I-580	Interstate 580
I-880	Interstate 880
IS/MND	Initial Study/Mitigated Negative Declaration
kWh	kilowatt-hours
LDI	lateral displacement index
L_{dn}	day-night average level
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent continuous sound level
LID	Low Impact Development
mg	million gallons
mgd	million gallons per day
MLD	Most Likely Descendent
MRP	Municipal Regional Permit
NAHC	Native American Heritage Commission
NO_2	nitrogen dioxide
N_2o	nitrous oxide
NPDES	National Pollutant Discharge Elimination System
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead

PFCs	Perfluorocarbons
$PM_{2.5}$	particulate matter
PM_{10}	particulate matter
POTWs	publicly owned treatment works
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCP	Stormwater Control Plan
SDS	Safety Data Sheets
SF_6	Sulfur Hexafluoride
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act
SMP	Site Management Plan
SPL	sound power level
SO_2	sulfur dioxide
SRA	State Responsibility Area
SR 92	State Route 92
SWPPP	Stormwater Pollution Prevention Program
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TAZ	traffic analysis zone
TDM	transportation demand management
TDML	total daily maximum load
TPH	total petroleum hydrocarbon
UCMP	University of California Museum of Paleontology
USGS	United States Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan

VMT	vehicle miles traveled
WDRs	waste discharge requirements
WEAP	Worker Environmental Awareness Program
WPCF	Water Pollution Control Facility
WMI	Waste Management, Inc.
WSCP	Water Shortage Contingency Plan

This page intentionally left blank

1.0 PROJECT INFORMATION

1. **Project Title:**

   3890 and 3898 Depot Road Project

2. **Lead Agency Name and Address:**

   City of Hayward
   777 B Street
   Hayward, California 94541

3. **Contact Person and Phone Number:**

   Taylor Richard, Assistant Planner
   Development Services Department – Planning Division
   777 B Street, Hayward, California 94541
   Phone: (510) 583-5340
   Email: taylor.richard@hayward-ca.gov

4. **Project Location:**

   3890 and 3898 Depot Road, Hayward, California 94545

5. **Project Sponsor's Name and Address:**

   First Industrial Realty Trust, Inc.
   3620 Happy Valley Road, Suite 201
   Lafayette, CA 94569

6. **General Plan Designation:**

   Industrial Corridor (IC)

7. **Zoning:**

   General Industrial (IG)

8. **Description of Project:**

   The proposed project involves the demolition of four existing one-story metal buildings on the project site and the construction of an approximately 137,040-square-foot industrial building and associated site improvements including a cul-de-sac at the end of Depot Road, new internal roadways, landscaping, and utility improvements.

9. **Surrounding Land Uses and Setting:**

   The project site is generally surrounded by a mix of commercial, office, industrial, and manufacturing uses. To the north, the project site is bound by Depot Road, across which are commercial and light industrial uses. The project site is immediately bound to the east and south by the Calpine Russell City Energy Center, an electricity generating facility that uses natural gas for fuel. The City of Hayward Water Pollution Control Facility, responsible for treating Hayward's wastewater, borders the project site to the west and is located south of the Russel City Energy Center. Further south are additional commercial uses and further east are additional light industrial uses. The Hayward Regional Shoreline, which consists of approximately 1,800 acres of salt, fresh, and brackish water marshes, seasonal wetlands, and public trails, is also near the project site to the west.

10. Other Public Agencies Whose Approval is Required (e.g., permits, financial approval, or participation agreements):

City of Hayward Fire Department

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resource Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

California Native American tribes traditionally and culturally affiliated with the project site and area were notified of the proposed project on November 28, 2022. The City did not receive any requests for consultation during the 30-day notification period. Therefore, the City considers the AB 52 consultation process to be concluded.

2.0 PROJECT DESCRIPTION

The following describes the proposed 3890 and 3898 Depot Road Project (project) that is the subject of this Initial Study/Mitigated Negative Declaration (IS/MND) prepared pursuant to the California Environmental Quality Act (CEQA). The proposed project would result in the demolition of four existing one-story metal buildings on the project site and the construction of an approximately 137,040-square-foot industrial building. The City of Hayward (City) is the Lead Agency for review of the proposed project under CEQA.

2.1 PROJECT SITE

The following section describes the project location, existing conditions, surrounding land uses, and the regulatory setting.

2.1.1 Project Location

The approximately 6.58-acre project site is located at 3890-3898 Depot Road in the City of Hayward in Alameda County (Assessor's Parcel Numbers [APNs] 439-0070-013-01 and 439-0070-014-00). The project site is located in northwest Hayward in an area primarily consisting of commercial and industrial uses. The project site is bound by Depot Road to the north, the Calpine Russell City Energy Center to the east and south, and the Hayward Water Pollution Control Facility's wet weather storage ponds to the west.

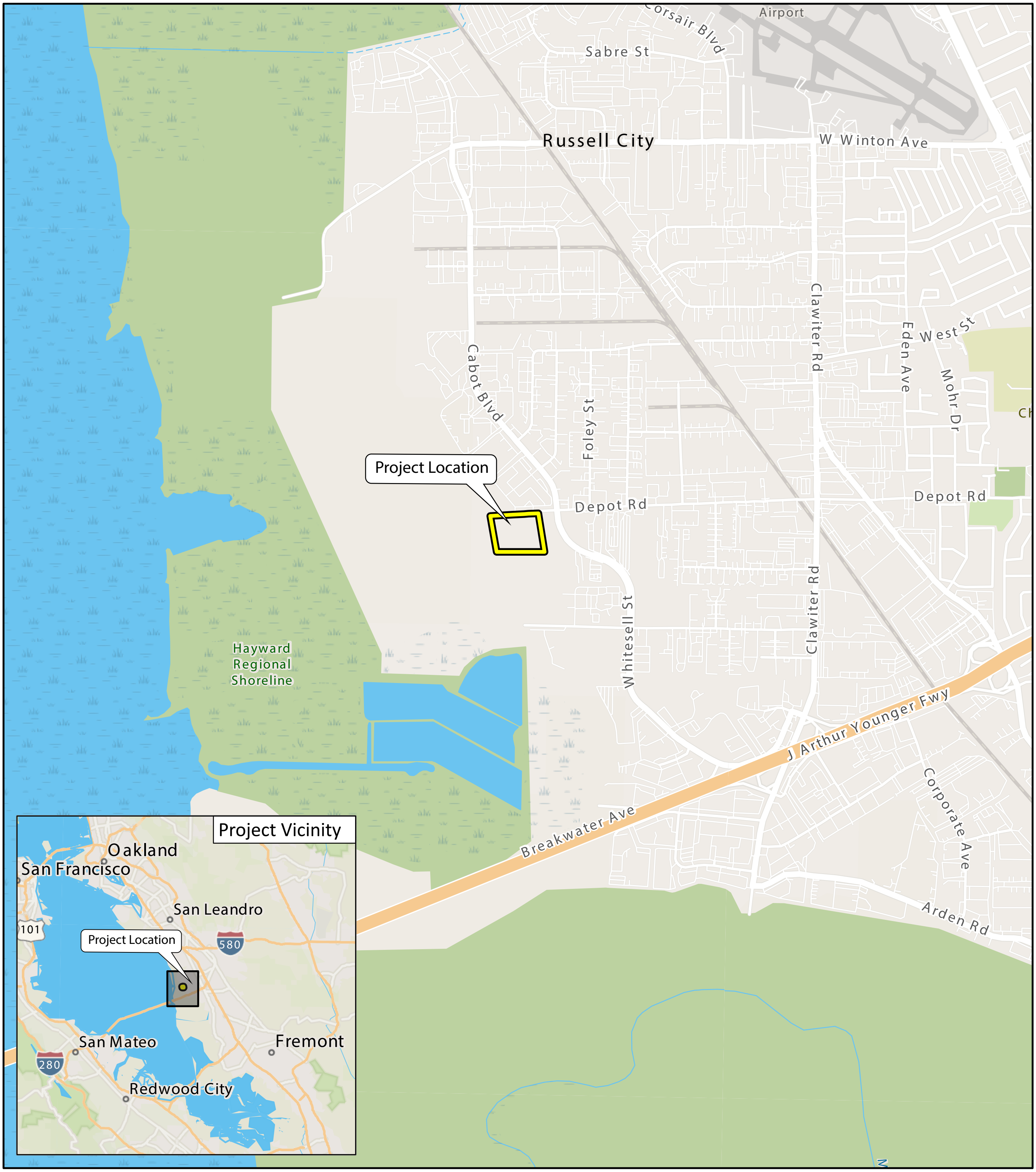
Regional vehicular access to the project site is provided by State Route 92 (SR 92), with on/off ramps located along Clawiter Road approximately 1 mile southeast. Interstate 880 (I-880), with on/off ramps located along West Winton Avenue approximately 2.15 miles northeast. Bus stops located approximately 0.15 miles east of the project site along Depot Road and Cabot Boulevard provide transit access to the project site. Figure 2-1 shows the regional and local context of the project site. Figure 2-2 depicts an aerial photograph of the project site and surrounding land uses.

2.1.2 Existing Conditions

The project site is generally flat and developed with four one-story metal buildings generally located near the northern boundary of the project site. Approximately two people are currently employed at the project site. Historically, the project site was vacant until it was developed into various automotive salvage and repair yards in the 1960s.[1] As shown in Figures 2-2 and 2-3, the project site is currently occupied by a cardboard recycling facility. The existing tenant is expected to vacate and cease use of the project site in December 2022. Landscaping on the project site consists of five mature trees along the northern boundary. Vehicular access to the project site is provided by three driveways along Depot Road.

1 BBJ Group. 2022. Report of Phase I Environmental Site Assessment, 6.6-Acre Former Automotive Salvage Yard, 3890 and 3898 Depot Road, Hayward, California. April 8.

This page intentionally left blank



LSA

Project Site

FIGURE 2-1

0 1000 2000
FEET

3890-3898 Depot Road Project IS/MND

Project Location and Regional Vicinity

SOURCE: Esri Community Map (2022)

I:\HAY2001.07\GIS\Pro\3890-3898 Depot Road Project\3890-3898 Depot Road Project.aprx (8/18/2022)

This page intentionally left blank

LSA

FIGURE 2-2

Project Site Boundary

N

0 350 700

FEET

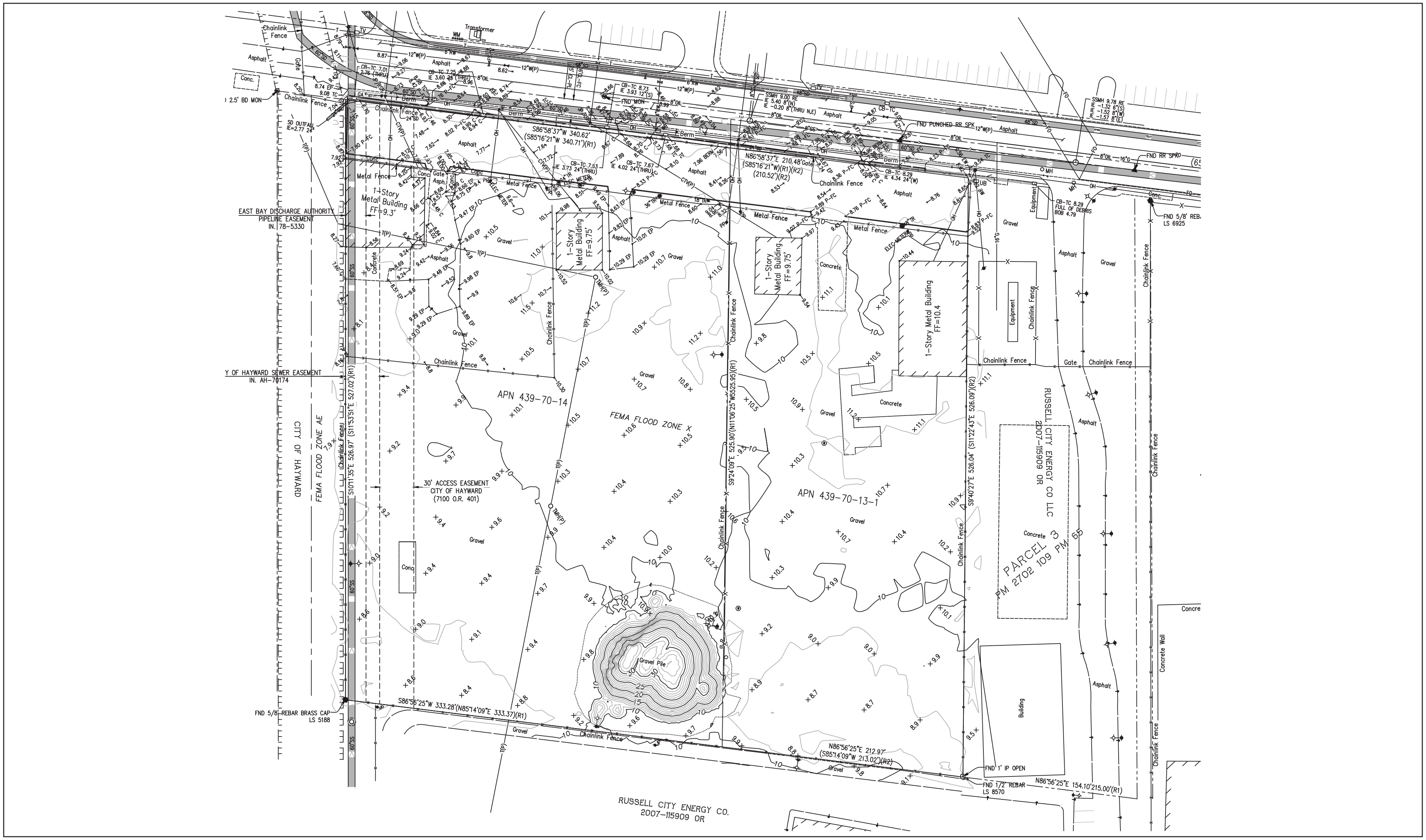
SOURCES: Google Earth, 9/27/2021; LSA, 2022

3890-3898 Depot Road Project IS/MND

Aerial Photograph of the Project Site and Surrounding Land Uses

I:\HAY2001.07\G\Aerial Photo of Site & Surrounding LU.ai (8/16/2022)

This page intentionally left blank



LSA

FIGURE 2-3

0 60 120
FEET

SOURCE: Kier+Wright, May 2022

3890/3898 Depot Road Project IS/MND
Existing Conditions

I:\HAY2001.07\G\Existing Conditions.ai (8/15/2022)

This page intentionally left blank

2.1.3 Surrounding Land Uses

As shown in Figure 2-2, the project site is generally surrounded by a mix of commercial, office, industrial, and manufacturing uses. To the north, the project site is bound by Depot Road, across which are commercial and light industrial uses. The project site is immediately bound to the east and south by the Calpine Russell City Energy Center, an electricity generating facility that uses natural gas for fuel. The City of Hayward Water Pollution Control Facility, responsible for treating Hayward's wastewater, borders the project site to the west and is located south of the Russel City Energy Center. Further south are additional commercial uses and further east are additional light industrial uses. The Hayward Regional Shoreline, which consists of approximately 1,800 acres of salt, fresh, and brackish water marshes, seasonal wetlands, and public trails, is also near the project site to the west.

2.1.4 Regulatory Setting

The project site is currently designated Industrial Corridor (IC) in the City of Hayward General Plan. The IC designation typically includes warehouses, office buildings, research and development facilities, manufacturing plants, business parks, and corporate campus buildings. The IC designation allows a maximum floor area ratio (FAR) of 0.8. The City of Hayward Zoning Map identifies the project site as General Industrial (IG), which is intended to accommodate the widest variety of industrial uses including heavy industrial and warehousing/distribution uses. Warehouses and distribution facilities are an allowed use within the IG zoning district, which also allows a maximum FAR of 0.8. Three easements are located along the western boundary of the project site, including a 20-foot East Bay Discharge Authority pipeline easement, a 30-foot wide City sewer easement, and a 30-foot-wide City access easement. The pipeline and sewer easements are overlapping, and therefore the easements extend approximately 60 feet from the western boundary into the project site.

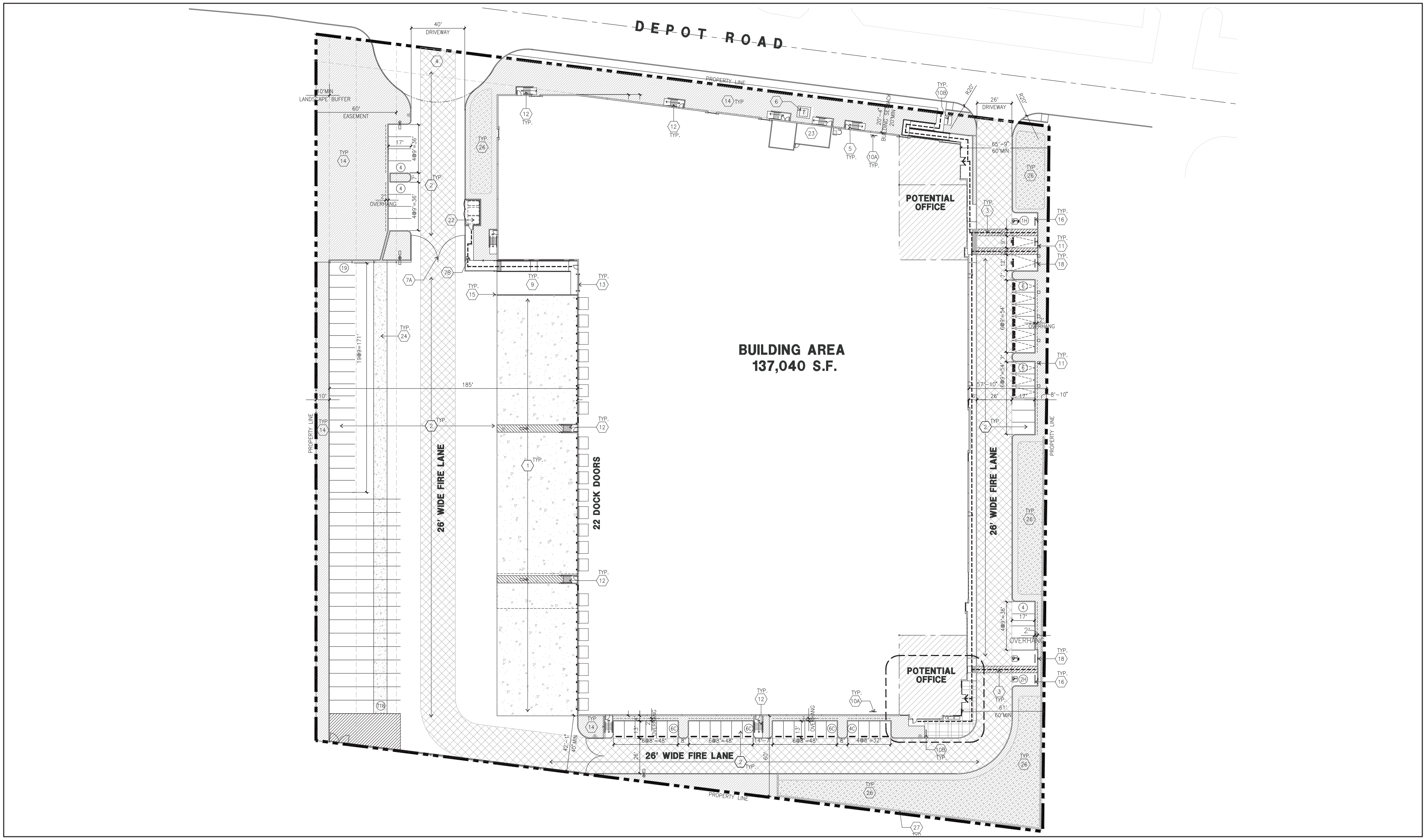
2.2 PROPOSED PROJECT

The proposed project involves the demolition of the existing one-story metal buildings on the project site and the construction of an approximately 137,040-square-foot industrial building and associated site improvements including a cul-de-sac at the end of Depot Road, new internal roadways, landscaping, and utility improvements. Figure 2-4 depicts the conceptual site plan and conceptual building elevations are shown in Figure 2-5. The conceptual landscaping plan is depicted in Figure 2-6.

2.2.1 Building Program

As shown in Figure 2-4, the proposed project would consist of an industrial building at the center of the project site that would generally be surrounded by surface parking. The proposed building would be approximately 137,040 square feet in size, which would include 132,040 square feet of warehouse space and 5,000 square feet of potential office space that would either be located at the northeast or southeast corner, as well as 22 loading docks and 16 trailer stalls. The proposed building would be a maximum of 45 feet in height and have an FAR of 0.48. It is anticipated that approximately 20 people would be employed on the project site.

This page intentionally left blank



LSA

FIGURE 2-4

3890/3898 Depot Road Project IS/MND

Proposed Conceptual Site Plan

SOURCES: HPA Architecture, 11/19/2021; Kier+Wright, May 2022

I:\HAY2001.07\G\Prop Conceptual Site Plan.ai (8/15/2022)

This page intentionally left blank

FIGURE 2-5

LSA

NOT TO SCALE

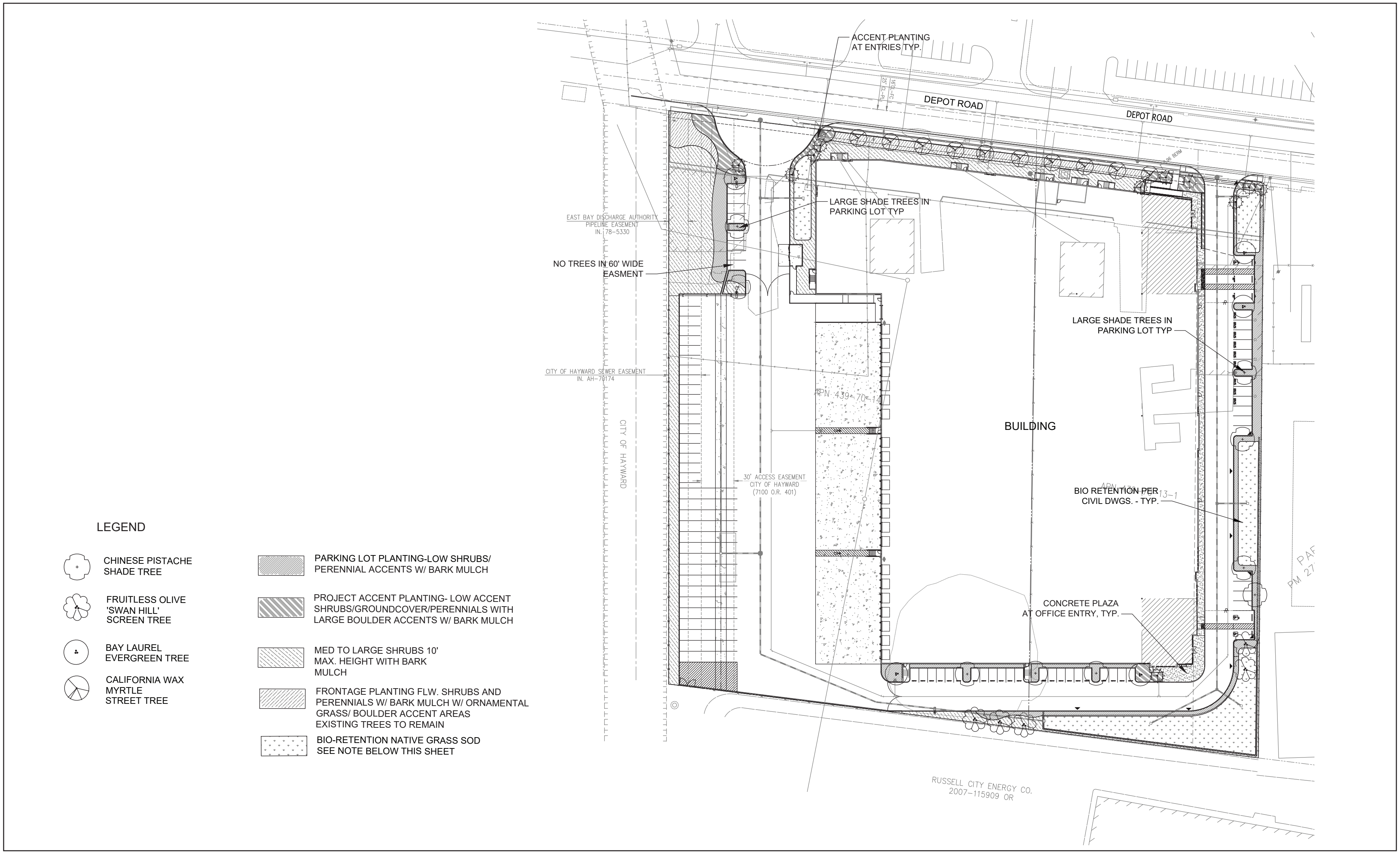
3890/3898 Depot Road Project IS/MND

Proposed Conceptual Building Elevations

SOURCES: HPA Architecture, 11/19/2021; Kier+Wright, May 2022

I:\HAY2001.07\G\Prop Conceptual Bldg Elevations.ai (8/16/2022)

This page intentionally left blank



LSA

FIGURE 2-6

N

NOT TO SCALE

3890/3898 Depot Road Project IS/MND

Proposed Conceptual Landscape Plan

SOURCES: Green Design; HPA Architecture, 11/19/2021; Kier+Wright, May 2022

I:\HAY2001.07\G\Prop Conceptual Landscape Plan.ai (8/16/2022)

This page intentionally left blank

2.2.2 Operational Characteristics

The ultimate end user has not been identified at this time; therefore, specific details about the future operation are not currently available. It is assumed that the proposed buildings would operate 24 hours per day, 7 days per week, depending on business and operational needs.

2.2.3 Open Space and Landscaping

The majority of on-site landscaping would be situated along the perimeter of the project site and within the surface parking lot. Trees and ornamental vegetation would border the project site on all sides. A total of approximately 29,895 square feet of landscaped area would be provided on the project site. Landscaped bioretention basins would also be located throughout the site. All of the existing five trees on the project site would be removed and 41 new trees would be planted.

2.2.4 Access, Circulation, and Parking

Vehicular access to the project site would be provided via two new driveways at the northwest and northeast corners of the site along Depot Road. An approximately 5,000-square-foot portion of the northwest corner of the project site would be dedicated to the City to allow for the construction of a cul-de-sac at the end of Depot Road. The northwest driveway would provide the main access to the loading docks and trailer stalls, both of which would be located along the western boundary of the project site. The northeast driveway would primarily provide access to surface parking lots along the eastern and southern boundaries of the site. In addition to the 22 loading docks and 16 trailer stalls mentioned above, the proposed project would include 67 surface parking spaces, which would include 9 standard electric vehicle (EV) ready charging spaces and 2 accessible EV ready charging spaces. A total of 8 bicycle parking spaces would also be provided, including 4 short-term spaces and 4 long-term spaces.

The proposed project also includes a promotions and marketing program to promote and educate employees about Transit Demand Management (TDM) programs and incentives.

2.2.5 Utilities and Infrastructure

The project site is located in an urban area that is currently served by existing utilities, including water, sanitary sewer, storm drainage, electricity, gas, and telecommunications infrastructure. Existing and proposed utility connections are discussed below.

2.2.5.1 Water

The City of Hayward owns and operates its own water distribution system and provides water service to almost all of the residential, commercial, and industrial users within the incorporated city limits, including the project site. A 12-inch distribution main is located within the Depot Road right-of-way and would serve the project site via four new connections ranging in size from 2 inches to 10 inches in diameter.

2.2.5.2 Wastewater

The City of Hayward owns and operates the wastewater collection and treatment system that serves almost all of the residential, commercial, and industrial users within the incorporated city limits. The

East Bay Dischargers Authority disposes of the treated wastewater. An 8-inch sanitary sewer main is located within the Depot Road right-of-way and would serve the project site via a new 8-inch connection.

2.2.5.3 Stormwater

The existing buildings, paving, concrete and other impervious surfaces account for approximately 0.53 acres (8 percent) of the 6.58-acre project site. The remaining 6.05 acres are covered by pervious surfaces consisting mainly of gravel and some landscaping. Stormwater infrastructure on the project site currently consists of storm drains and associated catch basins. Storm drains on the project site vary in size, consisting of 6- to 15-inch drains.

Upon construction of the proposed project, approximately 5.05 acres (76 percent) of the project site would be covered by impervious surfaces and approximately 1.53 acres (24 percent) would be covered by pervious surfaces, consisting of landscaped areas with lawns, shrubs, trees, and bioretention areas, as mentioned above. Stormwater drains and catch basins would be installed throughout the site, connecting to the existing storm drains mentioned above.

2.2.5.4 Electricity

The project site is currently served by overhead electricity lines. The proposed project would connect to and underground these existing lines.

2.2.6 Demolition and Construction

As noted above, the proposed project would result in the demolition of the existing buildings and adjacent surface pavements on the project site. The maximum depth of excavation for building pads would be approximately 2.3 feet from the existing grade and the maximum depth of utility trenching would be approximately 9feet. It is anticipated that a total of 14,075 cubic yards of soil would be excavated, and 13,800 cubic yards would be used for fill, and therefore approximately 275 cubic yards of cut would be exported from the site. Construction of the proposed project in anticipated to begin in and would occur over an approximately 10-month period.

2.3 PROJECT APPROVALS

While the City is the CEQA Lead Agency for the proposed project, other public agencies and private entities also have approval authority, or serve as a responsible and/or trustee agency in connection to the proposed project. A list of these agencies and potential permits and approvals that may be required is provided in Table 2.A.

Table 2.A: Potential Permits and Approvals

Lead Agency	Permits/Approvals
City of Hayward	• IS/MND Adoption • Site Plan Review • Administrative Variance • Grading Permit • Encroachment Permit • Building Permit • Water and Wastewater Connection Approval
Other Agencies	
City of Hayward Fire Department	• Fire Hydrant Permit • Fire Sprinkler Permit • Fire Alarm Permit

Source: LSA (2022).

This page intentionally left blank

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist in Chapter 3.0.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

3.1 DETERMINATION

On the basis of 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.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Taylor Richard	January 20, 2023
Signature	Date
Taylor Richard	Assistant Planner
Printed Name	Title

This page intentionally left blank

4.0 CEQA ENVIRONMENTAL CHECKLIST

4.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 a 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?	☐	☐	☒	☐

a. Would the project have a substantial effect on a scenic vista? ***(Less-Than-Significant Impact)***

In Hayward, scenic vistas are characterized by public views of natural topography, open grassland vegetation, rolling hills, and the Bay shoreline.[2] While the City is largely urban, with a relatively dense development pattern that can restrict scenic views, higher elevations in the hills and portions of the shoreline provide scenic vistas of the San Francisco Bay and views to the East Bay hills. The project site is located in a generally flat area and is located just east of the Hayward Regional Shoreline and areas classified as baylands. The site is located approximately 4 miles west of the City's hillside areas.

The generally-level project site is currently developed with four one-story metal buildings occupied by a cardboard recycling facility. There are five mature trees along the northern boundary and the site is generally surrounded by a mix of commercial, office, industrial, and manufacturing uses. The City of Hayward Water Pollution Control Facility borders the project site to the west and further west is the Hayward Regional Shoreline.

Public views in the vicinity of the project site are generally diverse and characterized by the urban setting. Scenic views of the hills from the project site are generally obstructed by existing surrounding development and mature trees. The Hayward Regional Shoreline can be seen from some locations on the site and these views are considered scenic. However, these views are currently intermittently obstructed by existing surrounding development and vegetation.

[2] Hayward, City of, 2014a. *Hayward 2040 General Plan Background Report.* January.

Furthermore, there is no public access to the Hayward Regional Shoreline in the vicinity of the project site due to the immediately adjacent City of Hayward Pollution Control Facility.

The proposed project would result in the redevelopment of the project site with an approximately 137,040-square-foot industrial building and associated site improvements including a new cul-de-sac at the end of Depot Road, new internal roadways, landscaping, and utility improvements. The proposed building would be a maximum of 45 feet in height and have a floor area ratio (FAR) of 0.48. The proposed building would partially obstruct current public views available from Depot Road across the project site towards the Hayward Regional Shoreline. However, the Hayward Regional Shoreline would continue to be visible in the project vicinity and would remain the prominent feature in the vicinity of the project site. Furthermore, the proposed project would include new landscaping and trees along the perimeter of the project site and within the surface parking lot, shielding the proposed building and improving the site's overall visual appearance. In addition, the character of the proposed building would be similar to the existing surrounding commercial and industrial uses and would be consistent with the surrounding architectural styles. Therefore, public views of the project site from surrounding areas would generally blend with surrounding urban development. The proposed project would not result in a substantial adverse effect on a scenic vista and this impact would be less than significant.

b. *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?* ***(No Impact)***

The proposed project is not located within the vicinity of any State scenic highways. Interstate 580 (I-580), from the limits of the City of San Leandro east to the State Route 24 in Oakland, is listed as an Officially Designated State Scenic Highway.[3] In addition, I-580 from the limits of the City of San Leandro west to the Alameda County line is listed as an Eligible State Scenic Highway, but is not officially designated and is located approximately 4 miles north of the project site. The officially designated portion of I-580 is located approximately 3 miles north of the project site. Given this distance, the proposed project would not be visible from this scenic roadway. Therefore, the proposed project would have no impact on scenic resources located within view of a State scenic highway.

c. *In non-urbanized areas, would the project 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 a 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?* ***(Less-Than-Significant Impact)***

The project site is located within an urbanized area. As noted in Section 2.0, Project Description, the project site is located within the IG zoning district, which is intended to accommodate the widest variety of industrial uses including heavy industrial and warehousing/distribution uses. Warehouses and distribution facilities are an allowed use within the IG zoning district, which also allows a maximum FAR of 0.8. Construction of the proposed project would alter the visual character of the project site by constructing an approximately 137,040-square-foot, 45-foot-tall industrial building

[3] Hayward, City of, 2014a. *Hayward 2040 General Plan Background Report.* January.

and associated site improvements including a new cul-de-sac at the end of Depot Road, new internal roadways, landscaping, and utility improvements. However, the height and character of the proposed project would be similar to the existing surrounding commercial and industrial uses and would be consistent with the surrounding architectural styles. The project would comply with the Hayward Industrial Design Guidelines by incorporating various building materials and colors in the building elevations including areas of glass, painted concrete and wood.[4] The proposed building would generally be setback 20 feet from Depot Road frontage and new landscaping would be planted along the perimeter of the project site and within the surface parking lot, shielding the proposed building and improving the site's overall visual appearance. The setback would be reduced to approximately 13 feet near the cul-de-sac, which would be less distance than required by the City's Zoning Ordinance. However, the project sponsor has requested approval of an Administrative Variance to reduce the setback for this portion of the proposed building.

The proposed project would be consistent with the uses planned for the project site by the Hayward 2040 General Plan and would be compatible with other buildings in the area. The proposed project would not substantially degrade the existing visual character or quality of the site or its surroundings. Therefore, impacts to the existing visual character or quality of the site would be less than significant.

d. *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?* ***(Less-Than-Significant Impact)***

The project site is located in an urbanized area, which is subject to preexisting exterior lighting from surrounding commercial and industrial development and existing street lighting. The proposed project would introduce new sources of light and glare to the area in the form of new windows and exterior safety and security lighting. However, new sources of light and glare associated with the project would not be substantial in the context of existing lighting sources. In addition, on-site lighting would be further reviewed during the Building Permit processes and the proposed lighting plan would be subject to standard City conditions of approval that require the provision of adequate lighting and placement of fixtures to ensure that spillover light and glare is reduced to the extent feasible, as required by Section 10-2.640 of the City's Municipal Code. Daytime glare would not be substantial as no highly-reflective glass elements are proposed as part of the proposed project.

Therefore, 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. Additionally, the project would be required to comply with Building Code and Title 24 standards which would ensure that light and glare impacts from the proposed project would be less than significant.

[4] Hayward, City of. 2019. *Industrial District Design Guidelines.* May 28.

4.2 AGRICULTURE AND FORESTRY 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 Dept. 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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 in 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 the 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?	☐	☐	☐	☒

a. Would the project 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)***

The project site is located within an urbanized area of the City. There are no agricultural uses located within or adjacent to the project site. Additionally, the site is classified as "Urban and Built-Up Land" by the State Department of Conservation.[5] Therefore, development of the proposed project would not convert agricultural land to a non-agricultural use. The proposed project would

5 California, State of, 2016. Department of Conservation. California Important Farmland Finder (map). Website: maps.conservation.ca.gov/dlrp/ciff/ (accessed August 2022).

not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use and no impact would occur.

b. *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?* ***(No Impact)***

The project site is designated Industrial Corridor (IC) in the Hayward 2040 General Plan and is zoned General Industrial (IG). The project site is not subject to a Williamson Act Contract.[6] Therefore, development of the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.

c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in 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))?* ***(No Impact)***

The project site is located within an existing urban area zoned IG within the City. The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land or conversion of forest land to non-forest uses, and no impact would occur.

d. *Would the project result in the loss of forest land or conversion of forestland to non-forest use?* ***(No Impact)***

Refer to Section 4.2.c. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest uses, and no impact would occur.

e. *Would the project 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)***

Refer to Sections 4.2.a and 4.2.c. The project site is located within an existing urban environment and would not result in the conversion of farmland to non-agricultural uses or forest land to non-forest uses. The proposed project would not adversely affect agricultural or forestry resources, and no impact would occur.

[6] California, State of, 2015. *Alameda County Williamson Act FY 2014/2015* (map). September 28.

4.3 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

The project site is within the jurisdiction of the BAAQMD, which regulates air quality in the San Francisco Bay Area. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen substantially. In Hayward, and the rest of the San Francisco Bay Area Air Basin (air basin), exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons. Within the BAAQMD, ambient air quality standards for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10}, $PM_{2.5}$), and lead (Pb) have been set by both the State of California and the federal government. The State has also set standards for sulfate and visibility. The BAAQMD is under State non-attainment status for ozone and particulate matter standards. The BAAQMD is classified as non-attainment for the federal ozone 8-hour standard and non-attainment for the federal $PM_{2.5}$ 24-hour standard.

*a. Would the project conflict with or obstruct implementation of the applicable air quality plan? **(Less-Than-Significant Impact)***

The applicable air quality plan is the BAAQMD 2017 Clean Air Plan (Clean Air Plan),[7] which was adopted on April 19, 2017. The Clean Air Plan is a comprehensive plan to improve Bay Area air quality and protect public health. The Clean Air Plan defines control strategies to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest heath risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce greenhouse gas emissions to protect the climate. Consistency with the Clean Air Plan can be determined if the project: 1) supports the goals of the

[7] Bay Area Air Quality Management District, 2017. Clean Air Plan. April 19.

Clean Air Plan; 2) includes applicable control measures from the Clean Air Plan; and 3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan.

Clean Air Plan Goals. The primary goals of the Bay Area Clean Air Plan are to: attain air quality standards; reduce population exposure and protect public health in the Bay Area; and reduce greenhouse gas emissions and protect climate.

The BAAQMD has established significance thresholds for project construction and operational impacts at a level at which the cumulative impact of exceeding these thresholds would have an adverse impact on the region's attainment of air quality standards. The health and hazards thresholds were established to help protect public health. As discussed in Section 3.3.b, implementation of the proposed project would result in less-than-significant operation-period emissions and, with implementation of Mitigation Measure AIR-1, the project would result in less-than-significant construction-period emissions. Therefore, the project would not conflict with the Clean Air Plan goals.

Clean Air Plan Control Measures. The control strategies of the Clean Air Plan include measures in the following categories: Stationary Source Measures, Transportation Measures, Energy Measures, Building Measures, Agriculture Measures, Natural and Working Lands Measures, Waste Management Measures, Water Measures, and Super-Greenhouse Gas (GHG) Control Measures.

Stationary Source Control Measures. The stationary source measures, which are designed to reduce emissions from stationary sources such as metal melting facilities, cement kilns, refineries, and glass furnaces, are incorporated into rules adopted by the BAAQMD and then enforced by the BAAQMD's Permit and Inspection programs. Since the project would not include any stationary sources, the Stationary Source Measures of the Clean Air Plan are not applicable to the project.

Transportation Control Measures. The BAAQMD identifies Transportation Measures as part of the Clean Air Plan to decrease emissions of criteria pollutants, TACs, and GHGs by reducing demand for motor vehicle travel, promoting efficient vehicles and transit service, decarbonizing transportation fuels, and electrifying motor vehicles and equipment. The proposed project would result in the redevelopment of the site with an industrial building that would locate employees near existing commercial and industrial uses and is located in close proximity to alternative modes of transportation, including bus stops on Cabot Road and on Depot Road. The proposed project would include 9 standard electric vehicle (EV) ready charging spaces and 2 accessible EV ready charging spaces and a total of 8 bicycle parking spaces, including 4 short-term spaces and 4 long-term spaces. In addition, with implementation of Mitigation Measure TRA-1 the proposed project would result in a less-than-significant vehicle miles traveled (VMT) impact. Therefore, the project would promote the BAAQMD's initiatives to reduce vehicle trips and VMT. As such, the proposed project would not conflict with the identified Transportation and Mobile Source Control Measures of the Clean Air Plan.

Energy Control Measures. The Clean Air Plan also includes Energy Measures, which are designed to reduce emissions of criteria air pollutants, TACs, and GHGs by decreasing the amount of electricity consumed in the Bay Area, as well as decreasing the carbon intensity of the electricity used by switching to less GHG-intensive fuel sources for electricity generation. Since these measures apply to electrical utility providers and local government agencies (and not individual projects), the energy control measures of the Clean Air Plan are not applicable to the project.

Building Control Measures. The BAAQMD has authority to regulate emissions from certain sources in buildings such as boilers and water heaters, but has limited authority to regulate buildings themselves. Therefore, the strategies in the control measures for this sector focus on working with local governments that do have authority over local building codes, to facilitate adoption of best GHG control practices and policies. Therefore, the Building Control Measures of the Clean Air Plan are not applicable to the project. However, as required by the State of California, the proposed project would be required to comply with the latest California Green Building Standards Code (CALGreen) standards and would be designed to Leadership in Energy and Environmental Design (LEED) standards, as well as various other sustainable features.

Agriculture Control Measures. The Agriculture Control Measures are designed to primarily reduce emissions of methane. Since the project does not include any agricultural activities, the Agriculture Control Measures of the Clean Air Plan are not applicable to the project.

Natural and Working Lands Control Measures. The Natural and Working Lands Control Measures focus on increasing carbon sequestration on rangelands and wetlands, as well as encouraging local governments to adopt ordinances that promote urban-tree plantings. Since the project does not include the disturbance of any rangelands or wetlands, the Natural and Working Lands Control Measures of the Clean Air Plan are not applicable to the project.

Waste Management Control Measures. The Waste Management Control Measures focus on reducing or capturing methane emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The project would comply with local requirements for waste management (e.g., recycling and composting services), including Chapter 5 Article 10 of the Hayward Municipal Code, Construction and Demolition Debris Waste Reduction and Recycling Requirements, which would divert demolition and construction debris from landfills, and process and return the materials into the economic mainstream, thereby conserving natural resources and stimulating markets for recycled and salvaged materials. Therefore, the project would be consistent with the Waste Management Control Measures of the Clean Air Plan.

Water Control Measures. The Water Control Measures focus on reducing emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works (POTWs), and promoting the use of biogas recovery systems. Since these measures apply to POTWs and local government agencies (and not individual projects), the Water Control Measures are not applicable to the project. However, as noted above, the project would be required to comply with the latest CALGreen standards, which includes a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance, which would reduce outdoor water use. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

Super GHG Control Measures. The Super-GHG Control Measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies, such as reducing methane from landfills and farming activities through the Waste Management Control Measures and the Agricultural Control Measures, enforce applicable regulations on the servicing of existing air conditioning units in motor vehicles, tracking progress in adoption and implementation of GHG reduction measures in local plans, and developing a GHG air monitoring plan for the Bay Area. Many of these measures do not apply to individual projects; however, as identified above, the project would be consistent with the applicable Waste Management Control Measures of the Clean Air Plan. As such, the proposed project would not conflict with the Super-GHG Control Measures.

Clean Air Plan Implementation. As discussed above, the proposed project would generally implement the applicable measures outlined in the Clean Air Plan, including Transportation Control Measures, Building Control Measures, Waste Management Control Measures, and Water Control Measures. Therefore, the project would include applicable control measures from the Clean Air Plan and would not disrupt or hinder implementation of any control measures from the Clean Air Plan. Therefore, this impact would be less than significant.

b. *Would the project 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? **(Less Than Significant with Mitigation Incorporated)***

The BAAQMD is currently designated as a nonattainment area for State and national ozone standards and national particulate matter ambient air quality standards. The BAAQMD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

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. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The following analysis assesses the potential project-level construction- and operation-related air quality impacts.

Short-Term Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by demolition, grading, building, paving, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly emitted particulate matter ($PM_{2.5}$ and PM_{10}), and toxic air contaminants (TACs) such as diesel exhaust particulate matter.

Project construction activities would include demolition, site preparation, grading, building, paving, and architectural coating (painting). Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust emissions (PM_{10}). With the implementation of these Basic Construction Mitigation Measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts. In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, ROG, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using the California Emissions Estimator Model (CalEEMod) version 2020.4.0, consistent with BAAQMD recommendations. Construction of the proposed project in anticipated to begin in early 2023 and would occur over an approximately 10-month period. The proposed project would include the demolition of the existing onsite buildings, which was included in CalEEMod. In addition, it is anticipated that a total of 14,075 cubic yards of soil would be excavated and 13,800 cubic yards would be used for fill, and therefore approximately 275 cubic yards of cut would be exported from the site, which was included in CalEEMod. This analysis assumes that the use of Tier 2 construction equipment, which was also included in CalEEMod. Other precise details of construction activities are unknown at this time; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used. Construction-related emissions are presented in Table 4.A. CalEEMod output sheets are included in Appendix A.

As shown in Table 4.A, construction emissions associated with the project would not exceed the BAAQMD's thresholds for ROG, NO_x, CO, exhaust PM_{10}, and exhaust $PM_{2.5}$ emissions. In addition to the construction period thresholds of significance, the BAAQMD requires the implementation of Basic Construction Mitigation Measures to reduce construction fugitive dust impacts to a less than significant level. Implementation of Mitigation Measure AIR-1 would ensure that the proposed project incorporates the Basic Construction Mitigation Measures and ensures that short-term construction period air quality impacts would be less than significant.

Table 4.A: Project Construction Emissions (in Pounds Per Day)

Project Construction	ROG	NO_X	Exhaust PM_{10}	Fugitive Dust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$
Average Daily Emissions	5.5	16.4	0.6	0.7	0.6	0.3
BAAQMD Thresholds	54.0	54.0	82.0	BMP	54.0	BMP
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2022).
BAAQMD = Bay Area Air Quality Management District
BMP = best management practices
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
PM_{10} = particulate matter 10 microns or less in diameter
ROG = reactive organic gases

Mitigation Measure AIR-1

Consistent with the Bay Area Air Quality Management District (BAAQMD) Basic Construction Mitigation Measures, the following controls are required to be included as specifications for the proposed project and implemented at the construction site:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- All visible mud or dirt tracked-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.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- 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.
- 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 for construction workers at all access points.

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

- A publicly-visible sign shall be posted with the telephone number and person to contact at the City of Hayward regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

As shown in Table 4.A, construction emissions associated with the project would not exceed the significance criteria for ROG, NO_x, PM_{10}, or $PM_{2.5}$ emissions. Therefore, with implementation of Mitigation Measure AIR-1, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standards (AAQS).

Long-Term Operational Emissions. Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the proposed project. PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement, and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles. Energy source emissions result from activities in buildings for which natural gas is used. The quantity of emissions is the product of usage intensity (i.e., the amount of natural gas). As discussed above, the proposed project would be all-electric and would not include natural gas. Therefore, the proposed project would not generate energy source emissions. Area source emissions associated with the project would include emissions from the use of landscaping equipment.

Consistent with BAAQMD's guidance for estimating emissions, CalEEMod was used to calculate the long-term operational emissions associated with the project. As identified in Section 4.17, Transportation, the proposed project is expected to generate approximately 667 average daily trips, which was included in CalEEMod. In addition, the proposed project would be all-electric and would not include natural gas, which was included in CalEEMod. Where project-specific data were not available, default assumptions (e.g., energy usage, water usage, and solid waste generation) from CalEEMod were used to estimate project emissions. CalEEMod output sheets are included in Appendix A.

The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the Air Basin.

The daily and annual emissions associated with project operational trip generation, energy, and area sources are identified in Table 4.B for ROG, NO_x, PM_{10}, and $PM_{2.5}$.

Table 4.B: Project Operational Emissions

	ROG	NO_x	PM_{10}	$PM_{2.5}$
Pounds per Day				
Area Source Emissions	3.3	<0.1	<0.1	<0.1
Energy Source Emissions	0.0	0.0	0.0	0.0
Mobile Source Emissions	1.8	2.3	4.1	1.1
Total Emissions	**5.2**	**2.3**	**4.1**	**1.1**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceeds Threshold?	**No**	**No**	**No**	**No**
Tons per Year				
Area Source Emissions	0.6	<0.1	<0.1	<0.1
Energy Source Emissions	0.0	0.0	0.0	0.0
Mobile Source Emissions	0.3	0.4	0.7	0.2
Total Emissions	**0.9**	**0.4**	**0.7**	**0.2**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2022).
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
PM_{10} = particulate matter 10 microns or less in diameter
ROG = reactive organic gases

The results shown in Table 4.B indicate the project would not exceed the significance criteria for daily or annual ROG, NO_x, PM_{10}, and $PM_{2.5}$ emissions; therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State AAQS.

Localized CO Impacts. Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area with the introduction of the catalytic converter in 1975. No exceedances of the State or federal CO standards have been recorded at Bay Area monitoring stations since 1991. The BAAQMD's 2017 CEQA Guidelines include recommended methodologies for quantifying concentrations of localized CO levels for proposed transportation projects. A screening level analysis using guidance from the BAAQMD CEQA Guidelines was performed to determine the impacts of the project. The screening methodology provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD's CEQA Guidelines, a proposed project would result in a less than significant impact to localized CO concentrations 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, and the regional transportation plan and local congestion management agency plans.

- Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project 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, or below-grade roadway).

Implementation of the proposed project would not conflict with the Alameda County Transportation Commission Congestion Management Program as it would generate fewer than 100 PM peak hour vehicle trips (refer to Section 4.17, Transportation). Additionally, the proposed project would generate approximately 101 AM peak hour trips and 89 PM peak hour trips; therefore, the project's contribution to peak-hour traffic volumes at intersections in the vicinity of the project site would be well below 44,000 vehicles per hour. Furthermore, the proposed project would not increase traffic volumes at intersections where horizontal mixing is substantially limited as none of the intersections in the vicinity of the project site would meet the criteria. Therefore, the proposed project would not result in localized CO concentrations that exceed State or federal standards.

c. *Would the project expose sensitive receptors to substantial pollutant concentrations?* ***(Less-Than-Significant Impact)***

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks. The proposed project is generally surrounded by a mix of commercial, office, industrial, and manufacturing uses, and no sensitive receptors are located within the project vicinity.

Construction of the proposed project may generate airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement Mitigation Measure AIR-1 (the BAAQMD's Basic Construction Mitigation Measures). In addition, as identified above, no sensitive receptors are located in the project vicinity; as such, project construction would not expose sensitive receptors to substantial pollutant concentrations. In addition, the proposed project would consist of an industrial building which would have the potential to generate exhaust associated with diesel-powered trucks and equipment. However, any on-site trucks would be required to comply with idling requirements to limit idling emissions. Since no sensitive receptors are located in the project vicinity, the idling emissions of trucks operating on the project site would not expose sensitive receptors to substantial pollutant concentrations. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during project construction and operation, and potential impacts would be less than significant.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? ***(Less-Than-Significant Impact)***

During construction, the various diesel-powered vehicles and equipment in use on site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. The potential for diesel odor impacts is therefore considered less than significant. Additionally, the proposed uses that would be developed within the project site are not expected to produce any offensive odors that would result in frequent odor complaints. Furthermore, in accordance with Section 10-1.1607 (d) of the Hayward Municipal Code, all industrial uses are prohibited from operating in a manner that emit excessive odor. This impact would be less than significant.

4.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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, 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?	☐	☐	☐	☒

An LSA biologist conducted a reconnaissance-level site survey of the proposed project site and accessible adjacent areas on November 7, 2022. LSA assessed the potential presence of special-status species based on the presence of suitable habitat and distance to known or potential populations. Protocol-level focused surveys and a formal delineation was not conducted. Potential roost sites for bats were searched for evidence of bat use or occupation. LSA also used the California Native Plant Society online inventory to obtain a list of special-status plant species that have been observed on the San Leandro, Hayward, Newark, and Redwood Point USGS quads.

Much of the project site is developed or paved, but some vegetation grows along fence lines, debris piles, and unused areas. Plants on the site primarily consisted of common ruderal / weedy non-native species including Himalayan blackberry (*Rubus armeniacus*), fennel (*Foeniculum vulgare*), and wild radish (*Raphanus raphanistrum*). Two native species—salt grass (*Distichlis spicata*) and coyote brush (*Baccharis pilularis*) were also identified on the site in limited numbers. Salt grass and coyote brush are common species that can colonize disturbed areas.

Animals observed on the site included California ground squirrels (*Otospermophilus beecheyi*), fox squirrels (*Sciurus niger*), western fence lizard (*Sceloporus undulatus*), and a dead raccoon (*Procyon* *lotor*). One feral cat was observed on the site, and some empty cat food containers on the site indicate that someone may be feeding feral cats.

Plants. A total of six special-status plant species have California Natural Diversity Data Base (CNDDB) occurrences within 5 miles of the project site, but two of these occurrences are known to be extirpated and another two are "possibly extirpated." The California Native Plant Society (CNPS) query returned 25 special-status plant species, 6 of which were also in the CNDDB query.

Due to the lack of suitable vegetation communities or soil substrates (e.g., salt marsh, open water, chaparral, alkaline substrates), and prior disturbance (e.g., landscaping, grading, construction) at the site, 24 of the special-status plant species were judged to have no potential to occur on the site.

One of the presumed extant special-status plant species—Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*)—can persist in disturbed areas with ruderal or weedy vegetation. There are three presumed extant occurrences within 5 miles of the site. The most recent observation (CNDDB Occurrence #104) was made in 2017, in a highly disturbed ruderal habitat in San Lorenzo. Congdon's tarplant is an annual herb that has a variable blooming period from June through November. Congdon's tarplant therefore should have been identifiable had it been present on the site at the time of the survey. Since it was not detected, this species is not expected to occur on the site.

Animals. There are 20 special-status wildlife species with CNDDB occurrences within 5 miles of the project site. There is no suitable habitat (e.g., streams, marshes, or chaparral) for most of the special-status wildlife in the area on the site. Therefore, 18 of the special-status wildlife species are not expected to occur on the site.

There is some potential that two special-status species — the white-tailed kite (*Elanus leucurus*) and Cooper's hawk (*Accipiter cooperi*) — could nest in trees on or near the site. Each species has one CNDDB occurrence within 5 miles of the site. The white-tailed kite is not a listed species but is a Fully Protected species under California Fish and Game Code. The Cooper's hawk is not a listed species either but is tracked by the CNDDB because it is on the California Department of Fish and Wildlife (CDFW) Watch List. The Cooper's hawk is common in many East Bay neighborhoods.

Due to the season when the survey was conducted, no active bird nests were seen on the site. However, several nests that were likely made by black phoebes (*Sayornis nigricans*) in the spring or summer of 2022 were seen inside one of the abandoned buildings on the site. The vacant buildings on the site also provide suitable nest sites for barn owls (*Tyto alba*). Several other native but non-special-status bird species also likely nest in the buildings, trees, and shrubs on or adjacent to the site each year. Because there has been ongoing human activity on and near the site, any birds that choose to nest adjacent to the site are likely adapted to some level of human activity and would not abandon their nests due to ongoing routine activities. New activity such as demolition and construction could directly impact nesting birds.

Sensitive Natural Communities. The CNDDB has occurrences for one Sensitive Natural Community, Northern Coastal Salt Marsh, within 5 miles of the site. This community is not present on or immediately near the site.

a. *Would the project 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 with Mitigation Incorporated)***

Special-status species are defined as follows:

- Species that are listed, formally proposed, or designated as candidates for listing as threatened or endangered under the federal Endangered Species Act or California Endangered Species Act.

- Plant species assigned to California Rare Plant Ranks (CRPR) 1A, 1B, 2A, 2B, or 3.

- Animal species designated as Species of Special Concern or Fully Protected Species by the California Department of Fish and Wildlife (CDFW).

- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the CEQA Guidelines.

- Species considered as a taxon of special concern by local agencies.

Special-Status Plants. One special-status plant species was determined to have a low potential to occur in the site based on the presence of marginally suitable habitat found in the project site area:

- **Congdon's tarplant (*Centromadia parryi ssp. congdonii*) - CRPR 1B.1**. This species is typically found in natural valley and foothill grasslands, with alkaline soils, sometimes described as heavy white clay. They can also be found on terraces, swales, floodplains, and disturbed sites. The typical blooming period for this species is March through October; however most blooming occurs in the late summer early/fall.

Although a limited amount of marginally suitable habitat for Congdon's tarplant was identified during the field visit, the plant itself was not seen at a time of year when it should have been detectable.

Special-Status Animals. No special-status animal species were observed on the project site during the field surveys by LSA. Based on a review of the information sources listed above and habitat observations during the site visit, of the special-status animal species known to occur in the vicinity of the project, LSA determined two species have the potential to be affected by the project, based on the presence of suitable habitat adjacent to the project site:

- **White-tailed kite (*Elanus leucurus*) - State Fully Protected**. The mature trees west of the salt marsh provide potentially suitable nesting habitat for white-tailed kite, and a pair were observed foraging during the site visit. The habitats onsite provide poor foraging habitat for this species; however, suitable foraging habitat is present in the salt marsh west of the project site. Construction within the project site may result in direct impacts should this species be nesting in the vicinity of areas of disturbance at the time of construction.

- **Cooper's hawk (*Accipiter cooperi*) - CDWF Watch List**. The trees on the site provide a limited amount of nesting habitat. Foraging habitat is present in the open space and salt marsh west of the project site. No evidence of old stick nests in the trees that could be used by the species were detected during survey.

Suitable nesting habitat for bird species protected under the Federal Migratory Bird Species Act and California Department of Fish and Game Code occurs within or in the vicinity of the project site. As such, nesting birds have the potential to be present within the project limits.

The proposed project is not expected to result in any direct adverse impacts to special-status plant species. Project construction, however, could directly impact nesting birds, including the white-tailed kite and Cooper's hawk, due to removal of buildings, trees, or shrubs trimming that may contain active nests, and grading of the site where ground nesting species may be present. Implementation of Mitigation Measures BIO-1a through BIO-1c would ensure these impacts would be reduced to a less-than-significant level.

Mitigation Measure BIO-1a In order to avoid or minimize impacts to special status bird species during project construction, if project construction activities occur between February 15 and September 1, a qualified biologist shall conduct pre-construction surveys for nesting birds no more than one week prior to construction. The survey shall include the entire project site and a 250-foot buffer for nesting raptors. If nests are found the qualified biologist shall establish an appropriate species-specific avoidance buffer of sufficient size to prevent disturbance of the nest by project activity. The qualified biologist shall perform at least two hours of pre-construction monitoring of the nest to characterize "typical" bird behavior. The qualified biologist shall monitor the nesting birds and may increase the buffer if the qualified biologist determines the birds are showing signs of unusual or distressed behavior by project activities. Atypical nesting behaviors which may cause reproductive harm include, but are not limited to, defensive flights/vocalizations directed towards project personnel, standing up from a brooding position, and flying away from the nest. The qualified biologist shall have authority, through the resident engineer, to order the cessation of all project activities if the nesting birds exhibit atypical behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young) until an appropriate buffer is established. To prevent encroachment, the established buffer(s) shall be clearly marked by high visibility material. The established buffer(s) shall remain in effect until the young have fledged or the nest has been abandoned as confirmed by the qualified biologist. Any sign of nest abandonment shall be reported to CDFW within 48 hours.

Mitigation Measure BIO-1b Prior to the initiation of construction activities (including staging and mobilization), the applicant shall ensure all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training.

A qualified biologist shall conduct the training, to aid workers in recognizing special-status resources that may occur in the project area. The specifics of this program shall include identification of the special-status species and their habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and avoidance measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them.

Mitigation Measure BIO-1c The following general wildlife Best Management Practices shall be required during construction:

- No pets or firearms shall be allowed at the project site.
- All trash that may attract predators shall be properly contained and removed from the work site. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from the open space west of the site or any drainage that connects to the marsh or stormwater system. A plan shall be in place for prompt and effective response to any accidental spills prior to the onset of work activities. All workers shall be informed of the appropriate measures to take should an accidental spill occur.
- To control sedimentation during and after project implementation, appropriate erosion control best management practices (i.e., use of coir rolls, jute netting, etc.) shall be implemented to control and prevent runoff from entering any drainage. No plastic monofilament netting shall be utilized on-site.

- All vehicles and equipment should be in good working condition and free of leaks.
- Work should be restricted to daylight hours.

Mitigation Measures BIO-1a through BIO-1c would reduce potential impacts to special-status species by requiring pre-construction surveys for nesting birds prior to construction, requiring construction worker environmental awareness training, and the implementation of best management practices. Pre-construction surveys would determine whether or not any special-status species or nesting birds are present on the site. If they are determined to be present, these mitigation measures would require the implementation of specific measures, as determined by a qualified biologist, that would protect special-status species or nesting birds (such as construction buffers or ensure potential impacts would be reduced to a less-than-significant level.

Indirect impacts to special-status species may also occur as a result of new lighting and glare associated with the proposed project. New light sources from the development have the potential to disrupt normal behavioral patterns of special-status animals using off site protected habitats to the west. Implementation of Mitigation Measure BIO-2 would ensure this impact would be reduced to a less-than-significant level.

Mitigation Measure BIO-2 Street and parking lot lighting shall be designed to have sharp, cutoff angles. Additionally, any lighting shall avoid spillover to the adjacent undeveloped properties.

Implementation of Mitigation Measure BIO-2 would ensure that street and parking lot lighting would be designed such that it would not spillover off the project site and result in adverse impacts to special-status species.

One feral cat and empty bowls/cat food cans were observed on and around the project site. Feral cats prey on numerous small wildlife including small mammals and birds. Special-status species in the marshes west of the site could be killed by feral cats. Implementation of Mitigation Measure BIO-3 would ensure this impact would be reduced to a less-than-significant level.

Mitigation Measure BIO-3 **T**he project sponsor shall install publicly-visible signs throughout the project site stating “Feeding feral cats are prohibited.” The location and number of signs shall be reviewed and approved by the Planning Director of the City of Hayward Planning Department, or their designee, prior to issuance of a certificate of occupancy.

Implementation of Mitigation Measure BIO-3 would prevent feral cats from occupying the project site or surrounding area, which would reduce the potential for special-status species to be harmed or killed.

b. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?* ***(Less Than Significant with Mitigation Incorporated)***

No riparian areas or other sensitive natural communities are present on the project site. As a result, the project would not directly affect riparian areas or sensitively natural communities, and no impacts would occur. Sensitive wetlands and marshes west of the project site could be indirectly affected by stormwater runoff from the project site. However, Mitigation Measure HYD-1, which requires the preparation and implementation of a stormwater pollution prevention plan (SWPPP), would ensure this impact would be reduced to a less-than-significant level by ensuring that stormwater is adequately captured and treated on the project site.

c. *Would the project 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?* ***(Less Than Significant with Mitigation Incorporated)***

Refer to Section 4.4.b. Implementation of Mitigation Measure HYD-1 would ensure impacts to off-site wetlands and marshes would be reduced to a less-than-significant level.

d. *Would the project 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)***

The project site is currently developed and does not provide any habitat connectivity in the surrounding area. Therefore, implementation of the proposed project would not substantially interfere with the movement of any species, and there would be no impact.

e. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?* ***(Less-Than-Significant Impact)***

Pursuant to Section 10-15 of the City's Municipal Code, the City of Hayward requires a Tree Removal Permit for the removal of any trees with the following characteristics:

- Trees having a minimum trunk diameter of eight inches measured 54" above the ground. When measuring a multi-trunk tree, the diameters of the largest three trunks shall be added together;
- Street trees or other required trees such as those required as a condition of approval, Use Permit, or other Zoning requirement, regardless of size;
- All memorial trees dedicated by an entity recognized by the City, and all specimen trees that define a neighborhood or community;
- Trees of the following species that have reached a minimum of four inches diameter trunk size:
    - Big Leaf Maple (*Acer macrophyllum*)

  - California Buckeye (*Aesculus californica)*
  - Madrone (*Arbutus menziesii*)
  - Western Dogwood (*Cornus nuttallii*)
  - California Sycamore (*Platanus racemose*)
  - Coast Live Oak (*Quercus agrifolia*)
  - Canyon Live Oak (*Quercus chrysolepis*)
  - Blue Oak (*Quercus douglassii*)
  - Oregon White Oak (*Quercus garryana*)
  - California Black Oak (*Quercus kelloggi*)
  - Valley Oak (*Quercus lobata*)
  - Interior Live Oak (*Quercus wislizenii*)
  - California Bay (*Umbellularia californica*)

- A tree or trees of any size planted as a replacement for a Protected Tree.

Protected trees that would be removed must be replaced at a ratio of one tree for every one removed protected tree. The size of the replacement trees must be commensurate with the size of the removed trees, as described in Section 10-15.20 of the Municipal Code.

As described in Section 2.0, Project Description, five trees are located on the project site. None of the trees on the project site qualify as protected trees, and therefore do not require a Tree Removal Permit. The proposed project would include the removal of these five trees, and 41 new trees would be planted. Therefore, the proposed project would not conflict with any local policies or ordinances protecting biological resources, and this impact would be less than significant.

f. Would the project 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)***

The project is not subject to any Habitat Conservation Plans, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. As a result, no impact would occur.

4.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? ***(Less Than Significant with Mitigation Incorporated)***

For a cultural resource to be considered a historical resource (i.e., eligible for listing in the California Register of Historical Resources), it generally must be 50 years or older. Under CEQA, historical resources can include precontact (i.e., Native American) archaeological deposits, historic-period archaeological deposits, historic buildings, and historic districts. The existing buildings on the project site appear to have been constructed between 1968 and 1974, but have been modified in that time such that they do not retain sufficient integrity to qualify as historic resources.

Although no archaeological deposits have been recorded at the project site, there is the potential for previously unknown pre-contact archaeological deposits to be unearthed during construction activities. Should project excavation unearth intact archaeological deposits, a substantial adverse change to a historical resource would occur due to the partial or complete destruction of the resource. This destruction would undermine the integrity of the resource, such that it would no longer be eligible for listing in the California Register of Historical Resources. As such, project ground-disturbing activities could have a substantial adverse change on buried archaeological deposits that qualify as historical resources, as defined in CEQA Guidelines Section 15064.5, and could materially impair pre-contact archaeological deposits. Implementation of the following mitigation measure would reduce potential impacts to historic archaeological resources to a less-than-significant level.

Mitigation Measure CUL-1 Cultural resources materials may include pre-contact resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants.

The applicant shall inform its contractor(s) of the sensitivity of the project site for archaeological deposits, and include the following directive on the project grading plans:

> *"The subsurface of the construction site is sensitive for archaeological deposits. If archaeological deposits are*

encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist shall assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any archaeological materials. Archaeological deposits can include, but are not limited to, shellfish remains; bones, including human remains; flakes of, and tools made from, obsidian, chert, and basalt; mortars and pestles; historical trash deposits containing glass, ceramics, and metal artifacts; and structural remains, including foundations and wells."

The City shall verify that the language has been included in the grading plans prior to issuance of a grading permit or other permitted project action that includes ground-disturbing activities on the project site.

If the deposits are uncovered on the site and found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the applicant shall be responsible for funding and implementing appropriate mitigation measures. Mitigation measures may include recordation of the archaeological deposit, data recovery and analysis, and public outreach regarding the scientific and cultural importance of the discovery. Upon completion of the selected mitigations, a report documenting methods and findings shall be prepared, and the final report shall be submitted to the Northwest Information Center at Sonoma State University. Significant archaeological materials shall be submitted to an appropriate curation facility and used for public interpretive displays, as appropriate and in coordination with a local Native American tribal representative.

Compliance with Mitigation Measure CUL-1 would ensure that construction contractors are notified of the sensitivity of the project site for cultural resources and ensure that archaeological resources are properly handled in the event of an accidental discovery. Therefore, with implementation of this measure, impacts would be less than significant.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? ***(Less Than Significant with Mitigation Incorporated)***

In accordance with CEQA Guidelines Section 15064.5(c)), if the project would affect an archaeological deposit, the lead agency must first determine whether the deposit is a "historical resource" (see CEQA Guidelines Section 15064.5(a)). If the deposit is not a historical resource, the lead agency must determine if the deposit is a "unique archaeological resource."

Based on the significance criteria identified above, the proposed project would have a significant impact on the environment if ground-disturbing activities would cause a substantial adverse change in the significance of a historical or archaeological resource. A substantial adverse change in the significance of an archaeological resource would occur from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)). For the proposed project, the significance of an archaeological resource would be materially impaired if ground disturbance would alter in an adverse manner those physical characteristics of the resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources. The proposed project could affect previously unidentified archaeological deposits, thereby causing a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5. However, potential impacts would be reduced to a less-than-significant level with implementation of Mitigation Measure CUL-1.

c. Would the project disturb any humans remains, including those interred outside of formal cemeteries? ***(Less-Than-Significant Impact)***

There are no known human remains at the project site. In the event that human remains are identified during project construction, these remains would be treated in accordance with Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code, as appropriate.

Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the California Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC would identify a Native American Most Likely Descendent (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Section 5097.98 of the Public Resources Code states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5, shall immediately notify those persons (i.e., the MLD) it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site. With these regulations in place, no impact on human remains would occur.

4.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in a 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?	☐	☐	☒	☐

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation? ***(Less-Than-Significant Impact)***

The proposed project would increase the demand for energy through day-to-day operations and fuel consumption associated with project construction. This section discusses energy use resulting from implementation of the proposed project and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency.

Construction Energy Use. The anticipated construction schedule assumes that construction of the proposed project in anticipated to begin in early 2023 and would occur over an approximately 10-month period. The proposed project would require demolition, site preparation, and building activities during construction.

Construction of the proposed project would require energy for the manufacture and transport of building materials, preparation of the site for grading activities, and building construction. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. In order to increase energy efficiency on the site during project construction, the project would restrict equipment idling times to 5 minutes or less and would require construction workers to shut off idle equipment, as required by Mitigation Measure AIR-1 (the BAAQMD's Basic Construction Mitigation Measures). Energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources.

Operational Energy Use. Typically, the consumption of energy during the operation of a project is associated with natural gas use, energy consumption, and fuel used for vehicle trips. The proposed project would not increase the demand for natural gas as the proposed project would be designed to be all-electric and would not include the use of any natural gas systems.

Energy consumption was estimated for the proposed project using default energy intensities by building type in CalEEMod. Electricity estimates associated with the proposed project are shown in Table 4.6-A. In addition, the proposed project would result in energy usage associated with gasoline to fuel project-related vehicle and truck trips. Based on the CalEEMod analysis, the proposed project would result in approximately 1,948,437 VMT per year. The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 mpg in 1980 to 22.9 mpg in 2020.[8] The average fuel economy for heavy-duty trucks in the United States has also steadily increased, from 5.7 mpg in 2013 to a projected 8.0 mpg in 2021.[9] Therefore, using these average fuel economy estimates, the proposed project would result in the consumption of approximately 71,593 gallons of gasoline and 38,619 gallons of diesel fuel per year. Table 4.C, below, shows the estimated potential increased electricity and gasoline demand associated with the proposed project.

Table 4.C: Estimated Annual Energy Use of Proposed Project

Land Use	Electricity Use (kWh per year)	Gasoline (gallons per year)	Diesel (gallons per year)
Warehouse	515,270	71,593	38,619
Parking Lot	11,620	0	0
Total	**526,890**	**71,593**	**38,619**

Source: Compiled by LSA (November 2022).

As shown in Table 4.C, the estimated potential increased electricity demand associated with the proposed project is 526,890 kilowatt-hours (kWh) per year. In 2020, California consumed approximately 279,510 gigawatt-hours (GWh) or 279,510,007,246 kilowatt-hours (kWh).[10] Of this total, Alameda County consumed 10,247 GWh or 10,247,410,444 kWh.[11] Therefore, electricity demand associated with the proposed project would be approximately 0.01 percent of Alameda County's total electricity demand. In addition, the proposed project would be designed to the latest CALGreen standards and LEED standards, as well as various other sustainable features.

The proposed project would also result in energy usage associated with gasoline and diesel to fuel project-related trips. As shown above in Table 4.C, vehicle trips associated with the proposed project would consume approximately 71,593 gallons of gasoline and 38,619 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, approximately 553.9 million gallons of gasoline and approximately 155.9 gallons of diesel will be consumed from vehicle trips in Alameda County in 2023.Therefore, gasoline and diesel demand generated by vehicle and truck trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in California. Therefore, implementation of the project would not result in a substantial increase in electricity, natural gas, or transportation-related energy, such that it would

8 U.S. Department of Transportation (DOT). "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles (accessed November 2022).

9 California Energy Commission (CEC). 2015. Medium and Heavy-Duty Truck Prices and Fuel Economy 2013–2026. Website: efiling.energy.ca.gov/getdocument.aspx?tn=206180 (accessed January 2023).

10 California Energy Commission. 2021. Energy Consumption Data Management Service. Electricity Consumption by County. Website: www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed November 2022).

11 Ibid.

result in a wasteful, inefficient, or unnecessary consumption of energy resources. This impact would be less than significant.

*b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? **(Less-Than-Significant Impact)***

In 2002, the Legislature passed Senate Bill 1389, which required the California Energy Commission (CEC) to develop an integrated energy policy report for electricity, natural gas, and transportation fuels every two years. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the lowest cost to the environment and energy sources. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles and associated infrastructure needs, and encouraging urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The most recently adopted CEC energy report is the 2022 Integrated Energy Policy Report Update. The 2022 Integrated Energy Policy Report Update provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2022 Integrated Energy Policy Report Update covers a broad range of topics, including implementation of Senate Bill 350 (which requires the CEC to examine barriers that low income and disadvantaged communities face when considering adopting clean energy measures), integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to Senate Bill 1383), updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

As indicated above, energy usage on the project site during construction would be temporary in nature. Once operational, energy usage associated with the proposed project would be relatively small in comparison to the State's available energy sources. In addition, the proposed project would be designed to the latest CALGreen standards and LEED standards, as well as various other sustainable features. Therefore, because the project's total impact to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the CEC's 2022 Integrated Energy Policy Report Update. In addition, as discussed in Section 4.8, Greenhouse Gas Emissions, the proposed project would be consistent the City's Climate Action Plan. Thus, as shown above, the project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. This impact would be less than significant.

4.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
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 a geologic unit 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 (1994), creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

The information presented in this section is based on data and findings provided in the September 2021 Preliminary Geotechnical Investigation (Geotechnical Investigation)[12] prepared for the project site by Cornerstone Earth Group, and geologic reports and maps by the United States Geological Survey (USGS), California Geological Survey (CGS), and others, as available.

The California Supreme Court concluded in its CBIA vs. BAAQMD decision that "CEQA generally does not require an analysis of how existing environmental conditions will affect a project's future users or residents." With this ruling, CEQA no longer considers the impact of the environment on a project (such as the impact of existing seismic hazards on new project occupants) to be an environmental impact, unless the project could exacerbate an existing environmental hazard. The proposed project would not change existing seismic hazards and, therefore, would not exacerbate existing hazards related to surface fault rupture and seismic ground shaking. As such, the following discussions of seismic hazards related to surface fault rupture and seismic ground shaking are provided for informational purposes only.

12 Cornerstone Earth Group, 2021. *Preliminary Geotechnical Investigation, Depot Road Warehouse*. September 9.

a. Would the project 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? Refer to Division of Mines and Geology Special Publication 42. ***(No Impact)***

Fault rupture is generally expected to occur along active fault traces that have exhibited signs of recent geological movement (i.e., within the last 11,000 years). Alquist-Priolo Earthquake Fault Zones delineate areas around active faults with potential surface fault rupture hazards that would require specific geological investigations prior to approval of certain kinds of development within the delineated area. The Hayward fault, which trends northwestward through the City, is located approximately 4 miles east of the project site. There are no mapped faults within or adjacent to the project site, and the project site is not located within an Alquist-Priolo Zone.[13] Therefore, the proposed project would not directly or indirectly cause substantial adverse effects related to fault rupture, and there would be no impact.

ii. Strong seismic ground shaking? ***(Less-Than-Significant Impact)***

The project site is located in the San Francisco Bay Area, a region of intense seismic activity. Ground shaking is likely to occur within the life of the project as a result of future earthquakes. As noted above, the Hayward Fault is approximately 4 miles east of the project site. Other active faults within the area that are likely to produce large earthquakes include the Calaveras Fault, located approximately 11.5 miles east, and San Andreas Fault, located approximately 14.5 miles southwest.[14] Due to the location of the project site in a seismically active area, strong seismic ground shaking at the project site is highly probable during the life of the project. The intensity of ground shaking would depend on the characteristics of the fault, distance from the fault, the earthquake magnitude and duration, and site-specific geologic conditions.

The City requires projects to comply with the 2023 California Building Code (CBC) (Title 24, California Code of Regulations),[15] which provides for stringent construction requirements on projects in areas of high seismic risk based on numerous inter-related factors. It is acknowledged that seismic hazards cannot be completely eliminated, even with implementation of advanced building practices. However, the seismic design standards of the CBC are intended to prevent catastrophic structural failure in the most severe earthquakes currently anticipated. Therefore, compliance with the applicable CBC, which is required by both the City and the State, would ensure that the potential impacts associated with ground shaking would be less than significant.

13 California Department of Conservation, 2019. Earthquake Zones of Required Investigation (map). Website: maps.conservation.ca.gov/cgs/EQZApp/app/ (accessed September 2022). April 4.

14 Ibid.

15 Hayward, City of, Municipal Code, Chapter 9, Article 1.

iii. Seismic-related ground failure, including liquefaction? ***(Less Than Significant with Mitigation Incorporated)***

Lateral Spreading. Lateral spreading is a form of horizontal displacement of soil toward an open channel or other "free" face, such as an excavation boundary. In a lateral spread failure, a layer of ground at the surface is carried on an underlying layer of liquefied material over a nearly flat surface toward a river channel or other bank. The lateral spreading hazard tends to mirror the liquefaction hazard for a site. According to the Geotechnical Investigation, a drainage channel runs approximately 70 to 80 feet west of the project site and the channel bottom is approximately 3 to 4 feet deep relative to existing grades at the project site. However, estimated displacements based on the Lateral Displacement Index (LDI) calculations completed for the proposed project were considered negligible. Therefore, lateral spreading is not a concern for the proposed project.

Liquefaction. Soil liquefaction is a phenomenon primarily associated with saturated soil layers located close to the ground surface. During ground shaking, these soils lose strength and acquire "mobility" sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that lie relatively close to the ground surface. However, loose sands that contain a significant amount of fines (i.e., silt and clay) may also liquefy.

The project site is located in an area that has been identified by the CGS as being susceptible to seismically-induced liquefaction.[16] The City requires the completion of a geotechnical investigation for new construction sites within a fault zone, liquefaction zone, and/or a landslide zone.[17] The Geotechnical Investigation indicates that several subsurface layers of the project site could potentially experience liquefaction, resulting in total settlement (i.e., across the entire site) at the ground surface up to ¾ inch and differential settlement (i.e., at any one location on the project site) of ½-inch or less over a horizontal distance of 50 to 60 feet. These settlement estimates are based on the assumption that there is a sufficient cap of non-liquefiable material to prevent ground deformation or sand boils. The Geotechnical Investigation recommends that foundations be designed to tolerate the anticipated total and differential settlements and includes design criteria to prevent impacts from liquefaction-induced settlement and recommends a design-level geotechnical review be completed prior to issuing the plans for construction.

Implementation of Mitigation Measure GEO-1, which requires the project applicant to incorporate all of the recommendations of the Geotechnical Investigation and any recommendations included in a design-level geotechnical investigation into the project development plans, would reduce the potential impacts related to liquefaction to a less than significant level with mitigation.

Mitigation Measure GEO-1 A licensed Geotechnical Engineer or their representative shall be retained to perform a design-level geotechnical investigation once site development plans are final. The design-level geotechnical investigation shall include further evaluation of potential geologic

16 California Department of Conservation, 2019, op. cit.

17 Hayward, City of, 2014b. *Hayward 2040 General Plan Policy Document, Hazards Element, Policy HAZ-2.2*. January.

hazards related to shallow groundwater, highly expansive soils, potential for static and seismic settlements, and the presence of undocumented fill. The design-level investigation findings shall be used to address all the geotechnical concerns described in the Preliminary Geotechnical Investigation and to develop detailed recommendations for design and construction. The recommendations of the Preliminary Geotechnical Investigation and any recommendations included in the required design-level geotechnical investigation for the project shall be incorporated into all design and engineering plans. At the end of construction, the Geotechnical Engineer shall provide a letter regarding contractor compliance with project plans and specifications and with the recommendations of the Geotechnical Investigation and any supplemental recommendations issued during construction. The letter shall be submitted for review to the City of Hayward Building Division.

Mitigation Measure GEO-1 would reduce potential impacts related to liquefaction as it would require the preparation of a design-level geotechnical investigation that includes measures that addresses geotechnical concerns, including liquefaction. The project sponsor's Geotechnical Engineer would be required to verify that these measures have been incorporated once construction is complete, which would ensure that potential impacts related to liquefaction would be less than significant.

*iv. Landslides? **(Less-Than-Significant Impact)***

A landslide generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. The project site is relatively level and is not located next to any slopes. Furthermore, the project site is not located within an area that would be subject to earthquake-induced landslides.[18] Therefore, the potential of the proposed project to exposure people or structures to risk as a result of landslides would be less than significant.

*b. Would the project result in substantial soil erosion or the loss of topsoil? **(Less Than Significant with Mitigation Incorporated)***

Topsoil is defined as the upper part of the soil profile that is relatively rich in humus and is technically known as the A-horizon of the soil profile.[19] Grading and earthmoving during project construction has the potential to result in erosion and loss of topsoil. Exposed soils could be entrained in stormwater runoff and transported off the project site. However, this impact would be reduced to a less than significant level through compliance with Mitigation Measure HYD-1, which requires the preparation of a SWPPP (refer to Section 3.10, Hydrology and Water Quality). Although

[18] Hayward, City of, 2014a, op. cit.

[19] California State Mining and Geology Board, 2014. Surface Mining Reclamation Act Regulations. California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1.

designed primarily to protect stormwater quality, the SWPPP would incorporate Best Management Practices (BMPs) to minimize impacts related to erosion to a less-than-significant level.

c. Would the project be located on a geologic unit 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 with Mitigation Incorporated)***

As discussed in Section 4.7.a, site soils would not be subject to landslides or lateral spreading, but do have the potential for liquefaction-induced settlement. However, implementation of Mitigation Measure GEO-1 and compliance with the requirements of the CBC would ensure that potential risks to people and structures as a result of liquefaction would be reduced to a less than significant level.

Subsidence. Subsidence can result from the removal of subsurface water resulting in either gradual depression or catastrophic collapse of the ground surface. The proposed project would connect to the City of Hayward's potable water supply system and would not utilize groundwater at the project site. Groundwater is expected to be shallow at the project site and may fluctuate due to seasonal fluctuation, underground drainage patterns, and other factors. The Geotechnical Investigation recommends a preliminary design groundwater depth of 5 feet; however, groundwater at the project site may occur at depths shallower than 5 feet. Dewatering may be required in isolated areas of the project site during construction. Construction-related dewatering would not be expected to result in subsidence or soil collapse as the dewatering activities would be temporary, localized, and affect only the uppermost water-bearing zone.

Unstable Soils. According to the five subsurface borings drilled for the Geotechnical Investigation, the project site is predominantly underlain by undocumented fill consisting of medium dense clayey sand, very dense silty sand with gravel, and very stiff to hard sandy lean clay with gravel to a depth of 4.5 feet. Beneath the fills are very stiff fat clay to depths of 5 to 10 feet underlain by medium stiff to hard lean clay with varying amounts of sand to depths of 20 to 25 feet. One boring drilled in the southwestern portion of the project site encountered medium dense clayey sand with gravel to a depth of 30 feet and a separate boring near the northwestern corner of the project site encountered medium dense silty sand to a depth of 25 feet. Beneath the borings, the Cone Penetration Tests completed as part of the Geotechnical Investigation generally encountered medium stiff to hard clays with varying amounts of sand and silt and medium dense to very dense sands with varying amounts of silt, clay, and gravels to the maximum depth explored of 100 feet.

The Geotechnical Investigation discusses concerns regarding the presence of undocumented fill and includes recommendations to completely remove any fills encountered during site grading from within building areas and to a lateral distance of at least 5 feet beyond the building footprint or to a lateral distance equal to fill depth below the perimeter footing, whichever is greater. However, if the fills meet the "Materials for Fill" requirements discussed in the Geotechnical Investigation, the fills may be reused when backfilling the excavations. Implementation of Mitigation Measure GEO-1 and compliance with the recommendations included in the Geotechnical Investigation would ensure that potential risks to people and structures as a result of unstable soils would be reduced to a less-than-significant level.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? ***(Less Than Significant with Mitigation Incorporated)***

Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. Shrink-swell potential is influenced by the amount and type of clay minerals present and can be measured by the percent change of the soil volume. The Geotechnical Investigation indicates that the site is underlain by low to highly expansive surficial soils. To reduce the potential for damage to the proposed structures, the Geotechnical Investigation includes the following recommendations: slabs-on-grade should have sufficient reinforcement and be supported on a layer of non-expansive fill; footings should extend below the zone of seasonal moisture fluctuation; moisture changes in the surficial soils should be avoided to the greatest extent feasible; placement of a plug of low-permeability clay soil, sand-cement slurry, or lean concrete within trenches just outside where the trenches pass into building and pavement areas; and additional specific grading and foundation recommendations. Compliance with the recommendations included in the Geotechnical Investigation and requirements of the CBC as well as the implementation of Mitigation Measure GEO-1 would ensure that potential risks to people and structures as a result of expansive soils would be reduced to a less-than-significant level.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? ***(No Impact)***

Development of the proposed project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, the proposed project would have no impact related to septic tanks or alternative wastewater disposal systems.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ***(Less Than Significant with Mitigation Incorporated)***

There are no known paleontological resources or unique geologic features within or near the project site. However, according to a search of the University of California Museum of Paleontology (UCMP) at the University of California, Berkeley, there are 543 known localities that have produced 9,283 specimens within Alameda County.[20] Therefore, the possibility of accidental discovery of paleontological resources during project construction cannot be discounted. Therefore, implementation of Mitigation Measure GEO-2, described below, would reduce potential impacts to paleontological resources to a less than significant level.

Mitigation Measure GEO-2 Should paleontological resources be encountered during project subsurface construction activities, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the

[20] University of California Museum of Paleontology. *Databases.* Website: https://ucmp.berkeley.edu/collections/databases/ (accessed September 2022).

discovery. For purposes of this mitigation, a "qualified paleontologist" shall be an individual with the following qualifications: (1) a graduate degree in paleontology or geology and/or a person with a demonstrated publication record in peer-reviewed paleontological journals; (2) at least two years of professional experience related to paleontology; (3) proficiency in recognizing fossils in the field and determining their significance; (4) expertise in local geology, stratigraphy, and biostratigraphy; and (5) experience collecting vertebrate fossils in the field. If the paleontological resources are found to be significant and project activities cannot avoid them, measures shall be implemented to ensure that the project does not cause a substantial adverse change in the significance of the paleontological resource. Measures may include monitoring, recording the fossil locality, data recovery and analysis, a final report, and accessioning the fossil material and technical report to a paleontological repository. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to the City for review. If paleontological materials are recovered, this report also shall be submitted to a paleontological repository such as the University of California Museum of Paleontology, along with significant paleontological materials. Public educational outreach may also be appropriate.

The project applicant shall inform its contractor(s) of the sensitivity of the project site for paleontological resources and shall verify that the following directive has been included in the project grading plans:

> *"The subsurface of the construction site may be sensitive for fossils. If fossils are encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any paleontological materials. Fossils can include plants and animals, and such trace fossil evidence of past life as tracks or plant imprints. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Contractor acknowledges and understands that excavation or removal of paleontological material is prohibited by law and constitutes a misdemeanor under California Public Resources Code, Section 5097.5."*

4.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Greenhouse gases (GHGs) are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO_2);
- Methane (CH_4);
- Nitrous oxide (N_2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Sulfur Hexafluoride (SF_6).

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, believed to be causing global warming. While manmade GHGs include naturally occurring GHGs such as CO_2, methane, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of Global Warming Potential (GWP), a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? ***(Less-Than-Significant Impact)***

In April 2022, the BAAQMD adopted the Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans[21] document which identifies applicable GHG significance thresholds. The BAAQMD recommends these thresholds of significance for use in determining whether a proposed project will have a significant impact related to climate change. These thresholds evaluate a project based on its effect on California's efforts to meet the State's long-term climate goals. Applying this approach, the BAAQMD identifies and provides supporting documentation, outlining the requirements that new land use development projects must implement in order to achieve California's long-term climate goal of carbon neutrality by 2045. Based on this analysis, the BAAQMD found that new land use development projects need to incorporate design elements to contribute the "fair share" towards implementation of the goal of carbon neutrality by 2045. If a project is designed and built to incorporate the identified design elements, then it will contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project will not make a cumulatively considerable contribution to global climate change. The document concludes that if a project does not incorporate these design elements, then it should be found to make a significant climate impact because it will hinder California's efforts to address climate change.

According to BAAQMD *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*, a project would have a less than significant impact related to GHG emissions if it would:

a. 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 electrical 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

[21] Bay Area Air Quality Management District. 2022.*Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. April.

target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:

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

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

3. 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.

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

Hayward's Climate Action Plan (CAP) was adopted by the City Council on July 28, 2009 and later incorporated into the City's General Plan in 2014. The purpose of the CAP is to make Hayward a more environmentally and socially sustainable community by reducing GHG emissions. However, the City's CAP does not meet the requirements for a local GHG reduction strategy that meets the criteria under *State CEQA Guidelines* Section 15183.5(b). Therefore, this section evaluates the proposed project's consistency with the BAAQMD's project design elements.

Natural Gas Usage. According to the BAAQMD, a less than significant GHG impact would occur if the project does not include natural gas appliances or natural gas plumbing. The proposed project would not increase the demand for natural gas as the proposed project would be designed to be all-electric and would not include the use of any natural gas systems. Since the proposed project would not include new natural gas connections, the proposed project would be consistent with this design element.

Energy Usage. The project must not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*. Energy use consumed by the proposed project would be associated with electricity consumption and fuel used for vehicle trips associated with the project. Energy consumption was estimated for the project using default energy intensities by land use type in the CalEEMod output, which is included in Appendix A.

As shown in Table 4.C in Section 3.6, Energy, the estimated potential increased electricity demand associated with the proposed project is 526,890 kWh per year. In 2020, Alameda County consumed 10,247 GWh or 10,247,410,444 kWh. Therefore, electricity demand associated with the proposed project would be approximately 0.01 percent of Alameda County's total electricity demand. In addition, the proposed project would be designed to the latest CALGreen standards and LEED standards, as well as various other sustainable features.

The proposed project would also result in energy usage associated with gasoline to fuel project-related trips. As shown in Table 4.C in Section 3.6, Energy, vehicle trips associated with the proposed project would consume approximately 85,085 gallons of gasoline per year. In 2015, vehicles in

California consumed approximately 15.1 billion gallons of gasoline. Therefore, gasoline demand generated by vehicle trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in California. In addition, as further discussed in Section 4.3.1, Air Quality, given the location of the project, the proposed project would facilitate use of alternative modes of transportation.

As such, based on this analysis, as required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy and energy efficiency measures into the building design, equipment use, and transportation. As such, the proposed Project would be consistent with this design element.

Vehicle Miles Traveled. To meet the BAAQMD's VMT threshold, the Project must achieve a reduction in Project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan or meet a locally adopted SB 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA*. As discussed in Section 4.17, Transportation, with implementation of Mitigation Measure TRA-X1 the proposed project would implement transportation demand management (TDM) measures that would result in a less-than-significant VMT impact. As such, the proposed project would be consistent with this design element.

Electric Vehicle Requirements. This criterion requires that the project achieve compliance with off-street electric vehicle requirements in the most recently adopted version of the California Green Building Standards Code (CALGreen) Tier 2 measures. The current CALGreen Tier 2 requires that a minimum of 10 percent of the parking spaces provide EV charging. As discussed in Section 2.0, Project Description, the proposed project would include 67 surface parking spaces, which would include 9 standard EV ready charging spaces and 2 accessible EV ready charging spaces. As such, the proposed project would provide 16 percent of the parking spaces for EV charging, which achieves the 10 percent minimum required by CALGreen Tier 2. Therefore, the proposed project would be consistent with this design element.

As discussed above, the proposed project would be consistent with all the BAAQMD's project design elements related to natural gas, energy, VMT, and EV requirements. Therefore, the proposed project would be consistent with the BAAQMD's GHG emission thresholds. As such, the proposed project would not result in the generation of GHG emissions that would have a significant impact on the environment.

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? ***(Less-Than-Significant Impact)***

As noted above, the Hayward Climate Action Plan (CAP) is incorporated into the City's General Plan. The CAP is intended to carry out and implement the State's goals and policies under Assembly Bill (AB) 32, Senate Bill (SB) 375, and SB 32. The Hayward 2040 General Plan integrates and updates the comprehensive, communitywide GHG emission reduction strategy contained in the City's 2009 CAP to achieve a GHG emission reduction target of 20 percent below 2005 levels by the year 2020. The

General Plan also recommends longer-term goals for GHG reductions of 62.7 percent below 2005 levels by the year 2040 and 82.5 percent below 2005 levels by the year 2050.

The General Plan contains policies and implementation programs that serve as actions to reduce GHG emissions. Many of these policies and implementation programs would not be applicable to the proposed project as they work to reduce automobile use and traffic congestion. The proposed project's consistency with applicable CAP policies is identified in Table 4.D below.

Table 4.D: Consistency with the City's Climate Action Plan Policies

Climate Action Plan Policies	Project Consistency
LU-1.1 Jobs-Housing Balance The City shall support efforts to improve the jobs-housing balance of Hayward and other communities throughout the region to reduce automobile use, regional and local traffic congestion, and pollution.	***Consistent***. The proposed project would include new industrial uses, which would employ approximately 20 people. As such, the proposed project would support the jobs-housing balance of Hayward.
LU-1.8 Green Building and Landscape Requirements: The City shall maintain and implement green building and landscaping requirements for private- and public-sector development to: • Reduce the use of energy, water, and natural resources. • Minimize the long-term maintenance and utility expenses of infrastructure, buildings, and properties. • Create healthy indoor environments to promote the health and productivity of residents, workers, and visitors. • Encourage the use of durable, sustainably-sourced, and/or recycled building materials. • Reduce landfill waste by promoting practices that reduce, reuse, and recycle solid waste.	***Consistent.*** The proposed project would comply with the latest CALGreen standards and would be designed to LEED standards, which includes a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance, which would reduce outdoor water use. The proposed project would also comply with State and local requirements for waste management, including construction and demolition debris waste reduction and recycling requirements and the CalRecycle Waste Diversion and Recycling Mandate. As such, the proposed project would be consistent with green building and landscaping requirements.
M-8.3 Employer-based Strategies The City shall encourage employers to participate in TDM programs (e.g., guaranteed ride home, subsidized transit passes, carpool and vanpool programs) and to participate in or create Transportation Management Associations to reduce parking needs and vehicular travel.	***Consistent.*** As discussed in Section 4.17, Transportation, with implementation of Mitigation Measure TRA-1, the proposed project would implement TDM measures.
M-9.9 Alternative Fuel Vehicle Parking The City shall require new private parking lots to grant low-carbon vehicles access to preferred parking spaces, and shall require new private parking lots to provide electric vehicle charging facilities. The City shall provide electric vehicle charging facilities in public parking lots.	***Consistent.*** As discussed in Section 2.0, Project Description, the proposed project would include 67 surface parking spaces, which would include 9 standard EV ready charging spaces and 2 accessible EV ready charging spaces. As such, the proposed project would provide 16 percent of the parking spaces for EV charging.

Table 4.D: Consistency with the City's Climate Action Plan Policies

Climate Action Plan Policies	Project Consistency
NR-2.6 Greenhouse Gas Reduction in New Development. The City shall reduce potential greenhouse gas emissions by discouraging new development that is primarily dependent on the private automobile; promoting infill development and/or new development that is compact, mixed use, pedestrian friendly, and transit oriented; promoting energy-efficient building design and site planning; and improving the regional jobs/housing balance ratio.	***Consistent.*** The proposed project would result in the redevelopment of the site with an industrial building that would locate employees near existing commercial and industrial uses and is located in close proximity to alternative modes of transportation, including bus stops on Cabot Road and on Depot Road. In addition, the proposed project would be designed to the latest CALGreen standards and LEED standards, as well as various other sustainable features.
NR-4.1 Energy Efficiency Measures. The City shall promote the efficient use of energy in the design, construction, maintenance, and operation of public and private facilities, infrastructure, and equipment.	***Consistent.*** The proposed project would be designed to the latest CALGreen standards and LEED standards, as well as various other sustainable features.
NR-4.3 Efficient Construction and Development Practices. The City shall encourage construction and building development practices that maximize the use of renewable resources and minimize the use of non-renewable resources throughout the life-cycle of a structure.	***Consistent.*** With implementation of Mitigation Measure AIR-1, the proposed project would incorporate the BAAQMD's Basic Construction Mitigation Measures. In order to increase energy efficiency on the site during project construction, the project would restrict equipment idling times to 5 minutes or less and would require construction workers to shut off idle equipment, as required by Mitigation Measure AIR-1.
NR-6.9 Water Conservation. The City shall require water customers to actively conserve water year-round, and especially during drought years.	***Consistent.*** The project would be required to comply with the latest CALGreen standards and would be designed to LEED standards, which includes a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance, which would reduce outdoor water use.
PFS-7.4 Solid Waste Diversion. The City shall comply with State goals regarding diversion from landfill, and strive to comply with the provisions approved by the Alameda County Waste Management Authority.	***Consistent.*** The proposed project would comply with State and local requirements for waste management, including construction and demolition debris waste reduction and recycling requirements and the CalRecycle Waste Diversion and Recycling Mandate. As such, the proposed project would be consistent with green building and landscaping requirements.
PFS-7.12 Construction and Demolition Waste Recycling. The City shall require demolition, remodeling and major new development projects to salvage or recycle asphalt and concrete and all other non-hazardous construction and demolition materials to the maximum extent practicable.	***Consistent.*** The proposed project would comply with Chapter 5 Article 10 of the Municipal Code, Construction and Demolition Debris Waste Reduction and Recycling Requirements, which would divert demolition and construction debris from landfills, and process and return the materials into the economic mainstream, thereby conserving natural resources and stimulating markets for recycled and salvaged materials.
PFS-7.21 Mandatory Recycling. The City shall implement mandatory recycling for commercial and multifamily uses and work with StopWaste.org to increase participation in this program.	***Consistent.*** The proposed project would be consistent with the CalRecycle Waste Diversion and Recycling Mandate, which would reduce solid waste production during operation of the proposed project by 25 percent.

Source: City of Hayward (July 2014) and LSA (November 2022).

As indicated in Table 4.D, the proposed project would implement measures included in the CAP that are applicable to the project. Overall, the proposed project would be in compliance with the CAP and, therefore, would be consistent with the GHG reduction strategy, and would not generate emissions that would exceed the project-level significance criteria established by the BAAQMD. Therefore, the proposed project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions and this impact would be less than significant.

4.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 plan or, where such a plan has not been adopted, within 2 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?	☐	☐	☐	☒

The following discussion is based on the findings from the Phase 1 Environmental Site Assessment (Phase I ESA) and Phase II Environmental Site Assessment (Phase II ESA) prepared for the proposed project.[22, 23]

The Phase I ESA identified various recognized environmental conditions (RECs) in connection with the project site. The eastern parcel associated with the project site (APN 439-0070-013-01) had been previously used as an automotive salvage and repair yard and a cardboard recycling operation. In 2001, a regulatory compliance inspection performed by Alameda County Department of Environmental health (ACDEH) identified violations of hazardous waste control laws, including diesel fuel spills on soil, improper storage and leaking waste oil drums, improper management, and storage of hazardous wastes (oils and grease), and improper storage of decommissioned engines, transmissions, and vehicles. Subsequent limited subsurface investigative activities conducted in 2001 and 2002 identified soil and groundwater total petroleum hydrocarbon (TPH) and heavy

---

22 BBJ Group. 2022. *Report of Phase I Environmental Site Assessment, 6.6-Acre Former Automotive Salvage Yard, 3890 and 3898 Depot Road, Hayward, California*. April 8.

23 BBJ Group. 2021. *Report of Phase II Environmental Site Assessment, 3890 and 3898 Depot Road, Hayward, California, Site Cleanup Program Case No. RO2499*. September 29.

metals above Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESL). An open and active Site Cleanup Program Case Id. RO0002499 was issued for the site. Site cleanup of scrap automotive materials including waste oil, tires, iron, lead acid batteries, and solid waste was completed between 2000 and 2005; however, limited environmental activities have been performed since that time and the Site Cleanup Program Case remains open with a site characterization work plan pending approval by the County of Alameda Department of Environmental Health. Supplemental site investigation activities intending to delineate the previous detections were conducted in 2015 by Sage Environmental Consulting, which included further subsurface investigation that detected chemical occurrence (i.e., TPH and metals) in samples of shallow (i.e., to approximately one foot below ground surface) soil across the parcel. Additionally, the constituents TPH, ethylbenzene, total xylenes, naphthalene, and nickel were detected in groundwater samples collected from two onsite permanent monitoring wells at concentrations above ESLs. Evidence of small-scale auto repairs/maintenance, including soil piles containing construction debris and surficial stains, were still evident at the parcel upon site reconnaissance completed for the Phase I ESA.

The western parcel associated with the project site (APN 439-0070-014-00) was occupied by a construction company and trucking company and previously used for various automotive salvage and repair operations until approximately 2014. In response to the cessation of automotive operations, the Hayward Fire Department completed a hazardous waste generator inspection to determine the proper disposal of all equipment, vehicles, and hazardous materials and waste in June 2017. A subsurface investigation was conducted on the parcel to assess shallow soil conditions onsite and investigative results indicated metals above current RWQCB ESLs. Groundwater was not assessed during this investigation. Subsequently, the Alameda Fire Department verified proper removal and disposal of all equipment, hazardous materials, and hazardous waste from the property and recommended that the owner continue to work with the RWQCB to address the facility's subsurface impacts. Evidence of small-scale auto repairs/maintenance, including soil piles containing construction debris and surficial stains, was still evident at the parcel upon site reconnaissance completed for the Phase I ESA.

A subsurface investigation including soil, groundwater and soil vapor investigation activities was completed by BBJ Group as part of the Phase II ESA in 2021. Investigative results indicated several constituents (diesel range TPH, polychlorinated biphenyl-1260, arsenic, lead, and nickel) were present in near-surface soils above commercial/industrial or construction worker direct contact exposure pathway ESLs and/or regional background concentrations. However, no exceedances of Gross Contamination ESLs or the Soil Leaching to Groundwater ESLs were identified. The Phase II ESA determined that, based on the current industrial use of the site and future redevelopment as a commercial warehouse with soils underlain by hardscape caps (to address direct contact exposure), development of the proposed project is feasible, and soils could be managed onsite during redevelopment activities.

Subsurface investigation activities identified exceedances of certain constituents in groundwater samples above Direct Exposure Human Health Risk ESLs; however, no Gross Contamination ESLs and Vapor Intrusion Human Health Cancer Risk or Non-Cancer Hazard ESLs were identified in any groundwater sample. There were no apparent concentration gradients of diesel range TPH and MTBE, suggesting that these constituents are likely locally or regionally distributed in groundwater as opposed to emanating from an onsite source. Because groundwater in the greater area of the site is not used for potable purposes and no users or human receptors of groundwater have been identified onsite and/or further downgradient, the Phase II ESA determined that additional groundwater assessment activities are not warranted.

Methane, TPH (gas), and benzene were detected in soil vapor samples at concentrations slightly above the applicable regulatory limits or Human Health Risk Level ESLs. The Phase II ESA concludes that impacts appear isolated and not indicative of widespread soil vapor impacts. The limited nature of the TPH and benzene in soil vapor suggests the impacts may emanate from historical automotive handling and storage practices in these areas. Additionally, it was determined that the single detection of methane above the ESL was spatially limited and not necessarily indicative of current or historical site operations and may emanate from underground utilities, the site's location along the Bay margins, or a combination thereof.

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ***(Less-Than-Significant Impact)***

The proposed project involves the demolition of the existing metal buildings on the project site and the construction of an approximately 137,040 square-foot industrial building and associated site improvements including a new cul-de-sac at the end of Depot Road, new internal roadways, landscaping, and utility improvements. Although tenant and exact operations of the proposed project are not currently known, the project area is zoned for Industrial uses. Therefore, operation of the proposed project may involve routine transport, use, and/or disposal of hazardous materials. Hazardous materials (e.g., oil, grease, fuels, paint) would be transported and used on-site during proposed construction activities. The routine transport, use, or disposal of these hazardous materials could pose a potential hazard to construction workers and future employees working at the project site as they would be handling the hazardous materials and could therefore be exposed through inhalation of vapors, direct contact with skin, or accidental ingestion. The routine transport, use, or disposal of these hazardous materials would not pose a significant hazard to the public or environment unless the hazardous materials were accidentally spilled or released into the environment, as discussed in section b) below.

All future uses of the project site would be subject to existing regulatory programs for hazardous materials. The Hayward Fire Department is designated as the Certified Unified Program Agency (CUPA) for the City of Hayward, and coordinates the regulation of hazardous materials and hazardous wastes in the City of Hayward through the following programs:

- Hazardous Materials Business Plan (HMBP) and Hazardous Materials Reporting through the California Environments Reporting System (CERS)
- Underground Storage Tank (UST)
- Aboveground Petroleum Storage Act (APSA)

- Hazardous Waste Generator and/or Treatment Permitting
- California Accidental Release Prevention (CalARP)

The role of a CUPA is to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities associated with the regulation of hazardous materials and hazardous wastes. Businesses that store or use hazardous materials in the City limits of Hayward are required to submit chemical and facility information on the CERS, which is a statewide web-based system to support CUPAs in electronically collecting and reporting various hazardous materials-related data as mandated by the California Health and Safety Code and 2008 legislation (AB 2286). Chapter 6.95 of Division 20 of the California Health and Safety Code requires that an HMBP must be submitted to the local CUPA if on-site hazardous materials exceed in aggregate any of the following: 55 gallons for liquids; 500 pounds for solids; or 200 cubic feet of gases at standard temperature and pressure. HMBPs are required to be submitted electronically to the CERS and must include facility information, a Hazardous Materials Inventory Statement, an Emergency Response Plan, and an Emergency Response Training Plan. The HMBP has to be re-certified for completeness and accuracy every year, or updated and revised as necessary. The Hayward Municipal Code Chapter 3, Article 8 includes regulations for all facilities that handle hazardous materials, even at quantities that do not require the filing of a HMBP. These facilities still have to complete the Facility Information submittal elements of the HMBP on CERS, then complete and file a Claim of Exemption form with the Fire Department.

The CalARP program aims to reduce the likelihood and impact of accidental releases of regulated toxic and flammable substances. Many of these releases could result in adverse off-site consequences.

The program accomplishes these objectives through:

1. Facility evaluations
2. Administrative and operational procedures
3. Emergency preparedness programs, and
4. Facility design requirements

A facility regulated under the CalARP Program must file a written Risk Management Plan (RMP) with the Hayward Fire Department.

Worker health and safety is regulated at the federal level by the US Department of Labor, Occupational Safety and Health Administration (OSHA). OSHA regulations include training requirements for construction workers and a requirement that hazardous materials are accompanied by manufacturer’s Safety Data Sheets (SDSs). The Federal Occupational Safety and Health Act of 1970 authorizes states to establish their own safety and health programs with OSHA approval. Worker health and safety protections in California are regulated by the California Department of Industrial Relations (DIR). The DIR includes the Division of Occupational Safety and

Health (DOSH), which acts to protect workers from safety hazards through its California OSHA (Cal/OSHA) program. Cal/OSHA regulations include requirements for protective clothing, training, and limits on exposure to hazardous materials. California standards for workers dealing with hazardous materials are contained in California Code of Regulations (CCR) Title 8 and include practices for all industries (General Industrial Safety Orders), and specific practices for construction, and other industries. The routine transport, use, and disposal of hazardous materials at the project site during operation and construction activities would be required to comply with a project Health and Safety Plan (HASP) prepared in accordance with CCR Title 8, which would mitigate potential health hazards for workers related to the routine transport, use, or disposal of hazardous materials to a less-than-significant level.

As detailed in Section 4.10 Hydrology and Water Quality, because the proposed project would result in soil disturbance greater than 1 acre, management of hazardous materials during construction activities would be subject to the requirements of the Stormwater Construction General Permit (CGP), which requires preparation and implementation of a SWPPP that includes hazardous materials storage requirements. For example, construction site operators must store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

The transportation of hazardous materials is subject to United States Department of Transportation (DOT), Resource Conservation and Recovery Act (RCRA), and State regulations. In 1990 and 1994, the federal Hazardous Material Transportation Act was amended to improve the protection of life, property, and the environment from the inherent risks of transporting hazardous material in all major modes of commerce. The USDOT developed hazardous materials regulations, which govern the classification, packaging, communication, transportation, and handling of hazardous materials, as well as employee training and incident reporting. The California Highway Patrol, the California Department of Transportation (Caltrans), and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) are responsible for enforcing federal and State regulations pertaining to the transportation of hazardous materials.

Construction of the proposed project would result in the generation of various waste materials that would require recycling and/or disposal, including some waste materials that may be classified as hazardous waste. Hazardous wastes would be required to be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials as required by DOT, RCRA, and state regulations.

Compliance with the existing hazardous materials regulations and programs described above, including requirements for HMBPs and RMPs for facilities handling significant quantities of hazardous materials, OSHA and Cal/OSHA regulations, CCR Title 8; the CGP; and DOT, RCRA, and state regulations, would ensure that the proposed project would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials by ensuring that these materials are properly handled during construction and operation of the proposed project and therefore, would be considered less than significant.

b. Would the project 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 Incorporated)***

There are two main ways that the public and/or the environment could be affected by the release of hazardous materials from the project site into the environment, including: 1) exposing workers and/or the public to potentially contaminated soil and groundwater during construction and/or operation of the project; or 2) exposing workers and/or the public to hazardous building materials (e.g., lead paint, asbestos) during demolition of existing structures.

As previously discussed, the Phase I and Phase II ESAs completed for the proposed project indicated that past releases of hazardous materials at the project site have resulted in the contamination of soil, soil vapor, and groundwater. The public and/or the environment could be affected the past releases of hazardous materials by exposing the environment, workers, and/or the public to potentially contaminated soil, soil vapor, and/or groundwater during construction of the project. Implementation of Mitigation Measure HAZ-1 would address the potential for subsurface impacts from hazardous materials to significantly impact human health or the environment.

Mitigation Measure HAZ-1 Prior to any ground breaking activities, a Site Management Plan (SMP) shall be prepared which summarizes the known environmental conditions on the project site and recommends appropriate site management procedures based on the site specific information and proposed redevelopment activities. The SMP shall include procedures for evaluating, handling, storing, testing and disposing of soil and groundwater generated during project excavation and grading activities. Materials generated from excavation and grading activities on the project site and materials that may be imported to the site shall be tested for potential contaminants prior to use as fill on-site. Fill testing shall be performed by a qualified environmental professional and demonstrated to meet the appropriate threshold criteria (e.g., ESLs). The results of the fill testing shall be submitted to the City of Hayward (City) and the San Francisco Bay Regional Water Quality Control Board (RWQCB) for review and approval prior importing or re-use of the material. The SMP shall include a contingency plan that shall be implemented if previously unidentified potentially contaminated material or regulated features (e.g., USTs) are encountered during construction activities. The contingency plan shall include provisions that require notification of the City, RWQCB, or any other regulatory agencies with jurisdiction, when potentially contaminated material is encountered. Physical signs of potentially contaminated materials include staining/discoloration, oily sheen or free phase products, odors, the presence of rubble/debris/refuse, or the presence of buried features that may contain hazardous materials (e.g., drums, buckets, sumps, vaults, or pipelines). The contingency plan shall include guidelines for the collection of soil and/or groundwater samples by a qualified environmental professional prior to further work in the newly discovered affected area. The samples shall be submitted for laboratory analysis by a state-certified laboratory under chain-of-custody procedures. The analytical methods shall be selected by the environmental professional. The analytical results of the sampling shall be reviewed by the qualified environmental professional and submitted to the appropriate regulatory agency, if appropriate. The environmental professional shall provide recommendations, as applicable, regarding soil/waste management, worker health and safety training, and regulatory agency notifications, in accordance with local, state, and federal requirements. Work shall not resume in the area(s) affected until these recommendations have been implemented under oversight by the City, the RWQCB, or any other regulatory agencies with jurisdiction, as appropriate.

Additionally, asbestos containing material and lead-containing materials were identified in the existing structures at the project site during the site reconnaissance completed as part of the Phase I ESA. Therefore, demolition of these structures could result in the release of hazardous materials into the environment. Implementation of Mitigation Measure HAZ-2, described below, would ensure that this impact would be reduced to a less than significant level.

Mitigation Measure HAZ-2 Prior to the issuance of any demolition permits for existing structures on the project site, a comprehensive Hazardous Building Materials Survey (HBMS) for the project site shall be prepared and signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials, lead-based paint, polychlorinated biphenyls-containing materials and electrical equipment and any other hazardous building materials. The HBMS and abatement specifications shall be submitted to and approved by the City prior to the start of abatement activities. The HBMS shall include abatement specifications for the stabilization and/or removal of the identified hazardous building materials in accordance with all applicable laws and regulations. The demolition contractor(s) shall implement the abatement specifications and submit to the City evidence of completion of abatement activities prior to demolition of the existing structures.

Implementation of Mitigation Measures HAZ-1 and HAZ-2 would require the preparation of an SMP and HMBS, both of which would require the development and implementation of specific procedures to ensure hazardous materials on the project site would be handled properly. Implementation of these mitigation measures would ensure that the proposed project would result in less-than-significant impacts to human health or the environment associated with accidental releases of hazardous materials.

c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?* ***(No Impact)***

There are no existing or proposed schools within one-quarter mile of the project site. The nearest school is Anthony W. Ochoa Middle School, located approximately 1.3 miles east of the project site. Therefore, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school and there would be no impact.

d. *Would the project 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 Incorporated)***

The project site is not included on the list of hazardous materials release sites compiled in accordance with Government Code Section 65962.5 (also known as the Cortese List).[24] However, the project site is listed as having two open Cleanup Program Sites (T10000019814 and T06019790228) on the State Water Resources Control Board's GeoTracker database.[25] The status of T10000019814 is listed as "Open – Site Assessment" and the status of T06019790228 is listed as "Open – Inactive". The site history and known hazardous materials releases which have occurred at the project site are discussed above. The implementation of Mitigation Measures HAZ-1 and HAZ-2 would ensure that the proposed project would not create a significant hazard to the public or the environment and impacts would be less than significant.

e. *Would the project be located within 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 result in a safety hazard or excessive noise for people residing or working in the project area?* ***(Less Than Significant with Mitigation Incorporated)***

The project site is located approximately 6 miles southeast of the Oakland International Airport and 1.4 miles southwest of the Hayward Executive Airport. The project site is within the airport influence area (AIA) of the Oakland International Airport and the Hayward Executive Airport, but not located within any safety compatibility or airport overlay zones. The proposed land use of the project site is an industrial building that would be used for industrial, logistics and/or manufacturing purposes, and does not conflict with the Safety Compatibility Criteria in the Oakland International Airport Land

24 Department of Toxic Substances Control. *EnviroStor*. Website: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29 (accessed September 2022).

25 State Water Resources Control Board. GeoTracker. Website: https://geotracker.waterboards.ca.gov/map/ (accessed September 2022).

Use Compatibility Plan (ALUCP[26]) or Hayward Executive Airport ALUCP[27], which allow manufacturing, research and development, warehouse/distribution, and industrial land uses. As described above, the project site is not located within any safety compatibility zones or airport overlay zones; therefore, the requirements of the City's Airport Overlay Zone Ordinance, as presented in Chapter 10, Article 6 of the Hayward Municipal Code, would not apply. The Alameda County Airport Land Use Commission (ALUC) requests that certain types of actions within AIAs be referred to the ALUC for determination of consistency with the ALUCP prior to their approval by the local jurisdiction, including any discretionary development proposal having a building floor area of 20,000 square feet or greater, and any industrial use having the potential to interfere with, or create hazards to aircraft in flight including, but not limited to:

1. Electrical or other interference with radio communications or navigational signals;
2. Lighting which could be mistaken for airport lighting;
3. Thermal plumes;
4. Glare in the eyes of pilots or aircraft using the airport; or
5. Impaired visibility near the airport from smoke or steam.

Because the proposed project would include a building floor area greater than 20,000 square feet and may include industrial uses, the proposed project plans should be submitted to the ALUC for review. The ALUC review would ensure that no components of the project would conflict with airport safety. Implementation of Mitigation Measure HAZ-3 would address potential aviation hazards associated with the project.

Mitigation Measure HAZ-3 The proposed project plans shall be submitted to the Alameda County Airport Land Use Commission (ALUC) for review and approval prior to issuance of any construction-related permits.

Implementation of Mitigation Measure HAZ-3 would ensure that the ALUC has the opportunity review and approve of the proposed land use within its jurisdiction and that the proposed project impacts related to aviation hazards would be less than significant.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? ***(Less-Than-Significant Impact)***

The Hayward Fire Department (HFD) coordinates the City's preparedness efforts to mitigate, plan for, respond to and recover from natural and technological disasters. The proposed project would not reduce the number of traffic lanes on any adjacent streets and would not alter the existing street grid, and therefore it would not alter or obstruct emergency evacuation routes or response

[26] Alameda County Community Development Agency, 2010. Planning Department. *Oakland International Airport, Airport Land Use Compatibility Plan*. December.

[27] Alameda County Community Development Agency, 2012. Planning Department. *Hayward Executive Airport, Airport Land Use Compatibility Plan*. August.

plan. Therefore, the proposed project would not be expected to impair the function of nearby emergency evacuation routes or response plan and would have less than significant impacts on implementation of an adopted emergency response plan or emergency evacuation plan.

g. *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?* ***(No Impact)***

The project site is located in an urban area and is not within or adjacent to a wildland fire hazard area.[28] Therefore, the proposed project would not expose people or structures to a significant loss, injury or death involving wildland fires, and there would be no impact.

[28] Hayward, City of, 2014a, op. cit.

4.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater 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?	☐	☐	☒	☐

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? ***(Less Than Significant with Mitigation Incorporated)***

The State Water Resources Control Board and nine Regional Water Quality Control Boards regulate water quality of surface water and groundwater bodies throughout California. In the Bay Area, including the project site, the San Francisco Bay Regional Water Quality Control Board (RWQCB) is responsible for implementation the Water Quality Control Plan (Basin Plan). The Basin Plan establishes beneficial water uses for waterways and water bodies within the region. Section 303(d) of the Federal Clean Water Act (CWA) requires that states identify water bodies including bays, rivers, streams, creeks, and coastal areas that do not meet water quality standards and the pollutants that are causing the impairment. Total Maximum Daily Loads (TMDLs) describe the maximum amount of a pollutant that a water body can receive while still meeting established water quality standards. A TMDL requires that all sources of pollution and all aspects of a watershed's drainage system be reviewed and set forth action plans that examine factors and sources adversely affecting water quality and identify specific plans to improve overall water quality and reduce pollutant discharges into impaired water bodies. The Lower San Francisco Bay is listed as an impaired water body for pollutants including DDT, dioxin compounds, furan compounds, PCBs (dioxin-like), dieldrin, trash, PCBs, mercury, and chlordane.[29]

Runoff water quality is regulated by the National Pollutant Discharge Elimination System (NPDES) Program (established through the federal Clean Water Act). The NPDES program objective is to control and reduce pollutant discharges to surface water bodies. Compliance with NPDES permits is mandated by State and federal statutes and regulations. Locally, the NPDES Program is administered by the Water Board. According to the water quality control plans of the Water Board, any construction activities, including grading, that would result in the disturbance of 1 acre or more would require compliance with SWRCB's NPDES permit Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ) (Construction General Permit). The Construction General Permit (CGP) requires preparation of a Stormwater Pollution Prevention Plan (SWPPP) and implementation of construction BMPs during construction activities. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. The proposed project would result in the disturbance of approximately 6.58 acres and, as such, would be required to comply with the CGP as detailed in Mitigation Measure HYD-1 below.

As detailed in Mitigation Measure HYD-2 below, the proposed project would also be subject to the RWQCB's Municipal Regional Permit (MRP), implemented in November 2015 by Order R2-2015-0049, NPDES Permit No. CAS612008. The MRP covers stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties, and the cities of Fairfield, Suisun City, and Vallejo. Provision C.3 of the MRP requires new development and redevelopment projects that would replace more than 10,000 square feet of existing impervious surfaces to include post-construction stormwater control in project designs. Under the C.3 requirements, the preparation and submittal of a Stormwater Control Plan (SCP) would be required for the project site. The purpose of an SCP is to detail the design elements and implementation measures necessary to meet the post-construction stormwater control requirements of the MRP. In particular, SCPs must include LID design measures, which reduce water quality impacts by preserving and recreating natural landscape features, minimizing imperviousness, and using stormwater as a resource, rather than a waste product. The proposed project would also be required to prepare a Stormwater Facility Operation and Maintenance Plan to ensure that stormwater control measures are inspected, maintained, and funded for the life of the project.

Construction. Pollutants of concern during construction include sediment, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on groundwater, on-site surface water, and off-site downstream receiving waters. During soil-disturbing construction

[29] State Water Resources Control Board. 2021. *2018 California Integrated Report (Clean Water Act Section 303(d) List and 305(b) Report)*. Website: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.html (accessed September 2022).

activities, excavated soil would be exposed and there would be an increase potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm water runoff into receiving waters. Sediment from increased soil erosion and chemicals from spills and leaks have the potential to be discharged to downstream receiving waters during storm events, which can affect water quality and impair beneficial uses.

As discussed in Section 4.7, Geology and Soils, the Geotechnical Investigation recommends a preliminary design groundwater depth of 5 feet[30]; however, groundwater at the project site may occur at depths shallower than 5 feet. Therefore, dewatering may be required during construction activities involving excavation. As detailed in Section 3.8, Hazards and Hazardous Materials, subsurface investigation activities completed at the project site for the Phase II ESA identified exceedances of certain constituents in groundwater samples above Direct Exposure Human Health Risk ESLs.[31] Therefore, dewatering effluent would likely contain contaminants and may have high turbidity. Turbid and/or contaminated groundwater could cause degradation of the receiving water quality if discharged directly to storm drains or surface water without treatment. Any groundwater dewatering would be limited in duration (i.e., during construction) and the discharge of dewatering effluent would be subject to permits from the City of Hayward Public Works Department or the RWQCB, depending on if the discharge were to the sanitary sewer or storm drain system, respectively.

Under existing State law, it is illegal to allow unpermitted non-stormwater discharges to receiving waters. As stated in the CGP, non-stormwater discharges directly connected to receiving waters or the storm drain system have the potential to negatively impact water quality. The discharger must implement measures to control all non-stormwater discharges during construction, and from dewatering activities associated with construction. Discharging any pollutant-laden water from a dewatering site or sediment basin into any receiving water or storm drain that would cause or contribute to an exceedance of applicable water quality standards is prohibited.

The CGP allows the discharge of dewatering effluent if the water is properly filtered or treated, using appropriate technology. These technologies include, but are not limited to retention in settling ponds (where sediments settle out prior to discharge of water) and filtration using gravel and sand filters (to mechanically remove the sediment). If the dewatering activity is deemed by the RWQCB not to be covered by the CGP, then the discharger could potentially prepare a Report of Waste Discharge, and if approved by the RWQCB, be issued site-specific Waste Discharge Requirements (WDRs) under the NPDES regulations. Site-specific WDRs contain rigorous monitoring requirements and performance standards that, when implemented, ensure that receiving water quality is not substantially degraded. The discharge of dewatering effluent is authorized under the Construction General Permit if the following conditions are met.

- The discharge does not cause or contribute to a violation of any water quality standard.

30 Cornerstone Earth Group, 2021. Op. cit.
31 BBJ Group. 2021. Op. cit

- The discharge does not violate any other provision of the Construction General Permit.
- The discharge is not prohibited by the applicable Basin Plan.
- The discharger has included and implemented specific BMPs required by the Construction General Permit to prevent or reduce the contact of the non-stormwater discharge with construction materials or equipment.
- The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants.
- The discharge is monitored and meets the applicable numeric action levels.
- The discharger reports the sampling information in the annual report.

If any of the above conditions are not satisfied, the discharge of dewatering effluent is not authorized by the CGP. The discharger must notify the local Regional Water Board of any anticipated non-stormwater discharges not already authorized by the Construction General Permit or another NPDES permit, to determine whether a separate NPDES permit is necessary.

If the water is not suitable for discharge to the storm drain (receiving water), as discussed above, dewatering effluent may be discharged to the sanitary sewer system if discharge criteria are met. These include, but are not limited to, application of treatment technologies or BMPs which will result in achieving compliance with the wastewater discharge limits. Discharges to City of Hayward's sanitary sewer facilities must occur under a discharge permit. The City of Hayward manages the water it accepts into its facilities so that it can ensure proper treatment of wastewater at the treatment facility prior to discharge.

If it is infeasible to meet the requirements of the CGP, acquire site-specific WDRs, or meet the City of Hayward's sewer discharge requirements, the construction contractor would be required to transport the dewatering effluent off-site for treatment and disposal.

As discussed in Section 3.8, Hazards and Hazardous Materials, former operations on the project site have resulted in subsurface contamination from releases of hazardous materials. Subsurface investigation activities completed for the Phase II ESA identified several constituents in near-surface soils above commercial/industrial or construction worker direct contact exposure pathway ESLs and/or regional background concentrations, exceedances of certain constituents in groundwater samples above Direct Exposure Human Health Risk ESLs, and constituents in soil vapor samples at concentrations slightly above the applicable regulatory limits or Human Health Risk Level ESLs.[32] If exposed to stormwater runoff, the contaminants could leach into stormwater runoff and potentially reduce the quality of the receiving water, which would be a significant impact. Implementation of Mitigation Measure HYD-1, described below, would reduce this impact to a less-than-significant level.

[32] BBJ Group. 2021. Op. cit.

Mitigation Measure HYD-1 Prior to construction, the project applicant shall prepare and implement a SWPPP, meeting Construction General Permit requirements (State Water Resources Control Board Order No. 2009-000–DWQ, as amended) designed to reduce potential adverse impacts to surface water quality through the project construction period. The SWPPP shall be submitted to the Planning Director of the City of Hayward Planning Department for review and approval prior to the issuance of any permits for ground disturbing activities.

The SWPPP shall be prepared by a Qualified SWPPP Developer in accordance with the requirements of the Construction General Permit. These include: BMPs for erosion and sediment control, site management/housekeeping/waste management, management of non-stormwater discharges, run-on and runoff controls, and BMP inspection/maintenance/repair activities. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction.

The SWPPP shall include a construction site monitoring program that identifies requirements for dry weather visual observations of pollutants at all discharge locations, and as appropriate (depending on the Risk Level), sampling of the site effluent and receiving waters. A Qualified SWPPP Practitioner shall be responsible for implementing the BMPs at the site and performing all required monitoring and inspection/maintenance/repair activities.

The proposed project is subject to the requirements of the CGP, as identified above, because it would disturb greater than 1 acre of soil. As required by Mitigation Measure HYD-1, a SWPPP would be prepared and construction BMPs detailed in the SWPPP would be implemented during construction, in compliance with the requirements of the CGP. The SWPPP would detail the BMPs to be implemented during construction and would reduce any amount of sedimentation flowing off-site and into downstream receiving waters. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on-site, and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into downstream receiving waters.

Implementation of Mitigation Measure HAZ-1**,** as detailed in in Section 3.9, Hazards and Hazardous Materials, requires the preparation of an SMP which summarizes the known environmental conditions on the project site and recommends appropriate site management procedures based on the site specific information and proposed redevelopment activities. The Site Management Plan would include procedures for evaluating, handling, storing, testing and disposing of soil and groundwater generated during project excavation and grading activities to ensure that it would not pose an unacceptable risk to the environment.

Therefore, implementation of Mitigation Measure HYD-1 and Mitigation Measure HAZ-1 would ensure that construction impacts related to water quality standards, WDRs, and degradation of surface water quality would be less than significant.

Operation. Operation of the proposed project could incrementally contribute to the long-term degradation of runoff water quality and as a result, adversely affect water quality in the receiving waters and San Francisco Bay. Expected pollutants of concern from long-term operation of the proposed Project include bacteria/virus, heavy metals, toxic organic compounds, nutrients, pesticides, sediment/turbidity, trash and debris, oils, and grease. The proposed project would be considered a "regulated project" under the MRP, indicating that the State Water Resources Control Board has determined the size and nature of the project has the potential to discharge a significant pollutant load to stormwater runoff and receiving waters. Therefore, the proposed project would be required to comply with provision C.3 of the MRP as detailed in Mitigation Measure HYD-2.

Mitigation Measure HYD-2 The project applicant shall fully comply with the Water Board stormwater permit requirements, including Provision C.3 of the MRP. The project applicant shall prepare and implement a Stormwater Control Plan (SCP) for the proposed project. The SCP shall be submitted to the Planning Director of the City of Hayward Planning Department for review and approval prior to the issuance of any permits for ground disturbing activities. The SCP would act as the overall program document designed to provide measures to mitigate potential water quality impacts associated with the operation of the proposed project. At a minimum, the SCP for the project shall include:

- An inventory and accounting of existing and proposed impervious areas.
- Low Impact Development (LID) design details incorporated into the project. Specific LID design may include, but is not limited to: using pervious pavements and green roofs, dispersing runoff to landscaped areas, and/or routing runoff to rain gardens, cisterns, swales, and other small-scale facilities distributed throughout the site.
- Measures to address potential stormwater contaminants. These may include measures to cover or control potential sources of stormwater pollutants at the project site.
- A Draft Stormwater Facility Operation and Maintenance Plan for the project site, which will include periodic inspection and maintenance of the storm drainage system. Persons responsible for performing and funding the requirements of this plan shall be identified. This plan must be finalized prior to issuance of building permits for the project.

Implementation of Mitigation Measure HYD-2 would ensure that operational impacts related to water quality standards, WDRs, and degradation of surface water quality would be less than significant because it would require review and approval of the of LID design features included in the proposed project, including bioretention areas that would be used for stormwater control, treatment, and infiltration, prior to the issuance of a building permit. The LID design features would ensure that stormwater runoff from the project size is properly captured and treated before being discharged. In addition, preparation of the SCP would ensure that LID design features are maintained throughout the life of the project, ensuring that this impact would be less than significant.

b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?* ***(Less-Than-Significant Impact)***

The project site is located within the Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin Number 2-9.04, which encompasses approximately 122 square miles in Alameda and Contra Costa counties. The basin is bounded in the north and west by the San Francisco Bay, in the east by the East Bay Hills, and in the south by the Niles Cone Subbasin. Historical groundwater levels in the Subbasin have varied between 10 to 140 feet below mean sea level; however, levels have been rising continuously since the 1950s.[33] According to the Groundwater Sustainability Plan prepared for the East Bay Plain Subbasin, groundwater levels are stable and the basin is sustainable.[34]

As discussed in Section 4.7, Geology and Soils, the Preliminary Geotechnical Investigation completed for the proposed project recommends a preliminary design groundwater depth of 5 feet[35]; however, groundwater at the project site may occur at depths shallower than 5 feet. Because of the shallow depth to groundwater on the project site, dewatering may be performed during construction activities involving excavation. Construction-related dewatering would be temporary and limited to the area of excavations on the project site and would not substantially contribute to depletion of groundwater supplies.

Operation of the proposed project would not involve dewatering or the use of groundwater as potable water. Potable water would be supplied to the project site by the City which purchases all water from the San Francisco Public Utilities Commission (SFPUC). The water supplied to Hayward from SFPUC is predominantly from the Sierra Nevada mountain range, delivered through the Hetch-Hetchy aqueducts, but also includes treated water produced by the SFPUC from its local watershed and facilities in Alameda County.[36] Development of the proposed project would result in an increase in impervious surfaces on the project site from approximately 0.53 acre to approximately 5.05 acres;

---

33 California Department of Water Resources, 2004. California Groundwater Bulletin 118 – Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin. February 27. Website: www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/2-9.04.pdf (accessed September 2022).

34 East Bay Municipal Utility District GSA and City of Hayward GSA. 2022. *East Bay Plain Subbasin Groundwater Sustainability Plan*. January.

35 Cornerstone Earth Group, 2021. Op. cit.

36 Hayward, City of, 2014a, op. cit.

however, the construction of stormwater management bioretention areas would allow much of the stormwater runoff from the project site to infiltrate into the ground surface. Therefore, due to the incorporation of bioretention space and the implementation of LID techniques as required by the MRP, the proposed project would not result in a significant decrease in groundwater recharge that would result in a net deficit in aquifer volume or a lowering of the local groundwater table level.

For the reasons listed above, impacts related to the decrease of groundwater supplies or interference with groundwater recharge would be less than significant and no mitigation is required.

c. *Would the project 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)***

During construction activities, approximately 6.58 acres of soil would be disturbed. Soil would be exposed and drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate. As required by Mitigation Measure HYD-1 the CGP requires the preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed project to reduce impacts on water quality during construction, including those impacts associated with soil erosion and siltation. With compliance with the requirements in the CGP and implementation of construction BMPs, construction impacts related to on- or off-site erosion or siltation would be less than significant.

After the completion of project construction, the proposed project would increase impervious surface area on the project site from approximately 0.53 acre to 5.05 acres; therefore, there would be less exposed soil on the project site that could be subject to erosion and siltation. Additionally, as required by Mitigation Measure HYD-2, the proposed project would be required to comply with the MRP, and would include the incorporation of LID design features including bioretention areas that would be used for stormwater control, treatment, and infiltration. Therefore, due to the increase in impervious surfaces and the implementation of LID techniques as required by the MRP, operational impacts related to on- or off-site erosion or siltation 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 with Mitigation Incorporated)***

Development of the proposed project would result in an increase in impervious surfaces on the project site from approximately 0.53 acre to approximately 5.05 acres which could have the potential to increase the volume and rate of stormwater runoff discharged from the project site. However, as detailed in Mitigation Measure HYD-2, the proposed project would be required to comply with the MRP, and would include the review and approval of the LID design features included in the proposed project, including bioretention areas that would be used for stormwater control, treatment, and infiltration, prior to the issuance of a building permit. The proposed drainage facilities and BMPs needed to accommodate stormwater runoff would be appropriately sized so that on-site flooding would not occur. Therefore, due to the implementation of LID techniques as required by the MRP, the proposed project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite, and this impact would be less than significant.

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; ***(Less-Than-Significant Impact)***

Stormwater Drainage System Capacity. Stormwater infrastructure on the project site currently consists of storm drains and associated catch basins. Storm drains on the project site vary in size, consisting of 6- to 15-inch drains. As part of the proposed project, additional stormwater drains and catch basins would be installed throughout the site, connecting to the existing storm drains mentioned above. Additionally, as detailed in Mitigation Measure HYD-2, the proposed project would be required to comply with the MRP, and would include the review and approval of the LID design features included in the proposed project including bioretention areas that would be used for stormwater control, treatment, and infiltration, prior to issuance of a building permit. The proposed drainage facilities and BMPs needed to accommodate stormwater runoff would be appropriately sized such that drainage facility capacity would not be exceeded during a design storm. Therefore, the proposed project would not result in an exceedance of planned or existing stormwater drainage systems and this impact would be less than significant.

Polluted Runoff. As discussed in Section 4.10.a, pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. Drainage patterns would be temporarily altered during grading and other construction activities, and construction-related pollutants could be spilled, leaked, or transported via storm runoff into adjacent drainages and downstream receiving waters. However, as previously discussed and as detailed in Mitigation Measure HYD-1, the proposed project would be required to comply with the requirements set forth by the Construction General Permit and SWPPP, which would specify BMPs to be implemented to control the discharge of pollutants in stormwater runoff as a result of construction activities and would ensure that potential impacts would be less than significant.

Expected pollutants of concern from long--term operations include pathogens (bacteria/viruses), metals, nutrients, toxic organic compounds, pesticides/herbicides, sediments/total suspended solids, trash and debris, and oil and grease. As previously discussed, and as detailed in Mitigation Measure HYD-2, compliance with the MRP and the implementation of LID techniques would ensure that no substantial sources of polluted runoff would be discharged from the project site. Therefore, potential impacts related to polluted runoff would be less than significant.

iv. Impede or redirect flood flows? ***(Less-Than-Significant Impact)***

As previously discussed, development of the proposed project would result in an increase in impervious surfaces on the project site from approximately 0.53 acre to approximately 5.05 acres; however, the project site will remain relatively flat and the proposed project would not substantially alter drainage patterns. Additionally, as detailed in Mitigation Measure HYD-2, the proposed project would be required to comply with the MRP, and would include the incorporation of LID design features including bioretention areas that would be used for stormwater control, treatment, and infiltration. The proposed drainage facilities and BMPs needed to accommodate stormwater runoff would be appropriately sited and sized so flood flows would not be impeded or redirected and this impact would be less than significant.

d. *In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?* ***(Less-Than-Significant Impact)***

Tsunami. A tsunami is an ocean wave generated by earthquakes resulting in sudden displacements in the sea floor or volcanic activity. Tsunami waves vary in frequency and height and are influenced by the magnitude of the earthquake or eruption. The entire project site is located within a tsunami inundation area mapped by the California Department of Conservation.[37] The proposed project would not increase the likelihood of a tsunami occurring or increase the susceptibility of the project site or surrounding area to inundation by tsunami. While inundation by sea level rise and tsunami could occur on the project site, the proposed project would not increase or exacerbate these coastal flooding hazards. Based on the rulings of the California Second District Court of Appeals (*Ballona Wetlands Land Trust v. City of Los Angeles, 201 Cal. App. 4th 455*) and the California Supreme Court (*California Building Industry Association vs. Bay Area Air Quality Management District*), an analysis of the effects of inundation associated with sea level rise and tsunamis on the project site is not required if the project does not exacerbate the existing condition. Therefore, potential flooding impacts related to tsunamis would be less than significant.

Seiches. Seiches are waves that are created in an enclosed body of water such as a bay, lake, or harbor and go up and down or oscillate and do not progress forward like standard ocean waves. Seiches are also referred to as standing waves and are triggered by strong winds, changes in atmospheric pressure, earthquakes, tsunamis or tidal influence. The height and frequency of seiches are determined by the strength of the triggering factor(s) and the size of the basin. Seiches are not considered a hazard in the San Francisco Bay based on the basin geometry and dimensions of the Bay.[38] There are no other nearby enclosed bodies of water that would subject the project site to inundation due to a seiche. Therefore the proposed project would not result in flooding impacts associated with a seiche.

Dam Inundation. The project site is not located in a dam failure inundation area,[39] and therefore the proposed project would not result in flooding impacts associated with dam failure.

---

[37] California Department of Conservation, 2019. *Alameda County Tsunami Hazard Areas*. Available online athttps://www.conservation.ca.gov/cgs/tsunami/maps/alameda (accessed September 2022).

[38] Borrero et. al., 2006. Numerical Modeling of Tsunami Effects at Marine Oil Terminals in San Francisco Bay. Report prepared for: Marine Facilities Division of the California State Lands Commission. June 8.

[39] Hayward, City of, 2014a. Op. cit.

Flooding. The project site is not located within a 100-year flood hazard zone. According to the Federal Emergency Management Agency (FEMA) Flood Insurance rate Map (FIRM) No. 06001C0269H, the project site is located with Zone X, an area of minimal flood hazard.[40]

e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? **(Less-Than-Significant Impact)***

In the Bay Area, including the project site, the San Francisco Bay Regional Water Quality Control Board (Water Board) is responsible for implementation of the Water Quality Control Plan (Basin Plan). The Basin Plan establishes beneficial water uses for waterways and water bodies within the region. As previously discussed, the proposed project would comply with existing NPDES permit requirements, including the CGP and MRP, and would implement construction and operational BMPs to reduce pollutants of concern in storm water runoff as detailed in Compliance Measures HYD-1 and HYD-2. Compliance with these regulatory requirements would ensure that the proposed project would not degrade or alter water quality, causing the receiving waters to exceed the water quality objectives, or impair the beneficial use of receiving waters. As such, the proposed project would not result in water quality impacts that would conflict with the San Francisco Bay RWQCB Water Quality Control Plan (Basin Plan). Construction and operational impacts related to a conflict with the Basin Plan would be less than significant and no mitigation is required.

The Sustainable Groundwater Management Act (SGMA), which was enacted in September 2014, requires governments and water agencies of high- and medium-priority basins to halt overdraft of groundwater basins. The SGMA requires the formation of local Groundwater Sustainability Agencies (GSAs), which are required to adopt Groundwater Sustainability Plans to manage the sustainability of the groundwater basins. The Project site is in the East Bay Plain subbasin, which the California Department of Water Resources designates as a medium priority basin. The GSAs identified for the East Bay Plain subbasin are the City of Hayward and East Bay Municipal Utility District (EBMUD).[41]

The Groundwater Management Plan for the East Bay Plain subbasin was finalized in January 2022. The plan indicates that there has been a significant rebound in groundwater levels since the 1960's due a decrease in pumping and that groundwater levels are currently stable and the basin is sustainable. The Plan also indicates that the overall groundwater quality is good in the intermediate and deep aquifer zones with some contamination limited to the shallow aquifer zone. The sustainability goal is to manage and protect the subbasin in a manner that avoids the six undesirable results listed below, while continuing to collect and analyze data to support science-based decision making to evaluate new opportunities for sustainable groundwater beneficial uses:

- Chronic lowering of groundwater levels, indicating a significant and unreasonable depletion of supply.

---

40 Federal Emergency Management Agency, 2018. Flood Insurance ate Map (FIRM) No. 06001C0269H, effective December 21. Available online at: https://msc.fema.gov/portal/search?AddressQuery=890%20depot%20road%2C%20hayward%2C%20ca#searchresultsanchor (accessed September 2022).

41 East Bay Municipal Utility District GSA and City of Hayward GSA. 2022. Op. cit.

- Significant and unreasonable reduction of groundwater storage.
- Significant and unreasonable seawater intrusion.
- Significant and unreasonable degraded water quality.
- Significant and unreasonable land subsidence.
- Depletions of interconnected surface water and groundwater that have significant and unreasonable reductions in beneficial uses or surface water, including beneficial use by ecosystems that depend on groundwater.

Basin management actions include the continued use of the Bayside Groundwater Project Phase 1 facilities that enable EBMUD to inject potable drinking water into the deep aquifer during years with surplus water to be extracted during times of drought; monitoring groundwater level, groundwater quality, surface water quality, and subsidence; construction of new monitoring facilities; completion of special studies; completion of biological surveys; GSP reporting; periodic assessment of contaminant plumes; and possible fate and transport modeling related to potential future groundwater quality issues.[42]

Because of the relatively shallow depth to groundwater on the project site, dewatering may be performed during construction activities involving excavation. Construction-related dewatering would be temporary and limited to the area of excavations on the project site and would not substantially contribute to depletion of groundwater supplies. As previously discussed, the City of Hayward purchases potable water from SFPUC which is predominantly from the Sierra Nevada mountain range, delivered through the Hetch-Hetchy aqueducts, but also includes treated water produced by the SFPUC from its local watershed and facilities in Alameda County.[43] Therefore, operation of the proposed project would not involve the use of groundwater as potable water. Although the proposed project would increase the amount of impervious surfaces at the project site by 4.52 acres, the construction of stormwater management bioretention areas would allow much of the stormwater runoff from the project site to infiltrate into the ground surface. The bioretention basins would also provide treatment for stormwater so that pollution of the groundwater supply would not occur. For these reasons, the proposed project would not conflict with or obstruct the implementation of a sustainable groundwater management plan. Therefore, construction and operational impacts related to conflict with, or obstruction of water quality control plans or sustainable groundwater management plans would be less than significant, and no mitigation is required.

[42] East Bay Municipal Utility District GSA and City of Hayward GSA. 2022. Op. cit.

[43] Hayward, City of, 2014a, op. cit.

4.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

a. *Would the project physically divide an established community?* ***(No Impact)***

The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. For instance, the construction of an interstate highway through an existing community may constrain travel from one side of the community to another; similarly, such construction may also impair travel to areas outside the community.

The project site is located along Depot Road in Hayward, and occupies a lot bordered by commercial and light industrial uses to the north, Russel City Energy Center to the east and south, and the City of Hayward Water Pollution Control Facility to the west. The project site is currently developed with four one-story metal buildings. Redevelopment of the project site would represent a general continuation of the commercial and industrial uses adjacent to the project site and would be consistent with the type and intensity of development in the area. Vehicle access to the site would be provided via two new driveways at the northwest and northeast corners of the site along Depot Road. The proposed project would not require the construction of any new infrastructure that would divide an established community, and would not remove any means of access. The proposed project would not result in a physical division of an established community or adversely affect the continuity of land uses in the vicinity and there would be no impact.

b. *Would the project 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?* ***(Less-Than-Significant Impact)***

The City of Hayward 2040 General Plan designates the project site for Industrial Corridor (IC) uses. The IC designation typically includes warehouses, office buildings, research and development facilities, manufacturing plants, business parks, and corporate campus buildings. The IC designation allows a maximum floor area ratio (FAR) of 0.8. The City of Hayward Zoning Map identifies the project site as General Industrial (IG), which is intended to accommodate the widest variety of industrial uses including heavy industrial and warehousing/distribution uses. Warehouses and distribution facilities are an allowed use within the IG zoning district, which also allows a maximum FAR of 0.8 and a maximum building height of 75 feet. The proposed building would be a maximum of approximately 45 feet in height and proposes a FAR of 0.48.

The proposed building would generally comply with the required front setback of 20 feet along Depot Road as outlined in the IG Zoning District. The setback would be reduced to approximately 13 feet near the proposed cul-de-sac, which would be less distance than required by IG Zoning District. However, in accordance with Section 10-1.2830 of the City's Municipal Code, the project sponsor has requested approval of an Administrative Variance to reduce the setback for this portion of the proposed building.

The project does not propose to change the General Plan land use designation or the current zoning for the project site and would be consistent with the City's General Plan and Zoning Ordinance. Therefore, the proposed project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect and this impact would be less than significant.

4.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

a. Would the project 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? ***(No Impact)***

The United States Geological Survey has identified 11 past, present, or prospective mining sites within the City. The past and present mining sites include those owned by the American Salt Company, the Oliver Salt Company, East Bay Excavation Company, and Ideal Cement Company, as well as the La Vista Quarry and Mill. These sites contain or contained a variety of mineral resources, including: stone, limestone, clay, fire clay, halite, and salt. There are three sites identified for prospective stone and clay extraction.[44]

The State requires local jurisdictions to protect areas with economically significant mineral resources from incompatible development. In an effort to maintain availability of sand, gravel, and crushed rock for long-term construction needs, the California Division of Mines and Geology (under the authority of the Surface Mining and Reclamation Act of 1975) has classified aggregate mineral zones throughout the State. The only designated mineral resource "sector" of regional significance in Hayward is the La Vista Quarry, located in the area east of Mission Boulevard and Tennyson Road. The quarry is designated as Sector N, a greenstone deposit in the City of Hayward. "Probable" and "potential" resource zones have been designated in the vicinity of the quarry. No other significant aggregate or mineral resources are located in the City.[45]

All operations at the La Vista Quarry site have been terminated due to depletion of the accessible aggregate resource. The Surface Mining Permit for the quarry issued by Alameda County expired in 2008. The City annexed the La Vista Quarry in 2006. The 2002 General Plan designates the quarry site as Parks and Recreation and Limited Open Space which is compatible with the State-mandated reclamation plan.[46]

There are no known mineral resources in the vicinity of the project site. Therefore, the project would not result in the loss of availability of a known mineral resource that would be of value to the region or residents of the State and there would be no impact.

[44] Hayward, City of, 2014a, op. cit.
[45] Ibid.
[46] Ibid.

b. Would the project 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)***

Please refer to Section 4.12.a. The proposed project would not result in the loss of availability of any known locally-important mineral resource recovery sites, and no impact would occur.

4.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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?	☐	☐	☒	☐

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; and similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA), and this scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements which better represent how humans are more sensitive to sound at night.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within one dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

A project would result in a significant noise effect if it would substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of applicable regulatory agencies, including, as appropriate, the City of Hayward. Certain land uses are considered more sensitive to noise than others. Examples of these include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The project site is generally surrounded by a mix of commercial, office, industrial, and manufacturing uses. There are no sensitive receptors within 1000 feet of the project site.

Existing noise sources at the project site are primarily associated with traffic on surrounding roadways, including Depot Road and Whitesell Street. According to Figure HAZ-1 in the City's General Plan, the project site is subject to traffic noise levels of approximately 65 dBA CNEL.

As shown in Table 4.E, the City of Hayward sets noise and land use compatibility standards in the General Plan. The General Plan identifies exterior noise thresholds of up to 75 dBA L_{dn} as normally acceptable for industrial land uses.

Table 4.E: Exterior Noise Compatibility Standards for Various Land Uses

Land Use Type	Highest Level of Exterior Noise Exposure That is Regarded as "Normally Acceptable" [a] (L_{dn} [b] or CNEL [c])
Residential: Single-Family Homes, Duplex, Mobile Home	60
Residential: Townhomes and Multi-Family Apartments and Condominiums	65
Urban Residential Infill [d] and Mixed-Use Projects [e]	70
Lodging: Motels and Hotels	65
Schools, Libraries, Churches, Hospitals, Nursing Homes	70
Auditoriums, Concert Hall, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75
Office Buildings: Business, Commercial, and Professional	70
Industrial Manufacturing, Utilities, Agriculture	75

Source: Governor's Office of Planning and Research, State of California General Plan Guidelines 2003, October 2003 and City of Hayward, 2014.

Notes:

[a] As defined in the State of California General Plan Guidelines 200, "Normally Acceptable" means that the specified land uses is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise mitigation. For projects located along major transportation corridors (major freeways, arterials, and rail lines) this "normally acceptable" exterior noise level may be exceeded for certain areas of the project site (e.g. the frontage adjacent to the corridor or parking areas) with the exception of primary open space areas (see policies HAZ-8.5 and HAZ-8.6).

[b] L_{dn} or Day Night Average is an average 24-hour noise measurement that factors day and night noise levels.

[c] CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.

[d] Urban residential infill would include all types of residential development within existing or planned urban areas (such as Downtown, The Cannery Neighborhood, and the South Hayward BART Urban Neighborhood) and along major corridors (such as Mission Boulevard).

[e] Mixed-Use Projects would include all mixed-use developments throughout the City of Hayward.

In addition, the City of Hayward regulates noise in the City's Municipal Code, Chapter 4, Article 1, Public Nuisances. This ordinance limits noise from commercial or industrial property to no more than 70 dBA at any point outside of the property plane. The ordinance also limits construction and landscaping activities to between the hours of 7:00 a.m. and 7:00 p.m. on Monday through Saturday and between the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays, and limits noise levels generated by an individual device or piece of equipment to no more than 83 dBA at a distance of 25 feet from the source, and the noise level at any point outside of the property plane shall not exceed 86 dBA.

Because the City does not have construction noise level limits, construction noise was assessed using criteria from the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). Table 4.F shows the Federal Transit Administration (FTA)'s Detailed Analysist Construction Noise Criteria based on the composite noise levels per construction phase.

Table 4.F: Detailed Assessment Construction Noise Criteria

Land Use	Daytime 1-hour L_{eq} (dBA)	Nighttime 1-hour L_{eq} (dBA)
Residential	80	70
Commercial	85	85
Industrial	90	90

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
dBA = A-weighted decibels
L_{eq} = equivalent continuous sound level

Vibration standards included in the FTA Manual are used in this analysis for ground-borne vibration impacts on human annoyance. The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table 4.G provides the criteria for assessing the potential for interference or annoyance from vibration levels in a building.

Table 4.G: Interpretation of Vibration Criteria for Detailed Analysis

Land Use	Max L_v (VdB)[1]	Description of Use
Workshop	90	Vibration that is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration.
Office	84	Vibration that can be felt. Appropriate for offices and similar areas not as sensitive to vibration.
Residential Day	78	Vibration that is barely felt. Adequate for computer equipment and low-power optical microscopes (up to 20×).
Residential Night and Operating Rooms	72	Vibration is not felt, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100×) and other equipment of low sensitivity.

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] As measured in 1/3-Octave bands of frequency over the frequency range 8 to 80 Hertz.
FTA = Federal Transit Administration
L_V = velocity in decibels
VdB = vibration velocity decibels
Max = maximum

Table 4.H lists the potential vibration building damage criteria associated with construction activities, as suggested in the FTA Manual. FTA guidelines show that a vibration level of up to 0.5 in/sec in PPV is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For non-engineered timber and masonry buildings, the construction building vibration damage criterion is 0.2 in/sec in PPV.

Table 4.H: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Non-engineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
FTA = Federal Transit Administration
PPV = peak particle velocity
in/sec = inch/inches per second

a. *Would the project 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?* ***(Less Than Significant with Mitigation Incorporated)***

Construction-Period Impacts. Construction of the proposed project could include demolition and construction activities that would result in a temporary increase in ambient noise levels in the project site vicinity. Maximum construction noise levels would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from one day to several days depending on the phase of construction. Project construction would occur for approximately 3 to 4 months. The level and types of noise impacts that would occur during construction are described below.

Short-term noise impacts would occur during grading and site preparation activities. Table 4.I lists maximum noise levels recommended for noise impact assessments for typical construction equipment, based on a distance of 50 feet between the equipment and a noise receptor. Construction-related short-term noise levels would be higher than existing ambient noise levels currently in the project area but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during construction of the proposed project. The first type involves construction crew commutes and the transport of construction equipment and materials to the site for the proposed project, which would incrementally increase noise levels on roads leading to the site. As shown in Table 4.I, there would be a relatively high single-event noise exposure potential at a maximum level of 85 dBA L_{max} with trucks passing from 50 feet.

Table 4.I: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 Feet[1]
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (FHWA 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
L_{max} = maximum instantaneous sound level

The second type of short-term noise impact is related to noise generated during demolition, excavation, grading, and construction on the project site. Construction is performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

Average maximum noise levels range up to 86 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, including excavation and grading of the site, tends to generate the highest noise levels because earthmoving machinery is the noisiest construction equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

As identified above, the project site is generally surrounded by a mix of commercial, office, industrial, and manufacturing uses. The closest receptors include the City's Wastewater Treatment Facility and Russel City Energy Center, located south and east of the project site approximately 350 feet from the center of project site and commercial uses located approximately 400 feet north of the project opposite Depot Road. The 350-foot distance would decrease the noise level by approximately 17 dBA compared to the noise level measured at 50 feet from the construction activity. Therefore, the closest off-site receptors may be subject to short-term construction noise levels of 71 dBA L_{eq} when construction is occurring at the center of project site, and this noise level would be lower than the 90 dBA L_{eq} criteria established by FTA for industrial uses.

The Hayward Municipal Code also limits noise levels generated by an individual device or piece of equipment to no more than 83 dBA at a distance of 25 feet from the source and the noise level at any point outside of the property plane shall not exceed 86 dBA. The project's construction noise levels could result in an exceedance of the City's allowable construction noise levels from construction equipment and could result in a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Implementation of Mitigation Measure NOI-1 for project construction would ensure compliance with the Hayward Municipal Code.

Mitigation Measure NOI-1 The project contractor shall implement the following measures during construction of the project:

- Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active project site.
- Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active project site during all project construction.
- Construction haul trucks and materials delivery traffic shall avoid residential areas whenever feasible.
- Prohibit extended idling time of internal combustion engines by either shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.
- Ensure that all general construction related activities are restricted to between the hours of 7:00 a.m. and 7:00 p.m. on Monday through Saturday and between the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays.
- Designate a "disturbance coordinator" at the City of Hayward who would be responsible for responding to any local

complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem, and ensure noise levels do not exceed noise ordinance standards.

Implementation of the above mitigation measure would limit construction activities to the less noise-sensitive periods of the day and would reduce construction impacts to less-than-significant level.

Long-Term Noise Impacts. The project would generate long-term noise impacts from both traffic and stationary noise sources, as discussed below.

Traffic Noise Impacts*.* As identified above, existing noise sources at the project site are primarily associated with traffic on surrounding roadways, including Depot Road and Whitesell Street. According to Figure HAZ-1 in the City's General Plan, the project site is subject to traffic noise levels of approximately 65 dBA. Motor vehicles with their distinctive noise characteristics are the dominant noise source in the project vicinity. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer.

Implementation of the proposed project would result in new daily trips on local roadways in the project site vicinity. A characteristic of sound is that a doubling of a noise source is required to result in a perceptible (3 dBA or greater) increase in the resulting noise level. This analysis assumes that the proposed project would generate approximately 890 net new average daily trips calculated by multiplying the PM peak hour trips of 89 by a factor of 10.[47] The adjacent Depot Road carries approximately 1,030 average daily trips. Project trips would represent a small increase in noise levels, up to approximately 2.7 dBA CNEL based on the following equation:

$$Change\ in\ (dBA) = 10 * \log_{10}\left(\frac{Future\ Volume}{Current\ Volume}\right)$$

Therefore, based on the existing traffic noise levels at the project site and the increase in traffic noise levels, daily project trips would not result in a perceptible noise increase along any roadway segment in the project vicinity. Therefore, traffic noise impacts would be less than significant.

Stationary Noise Impacts*.* Implementation of the proposed project would generate various on-site stationary noise sources, including heating, ventilation, and air conditioning (HVAC), truck

47 To be conservative, the noise analysis uses 890 net new daily trips, as opposed to the 667 daily trips in the transportation analysis, to account for increased noise related to truck trips.

delivery activities and dock operations. The Hayward Municipal Code limits non-construction noise from commercial or industrial property to 70 dBA at any point outside of the property.

Of the on-site stationary noise sources during operation of the project, noise generated by dock activities would generate the highest maximum noise levels. To provide a conservative analysis, it is assumed that operations would occur equally during all hours of the day and half of the 22 loading docks would be active at all times. Additionally, it is assumed that within any given hour, 10 heavy trucks would maneuver to park near or back into one of the proposed loading docks.

The project would have various rooftop mechanical equipment including HVAC units on the proposed building. To be conservative, it is assumed the project could have five (5) rooftop HVAC units and operate 24 hours per day and would generate sound power levels (SPL) of up to 76 dBA SPL or 63 dBA L_{eq} at 5 feet, based on manufacturer data (Allied Commercial 2019).

To determine the future noise impacts from project operations to the noise sensitive uses, a 3-D noise model, SoundPLAN, was used to incorporate the site topography as well as the shielding from the proposed building on-site. A graphic representation of the operational noise impacts is presented in Appendix B. The results show that the combined hourly noise levels generated by the on-site stationary sources does not exceed 70 dBA at any point outside of the property. Therefore, the proposed project would not substantially increase noise levels over existing conditions. This impact would be less than significant.

b. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?* ***(Less-Than-Significant Impact)***

Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Vibration energy propagates from a source, through intervening soil and rock layers, to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., pavement breaking and operating heavy-duty earthmoving equipment), rail activity, and occasional traffic on rough roads. In general, groundborne vibration from standard construction practices is only a potential issue when within 25 feet of sensitive uses. Groundborne vibration levels from construction activities very rarely reach levels that can damage structures; however, these levels are perceptible near the active construction site. With the exception of older buildings built prior to the 1950s or buildings of historic significance, potential structural damage from heavy construction activities rarely occurs. When roadways are smooth, vibration from traffic (even heavy trucks) is rarely perceptible.

The roadways surrounding the project area, including Depot Road, Whitesell Street, and the existing driveways, are paved, smooth, and unlikely to cause significant groundborne vibration. In addition, the rubber tires and suspension systems of buses and other on-road vehicles make it unusual for on-road vehicles to cause groundborne noise or vibration problems. It is, therefore, assumed that no such vehicular vibration impacts would occur and, therefore, no vibration impact analysis of on-road vehicles is necessary.

The following vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and will assess the potential for structural damages using vibration levels in PPV (in/sec) because vibration levels calculated in RMS are best for characterizing human response to building vibration, while vibration level in PPV is best used to characterize potential for damage.

Construction Vibration. Construction of the proposed project could result in the generation of groundborne vibration. This construction vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and will assess the potential for building damages using vibration levels in PPV (in/sec) because vibration levels calculated in RMS are best for characterizing human response to building vibration, while vibration level in PPV is best used to characterize potential for damage. The FTA Transit Noise and Vibration Impact Assessment guidelines indicate that a vibration level up to 102 VdB (an equivalent to 0.5 in/sec in PPV) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 in/sec in PPV).

Table 4.J shows the PPV and VdB values at 25 feet from a construction vibration source. As shown in Table 4.J, bulldozers and other heavy-tracked construction equipment (except for pile drivers and vibratory rollers) generate approximately 87 VdB of groundborne vibration when measured at 25 feet, based on the Transit Noise and Vibration Impact Assessment. At this level, groundborne vibration would result in potential annoyance to workers, but would not cause any damage to the buildings. Construction vibration, similar to vibration from other sources, would not have any significant effects on outdoor activities (e.g., those outside commercial/office buildings in the project vicinity). Outdoor site preparation for the proposed project is expected to include the use of bulldozers and loaded trucks. The greatest levels of vibration are anticipated to occur during the site preparation phase. All other phases are expected to result in lower vibration levels.

The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts occur normally within the buildings. The formula for vibration transmission is provided below.

$$L_v dB\ (D) = L_v dB\ (25\ ft) - 30\ Log\ (D/25)$$
$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

For typical construction activity, the equipment with the highest vibration generation potential is the large bulldozer, which would generate 87 VdB at 25 feet. The closest surrounding buildings to the project site include the existing industrial building, located approximately 18 feet east of the project site. The industrial building would experience vibration levels of up to 91 VdB (0.146 PPV [in/sec]). This vibration level at the nearest building from construction equipment would not exceed

Table 4.J: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 feet	
	PPV (in/sec)	L_V (VdB)[a]
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Sources: *Transit Noise and Vibration Impact Assessment* (FTA 2018).
[a] RMS vibration velocity in decibels (VdB) is 1 µin/sec.
µin/sec = micro-inches per second
FTA = Federal Transit Administration
in/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

the FTA threshold of 94 VdB (0.2 in/sec PPV) for building damage. Although construction vibration levels at the nearest buildings would have the potential to result in annoyance, these vibration levels would no longer occur once construction of the project is completed. Therefore, groundborne vibration impacts from construction activities associated with the proposed project would be considered less than significant.

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 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? **(Less-Than-Significant Impact)***

The closest airport to the project site is the Hayward Executive Airport, located approximately 1.6 miles north of the project site. In addition, the Oakland International Airport is located approximately 6.7 miles northwest of the project site. The project site is not located within the 55 dBA CNEL noise contours for either of these airports and is not located within the vicinity of a private airstrip. Although aircraft-related noise may be audible on the project site, the proposed project would not expose people working in the project area to excessive noise levels due to the proximity of a public airport. In addition, the City's Airport Noise Ordinance included within the Municipal Code regulates sound generated from aircraft going to and from the Hayward Executive Airport, which would further reduce potential noise impacts on people residing or working in the project area. This impact would be less than significant.

4.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

*a. Would the project 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)***

CEQA Guidelines Section 15126.2[d] identifies a project as growth inducing if it fosters economic or population growth, or the construction of additional housing either directly or indirectly in the surrounding environment. New employees generated by commercial or industrial development and new population from residential development represent direct forms of growth, which have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area.

Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of little significance to the environment. Typically, the growth-inducing potential of a project would be considered substantial if it fosters growth or a concentration of population in excess of what is assumed in pertinent master plans, land use plans, or in projections made by regional planning agencies.

The proposed project involves the demolition of the existing one-story metal buildings on the project site and the construction of an approximately 137,040-square-foot industrial building and associated site improvements including a new cul-de-sac at the end of Depot Road, new internal roadways, landscaping, and utility improvements. It is anticipated that approximately 20 people would be employed on the project site, an increase of 18 people compared to the 2 people that are currently employed on the project site under existing conditions.

The proposed project would not result in direct population growth as the use proposed is not residential and would not contribute to permanent residency on site. Although the potential exists for the proposed project to result in population growth through employment opportunities, the project is consistent with the General Plan land use designation and zoning designation for the site and would not generate growth beyond that anticipated in the General Plan. Therefore, the proposed project would not directly or indirectly induce population growth and this impact would be considered less than significant.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? ***(No Impact)***

The proposed project involves the demolition of the existing one-story metal buildings on the project site and the construction of an approximately 137,040-square-foot industrial building and associated site improvements including a new cul-de-sac at the end of Depot Road, new internal roadways, landscaping, and utility improvements. Under existing conditions, the project site does not contain any residential uses and construction of the proposed project would not displace existing residents within the nearby residential areas. Therefore, the proposed project would not result in the displacement of people or housing and would not require the construction of replacement housing elsewhere, and there would be no impact.

4.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☒	☐
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

a. Would the project 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: i. Fire protection? ii. Police protection? iii. Schools? iv. Parks? v. Other public facilities? ***(Less-Than-Significant Impact)***

Fire Protection. The Hayward Fire Department (HFD) would provide fire protection services to the proposed project. The HFD provides fire, paramedic advanced life support/emergency medical, and emergency services to all areas within City limits. There are nine HFD fire stations in Hayward, with the closest fire station to the project site being HFD Fire Station 6, located at 1401 West Winton Avenue, approximately 1.4 miles northeast of the project site.[48] Planned growth under the General Plan would increase calls for fire protection service in the City. The proposed project is consistent with the site's General Plan designation and does not represent unplanned growth given that the project site would be developed consistent with its land use and zoning designations. The proposed project could result in an incremental increase in demand for fire protection service due to the increase in daytime population at the project site as a result of additional employees at the project site. However, the proposed project would be required to comply with all applicable codes for fire safety and emergency access. In addition, the project applicant would be required to submit plans to HFD for review and approval prior to the issuance of building permits to ensure the project would conform to applicable building and fire codes.

The HFD would continue providing services to the project site and would not require additional firefighters to serve the proposed project. The construction of a new or expanded fire station would not be required. The proposed project would not result in a significant impact on the physical

[48] Hayward, City of, 2019. Hayward Fire Department: Stations. Website: https://www.hayward-ca.gov/fire-department/stations (accessed September 2022).

environment due to the incremental increase in demand for fire protection and life safety services. The incremental increase in demand for services is not expected to adversely affect existing responses times to the site or within the City. Therefore, construction and operation of the proposed project would have a less than significant impact on fire protection and safety services and facilities.

Police Protection. The Hayward Police Department (HPD) provides police protection services to the surrounding project area and project site. The HPD headquarters are located at 300 West Winton Avenue, approximately 2.4 miles northeast of the project site. Planned growth under the General Plan would increase calls for police protection service in the City. The project could result in an incremental increase in the demand for police protection services; however, the proposed project is consistent with the site's General Plan designation and does not represent unplanned growth.

The HPD would continue to provide services to the project site and would not require additional officers to serve the project site, and the construction of new or expanded police facilities would not be required. In addition, the proposed project would be required to comply with Section 10-2.640 of the City's Municipal Code, which requires appropriate lighting for safety and security, including lighting throughout the parking lot and around the proposed building. Therefore, the proposed project would not result in a substantial adverse impact associated with the provision of additional police facilities or services, and this impact would be less than significant.

Schools. The proposed project does not include any residential uses, and therefore would not directly affect student population. It is anticipated that approximately 20 people would be employed on the project site, an increase of 18 people compared to the 2 people that are currently employed on the project site under existing conditions. A fraction of new employees hired as a result of implementation of the proposed project may move to the City. However, this growth would be minimal and result in an incremental increase in student population and would be spread amongst the whole school district, depending upon place of residence. Therefore, the proposed project would not result in a substantial increase in the number of school-age children in the area, and this impact would be less than significant.

Parks. The proposed project does not include any residential uses and would not generate a direct need for additional park space. As noted above, a fraction of employees of the proposed project may move to the City. However, this growth would only result in an incremental increase in demand for parks, and would be spread throughout the City, depending on place of residence. Therefore, the proposed project would have a less than significant impact related to parks.

Other Public Facilities. Development of the proposed project would not increase demand for other public service including libraries, community centers, and public health care facilities. As previously discussed, the proposed project does not include development of residential uses and would therefore not result in an increased demand for public facilities, and this impact would be less than significant.

4.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

*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 proposed project would involve the development of an industrial building and would not generate population growth that would result in a significant increase in the use of existing neighborhood and regional parks or other recreational facilities. Although the project-generated 20 employees could elect to utilize the City's park facilities, the project would not involve the addition of any housing units that would permanently increase the City's population. Furthermore, the proposed project would be required to pay applicable development fees to offset impacts from deterioration to parks and recreation facilities in the City. Therefore, development of the proposed project would not create a significant increase in the use of existing neighborhood, regional parks, or other recreational facilities. Impacts would be less than significant and mitigation is not required.

*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 proposed project is consistent with the City General Plan, zoning ordinance, and City growth projections. Although the project-generated 20 employees may use nearby recreational facilities, construction of the proposed industrial building would not result in a substantial increase in the use of parks or other recreational facilities, and the proposed project would not require the construction or expansion of existing recreational facilities. Impacts would be less than significant and mitigation is not required.

4.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	☐	☒	☐	☐
c. Substantially increase hazards due 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?	☐	☐	☒	☐

The following section is based on information provided in the Local Transportation Assessment[49] and CEQA Analysis[50] documents prepared for the proposed project. The documents evaluate the transportation impacts that could result from the proposed project, including impacts associated with traffic congestion, transit services, and pedestrian and bicycle circulation. The Local Transportation Assessment and CEQA Analysis documents are included as Appendices C and D of this report, respectively.

a. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? ***(Less-Than-Significant Impact)***

The following includes an evaluation of the proposed project's potential to conflict with applicable programs, plans, ordinances, and policies addressing the circulation system, including the City's Traffic Study Guidelines and the Mobility Element of the Hayward 2040 General Plan. The section begins with a description of the proposed Project's trip generating potential, compared to existing conditions, followed by an analysis of potential impacts to transit, bicycle, pedestrian, and roadway facilities. As discussed, this impact would be less than significant.

Trip Generation. Trip generation is the process of estimating the number of vehicles that would likely access the project site. Project trip generation was estimated for the following three time periods:

- Weekday daily
- Weekday AM peak hour
- Weekday PM peak hour

[49] Kittelson & Associates, 2022. *Hayward Depot Road Industrial EIR – Local Transportation Assessment.* November 18.

[50] Kittleson & Associates, 2022. *Hayward Depot Road Industrial EIR – CEQA Analysis*. November 18.

Trips were estimated using data provided by the Institute of Transportation Engineers (ITE) and trip generation for the proposed project was estimated using average trip rates for Light Industrial (Code 110) as shown in Table 4.K. The trip rates were extracted from the most recent data available in the web-based Trip Generation database maintained by ITE. As shown in Table 4.K, the proposed project is expected to generate 667 weekday daily vehicle trips, 101 weekday AM peak hour vehicle trips, and 89 weekday PM peak hour vehicle trips. The site is currently used as a cardboard recycling facility. Trips from this type of use are not significant, and to be most conservative, no trip credits were recommended for the existing buildings located at the project site. Given the project trips are less than 100 p.m. peak trips, no Alameda County Transportation Commission (ACTC) Congestion Management Plan (CMP) analysis is required for the proposed project.

Table 4.K: Project Trip Generation Estimate

Land Use	Rate/Size	Daily	AM Trips			PM Trips		
			In	Out	Total	In	Out	Total
Trip Generation Rates								
General Light Industrial[b]	KSF[a]	4.87	88%	12%	0.74	14%	86%	0.65
Trip Generation Estimate								
Proposed Project	137.04 TSF	667	89	12	101	12	77	89

Source: Hayward Depot Road Industrial EIR – Local Transportation Assessment (Kittelson & Associates, October 2022).
[a] KSF = 1,000 square feet

Project trip distribution was developed using the City of Hayward General Plan travel demand model. The project trip distribution is based on the model's distribution of trips in and out of the traffic analysis zone (TAZ) representing the project site, as well as adjustments to reflect local travel patterns and circulation conditions. The trip distribution for the project is as follows:

- 10% to/from the west via SR-92
- 5% to/from the north via Hesperian Boulevard
- 10% to/from the northwest via Whitesell Road/Cabot Boulevard/Winton Avenue
- 50% to/from destinations in the north, east, and south/southeast via SR-92
- 12% to/from the south/southeast via Hesperian Boulevard
- 11% to/from the south/southeast via Industrial Boulevard
- 2% to/from the south via Eden Landing Road and Arden Road

Public Transit. According to the Local Transportation Assessment, the proposed project would not expected to degrade access to public transit facilities. There are two bus stops approximately a ¼ mile distance from the project site north on Cabot Road and east on Depot Road. Both bus stops are served by AC Transit Line 86, which operates at 35-minute headways and can be accessed via sidewalks on Depot Road and Cabot Road. The proposed project would not affect any existing or planned bus stops or sidewalks in the study area. Therefore, implementation of the proposed project would not conflict with plans, programs, and policies regarding transit facilities, or decrease the performance of such facilities. Impacts would be less than significant.

Pedestrian and Bicycle Facilities. According to the Local Transportation Assessment, pedestrian-oriented facilities are not prioritized in the project area. The presence of sidewalks on the roadways in the project vicinity are inconsistent. Whitesell Street, south of Depot Road, has sidewalks on both sides of the road, and the sidewalks on Cabot Road, north of Depot Road, terminate after approximately ¾ of a mile. Depot Road has consistent sidewalks only on the north side of the road. The roadways in the project vicinity mostly traverse light industrial and commercial land uses, and most of the arterials and collectors are designated truck routes. The proposed project would include a paved 5-foot wide sidewalk on the south side of Depot Avenue along the property boundary.

The site plan for the proposed project includes bike racks, consistent with California Green Building Code requirements for developers to provide bicycle parking for 5% of the vehicular parking spaces added on a site. Four short-term bike racks and four long-term bike racks would be provided at the project site. The bicyclist access points to the project site consist of the two driveways along Depot Road. The study area features bike routes, including a bike route along Whitesell Street, Depot Road, and Clawiter Road. Depot Road is classified as a Class III Bicycle route, in which bicycles share the right-of-way with vehicular traffic. The City of Hayward Bike and Pedestrian Master Plan identifies Depot Road as a future separated bikeway.

The Local Transportation Assessment includes the following pedestrian and bicycle-oriented treatments that will be conditions of approval:

- Ensure that the west and east driveways on Depot Road are designed for pedestrian and bicycle visibility (sidewalks clearly delineated, improved visibility by minimizing bushes and large signs).

- Coordinate with the City of Hayward to install warning signage (such as bikeway signage, and caution signage for exiting vehicles).

Although the Local Transportation Assessment includes potential pedestrian and bicycle-oriented treatments that could be considered as part of design review and conditions of approval, implementation of the proposed project would not conflict with plans, programs, and policies regarding pedestrian and bicycle facilities, or decrease the performance of such facilities. Additionally, the project sponsor would be required to prepare a Signing and Striping plan as a condition of project approval, which would address all of the recommended treatments. Impacts would be less than significant.

Overall, the proposed project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Impacts would be less than significant.

b. Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)? ***(Less Than Significant Impact with Mitigation Incorporated)***

On September 27, 2013, California Governor Jerry Brown signed SB 743 into law and started a process that changed the way transportation impact analysis is conducted as part of CEQA compliance. These changes include elimination of automobile delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts under CEQA. According to SB 743, these changes are intended to "more appropriately balance the needs of congestion management with Statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."

In December 2018, the State Office of Planning and Research (OPR) completed an update to the CEQA Guidelines to implement the requirements of SB 743. The Guidelines state that VMT must be the metric used to determine significant transportation impacts. The Guidelines require all lead agencies in California to use VMT-based thresholds of significance in CEQA documents published after July 1, 2020. The City of Hayward's thresholds of significance by land use to evaluate project impacts under CEQA are shown in Table 4.L below. Given that the project is an industrial park with primarily industrial uses and other minor supporting uses, it was determined that the employment-industrial threshold (VMT per employee below the existing regional average) would be appropriate to apply to the project.

Table 4.L: Thresholds of Significance for Residential and Employment Projects

Land Use	Threshold of Significance
Residential	15% below existing average VMT per capita for the City of Hayward
Employment - Office	15% below existing regional average VMT per employee
Employment - Industrial	Below existing regional average VMT per employee
Retail	Net increase in total regional VMT

Source: Hayward Depot Road Industrial EIR – Local Transportation Assessment (Kittelson & Associates, October 2022).

The City of Hayward has also adopted screening criteria, which can be used to quickly identify when a project should be expected to cause a less than significant impact related to VMT and if screened out would not require a detailed VMT analysis. Before any VMT analysis is undertaken, the project must undergo this screening assessment to determine if it can be screened out of a detailed VMT study. The City's screening criterion for industrial projects is detailed below. All of the following conditions must be met for the project to be screened out.

- Located in areas with below average VMT per employee and/or within a half mile of a major transit stop or corridor.
- Include low VMT-supporting features that will produce low VMT per employee
- Must include features that are similar to or better than what exists today for density and parking to support no increase in VMT per industrial employee.

The low-VMT area screening criterion does not apply to this project and therefore the project cannot be screened out of a detailed VMT analysis for the following reasons:

- The project is located in an area with average to 15 percent above average VMT.
- The project includes low-VMT supporting features:
    - Vehicle parking would include electric vehicle charging stations.

  - The project incentivizes commuting by bike, with bike racks and storage facilities.

- The project includes features that are similar to or better than what exists today for density and parking to support no increase in VMT per industrial employee. The project improves conditions compared to what is currently on the site:

  - Increases density: The site currently serves as a cardboard recycling facility. The existing structures will be demolished, and the site will be vacated by December 2022. The proposed project would increase the developed space to 6.58 acres.

  - Increases parking: With the project, on-site parking will increase to 67 auto parking spaces.

The average VMT per employee in Alameda County is 18.15, and the project area zone has an average VMT per employee of 18.58. Therefore, the project is in an area that reports slightly above the average VMT per employee. Therefore, VMT reductions would be needed for the project to meet the VMT threshold. The project requires a VMT reduction of 0.43 or 2.3 percent to achieve the County regional average VMT per employee. Detailed VMT calculations can be found in Appendix A of the CEQA Analysis.[51]

The City of Hayward's guidelines recommend mitigating VMT impacts by reducing the number of single-occupant vehicles generated by a site. This can be accomplished by changing the proposed land use or by implementing Transportation Demand Management (TDM) strategies. The guidelines provide recommended mitigation measures for residential, office, retail, and mixed-use developments based on a "pre-approved" list. The city guidelines also refer to using the Alameda CTC VMT Reduction Calculator Tool- Design Document where appropriate. The Alameda CTC VMT reduction calculator tool is based on the San Diego Association of Governments (SANDAG) VMT Reduction Calculator Tool (2019) and research from California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, published in August 2021. The Alameda CTC VMT Reduction Calculator Tool was not used in this analysis as the tool does not support the analysis of low-density areas. The project TAZ (#748) land density is too low for the tool to apply. This analysis therefore uses the City of Hayward's and CAPCOA approved mitigation measures.

Given that general light industrial are considered employment projects with home-based work VMT (i.e., accounting for all trips between home and work), the commute-focused mitigation measure was selected from the City of Hayward's "pre-approved" list of mitigation measures as detailed below in Mitigation Measure TRA-1. The City's list and CAPCOA provides maximum VMT reductions based on information that has been made available since the publication of the 2021 CAPCOA documentation as well as accounts for City conditions.

Implementation of Mitigation Measure TRA-1, which requires the implementation of the following TDM measures where 100 percent of full-time employees shall be eligible to participate, would reduce the impacts on VMT to less-than-significant levels.

[51] Kittleson & Associates, 2022. *Hayward Depot Road Industrial EIR – CEQA Analysis*. November 18.

Mitigation Measure TRA-1

To achieve the 2.3 percent VMT per employee reduction, the project applicant and/or operator of the facility shall implement the TDM measures below where 100 percent of full-time employees shall be eligible to participate:

1. Promotions and Marketing Program.

The applicable TDM measures as part of the mitigation measures for the project are:

- Promotions and Marketing Program
  - Promote and educate employees so they are aware of the TDM programs and incentives available to them via brochures and printed information on transit, shuttles and bike maps. This shall include information material in an employee handbook, new-hire packets, and internal postings in common areas.
  - Monthly drawings for employees who use a commute alternative for 50 percent of their trips, and log them in a company maintained trip diary.

Implementation of Mitigation Measure TRA-1 would reduce VMT by 4 percent. This measure would reduce VMT by more than 2.3 percent, and therefore this impact would be reduced to a less-than-significant level.

c. *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?* ***(Less-Than-Significant Impact)***

The proposed project would be accessed via two 26-foot wide driveways on Depot Road. Both driveways would provide access for circulation for autos, loading and delivery trucks, waste vehicles and emergency vehicles. No sight distance or visibility issues were identified at the proposed driveways. The proposed project would be located near similar uses and would be accessed from roadways where trucks are already common. LOS and potential vehicle queuing were considered at the project driveways, and as in the Local Transportation Assessment, project driveways are anticipated to operation at LOS A.

As detailed in the Local Transportation Assessment, an analysis of the project driveways and internal site was conducted using AutoCAD AutoTurn to assess circulation and site access for trucks and emergency vehicles. Specifically, AutoTurn templates were prepared for a 31.17-foot-long fire truck and a standard eighteen-wheel semitrailer. The analysis concluded that a standard fire truck can navigate the project driveways and drive aisles and a standard eighteen-wheel semitrailer can navigate the project driveway, drive aisles, and loading/unloading docks. AutoTurn templates were not prepared for passenger vehicles, since the fire truck and semitrailer templates represent the largest vehicles expected to enter and exit the site. Given the results of the truck turning templates, it is expected that the driveways and drive aisles are sufficient to accommodate passenger vehicles. In addition, the exiting vehicle queues at the project driveways are not expected to exceed the available storage nor conflict with internal site intersections; therefore, no conflict is expected between exiting queuing vehicles, parking spaces, and internal drive aisle intersections.

Parking-related impacts, such as insufficient parking supply to meet demand, are not considered impacts under CEQA.[52] Therefore, the discussion of parking demand and supply is provided for informational purposes only. The City of Hayward Off-Street Parking Regulations require one parking space for every 250 square feet in an office building, and 1 space per 2,000 square feet for an industrial use. In total, the project will need 69 parking spaces. The project would provide 67 standard parking stalls. A credit for the two remaining parking spaces was requested by providing 8 bicycle spaces, as permitted by Hayward Municipal Code Section 10-2.406.

Overall, the proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Impacts would be less than significant.

d. Would the project result in inadequate emergency access? ***(Less-Than-Significant Impact)***

Emergency vehicle access to the project site would be provided from Depot Road. As previously discussed, an analysis of the project driveways and internal site was conducted using AutoCAD AutoTurn to assess circulation and site access for emergency vehicles. AutoTurn templates were prepared for a 31.17-foot-long fire truck and the analysis concluded that a standard fire truck can navigate the project driveways and drive aisles. The proposed project would not modify the existing roadway network such that it would result in a change in the access for emergency vehicles to or adjacent to the project site. Furthermore, access to, from, and on the site for emergency vehicles would be reviewed and approved by the Hayward Fire Department prior to project construction. The proposed project would comply with all applicable codes and ordinance for emergency vehicle access, which would ensure adequate access to, from, and on-site for emergency vehicles.

As previously discussed, there are nine HFD fire stations in Hayward, with the closest fire station to the project site being HFD Fire Station 6, located at 1401 West Winton Avenue, approximately 1.4 miles northeast of the project site.[53] Although general traffic congestion may delay emergency vehicle response during peak commute times, the proposed project is not anticipated to have significant impacts on existing response times. Therefore, the proposed project would have a less than significant impact related to emergency access.

52 *Taxpayers for Accountable School Bond Spending v. San Diego Unified School Dist. (2013) 215 Cal.App.4th 1013.*

53 Hayward, City of, 2019. Hayward Fire Department: Stations. Website: https://www.hayward-ca.gov/fire-department/stations (accessed September 2022).

4.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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:				
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.	☐	☒	☐	☐

a. 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:

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. ***(Less-Than-Significant with Mitigation Incorporated)***

AB 52 provides for consultation between lead agencies and Native American tribal organizations during the CEQA process. Prior to the release of an Environmental Impact Report or Negative Declaration/Mitigated Negative Declaration for public review, a lead agency must provide the opportunity to consult with local tribes.

A request form describing the project and map depicting the project site was sent to the NAHC in West Sacramento requesting a list of tribes eligible to consult with the City, pursuant to Public Resources Code section 21080.3.1. LSA sent letters on behalf of the City to these individuals via certified mail on November 28, 2022 notifying them of their opportunity to consult for this project. No requests for consultation have been received to date.

As discussed in Section 4.5, Cultural Resources, of this Initial Study, the proposed project would have no impact on known tribal cultural resources that are listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources, nor has the City identified a tribal cultural resource at the project site. With implementation of Mitigation Measure CUL-1, the potential construction-period discovery of previously unidentified human remains, which may be of tribal origin, would be reduced to a less-than-significant level.

4.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater 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?	☐	☐	☒	☐

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? ***(Less-Than-Significant Impact)***

The City of Hayward owns and operates the wastewater collection and treatment system that serves almost all of the residential, commercial, and industrial users within the incorporated city limits. The East Bay Dischargers Authority disposes of the treated wastewater. An 8-inch sanitary sewer main is located within the Depot Road right-of-way and would serve the project site via a new 8-inch connection. The new sanitary sewer line would be constructed in conformance with City standards, and its construction would not cause significant environmental effects.

The City provides water for residential, commercial, industrial, governmental, and fire suppression uses. The City owns and operates its own water distribution system and purchases all of its water from the SFPUC. Emergency water supplies are available through connections with the Alameda County Water District (ACWD) and EBMUD in case of disruption of delivery from SFPUC. The City receives water through two aqueducts along Mission Boulevard and Hesperian Boulevard that have a total capacity of 32 million gallons per day. The aqueducts deliver potable water through a pressurized distribution system with over 360 miles of pipelines, 14 water storage reservoirs, 7 pump stations, transmission system pressure regulating valves, numerous zonal pressure reducing valves, and 2 booster pump stations. Five water wells, certified by the California Department of

Health Services for short duration emergency use only, are located within the City limits and can provide up to 13.6 million gallons of water per day (mgd).[54]

The City updated its Urban Water Management Plan (UWMP) in 2020,[55] and adopted the UWMP in 2021. According to the UWMP, the annual water use in 2020 was 5,082 million gallons (mg). As discussed in Section 4.19.b, the proposed project would not substantially increase demand for water and would therefore not exceed the capacity of existing water treatment facilities. The proposed project would not require the construction of new water treatment facilities, or the expansion of existing facilities, other than those already planned. A 12-inch distribution main is located within the Depot Road right-of-way and would serve the project site via four new connections ranging in size from 2 inches to 10 inches in diameter. The proposed project would connect directly to existing mains, which have sufficient capacity to accommodate the proposed project. Therefore, the impact of the proposed project on water infrastructure would be less than significant.

The proposed storm drainage infrastructure would include new stormwater drains a catch basins that would be installed throughout the site, connecting to existing storm drains on the project site that vary in size from 6- to 15-inch drains. Bioretention areas would also be incorporated into the landscape design of the proposed project to provide appropriate vegetation and water quality treatment in vegetated areas. In addition, on-site drainage would be designed consistent with the Alameda County NPDES C.3 requirements for LID. Therefore, the impact of the proposed project on stormwater infrastructure would be less than significant.

The project site is currently served by overhead electricity lines. The proposed project would connect to and underground these existing lines. The proposed building would include connections to the telecommunications lines that currently run through the project site.

Therefore, because the proposed project would connect to existing utility services within or adjacent to the project site, and there is sufficient excess capacity within those systems to accommodate project demands, the relocation or reconstruction of new or expanded water, wastewater treatment or stormwater drainage, electric power, or telecommunications facilities would not be required, and this impact would be less than significant.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? ***(Less-Than-Significant Impact)***

As noted above, the City provides water service to the project site and purchases all of its water from the SFPUC. The water supplied to Hayward is predominantly from the Sierra Nevada mountain range, delivered through the Hetch-Hetchy aqueducts, but also includes treated water produced by the SFPUC from its local watershed and facilities in Alameda County.[56] The City's 2020 UWMP

[54] Hayward, City of, 2014a, op. cit.
[55] Hayward, City of, 2011. *2021 Urban Water Management Plan*. July.
[56] Hayward, City of, 2014a, op. cit.

describes the existing and planned sources of water available in the water system service area over the next 20 years, in 5-year increments.

In 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 with the goal of increasing salmonid populations in three San Joaquin River tributaries and the Bay-Delta. Implementation of the Bay-Delta Plan would significantly affect water supplies for SFPUC and therefore the City. 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. However, implementation of the plan is uncertain for several reasons, including lawsuits and litigation, unclear responsibility, and impacts of other policies and permits. Due to the level of uncertainty surrounding the Bay-Delta Plan, the City's UWMP presents information for water supply reliability assuming the Bay Delta Plan Amendment is implemented.

The UWMP indicates that existing water supply entitlements are sufficient to meet the City's projected demands through 2045 during a normal year. However, the UWMP indicates that the City would experience significant water supply cutbacks during a single dry year and multiple dry years from SFPUC due to the implementation of the Bay-Delta Plan Amendment. However, these shortfalls would invoke the City's Water Shortage Contingency Plan (WSCP)[57] which identifies a variety of shortage response actions including demand reduction, supply augmentation, operational changes, and mandatory restrictions. Additionally, the City is working to identify alternate supplies to minimize the need for imported SFPUC water and SFPUC is working to identify alternate supplies that would not be impacted by the Bay Delta Plan Amendment. Due to the uncertainty of the implementation of the Bay-Delta Plan Amendment, the UWMP indicates that updated information should be obtained from the City prior to making decisions based on water supply and demand values included in the UWMP. Impacts related to new or expanded water supply facilities cannot be identified at this time or implemented in the near term; instead, SFPUC and the City would address supply shortfalls through increased rationing, which could result in significant cumulative effects, but the project would not make a considerable contribution to impacts from increased rationing.

The UWMP, which identifies water system improvements necessary to meet future water demand, did not identify any deficiencies in the vicinity of the project site. The existing water system infrastructure has adequate capacity to serve the proposed project and the anticipated water use of the proposed project would not be significantly higher than the water demand of the project site under existing conditions. In addition, the proposed project would be required to coordinate with the HDF to assess fire flow requirements and comply with them as part of the project. Based on the above, the City would have sufficient water supply to support the proposed project and implementation of the project would not require new or expanded entitlements for water supplies, and impacts related to water supply would be less than significant.

[57] Hayward, City of, 2021. *The City of Hayward 2020 Water Shortage Contingency Plan*. July.

*c. Would the project 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 owns and operates its municipal wastewater collection system containing 350 miles of sewer mains, 9 sewage lift stations, and 2.5 miles of force mains. Wastewater is collected and transported via underground sewer lines to the City of Hayward Water Pollution Control Facility (WPCF) located at the terminus of Enterprise Avenue in western Hayward. In 2020, the WPCF treated 3,922 mg of wastewater, discharged 3,745 mg of treated wastewater, and recycled 177 mg within its service area.[58] The WPCF treats an average of 11.3 mg of wastewater every day, about 61 percent of its 18.5 mgd capacity, which includes service to the project site.[59]

The proposed project would generate domestic wastewater associated with sinks and toilets to serve the employees at the proposed project, which would be treated by the WPCF. Planned growth under the General Plan would increase the collection and treatment of wastewater. The project is consistent with the City's General Plan land use designation and does not represent unplanned growth given that the project site would be developed consistent with its land use and zoning designations. Furthermore, the WPCF is currently only treating an average 61 percent of its capacity on a daily basis; therefore the City has sufficient capacity to serve the proposed project. Therefore, wastewater generated from the proposed project would not cause the WPCF to violate any wastewater treatment requirements and this impact would be less than significant.

*d. Would the project 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)***

The City of Hayward provides weekly garbage collection and disposal services through a Franchise Agreement with Waste Management, Inc. (WMI), a private company. WMI subcontracts with a local non-profit, Tri-CED Community Recycling, for residential collection of recyclables. Altamont Landfill is the designated disposal site in the City's Franchise Agreement with WMI. Altamont Landfill is a Class II facility that accepts municipal solid waste from various cities, including Hayward. The landfill occupies a 2,063-acre site of which 472 acres are permitted for landfill. The Altamont Landfill has a total capacity of 124.4 million cubic yards and a remaining capacity of 65.4 million cubic yards, and can accept 11,150 tons per day. The landfill has an anticipated ceased operation date of December 1, 2070.[60]

---

58 Hayward, City of, 2021. *2020 Urban Water Management Plan*. July.

59 Hayward, City of, 2019. *Hayward Downtown Specific Plan and Associated Zoning Code Update Draft EIR.* January 7.

60 CalRecycle, 2019. *SWIS Facility/Site Activity Details. Altamont Landfill & Resource Recovery (01-AA-0009).* Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/7?siteID=7 (accessed September 2022).

Based on a generation rate of 8.93 pounds per employee per day[61], the project would generate approximately 178.6 pounds of solid waste per day.[62] As noted above, the Altamont Landfill has adequate capacity to serve the proposed project. As such, the project would be served by a landfill with sufficient capacity to accommodate the project's waste disposal needs. Furthermore, the project would comply local and State west reduction strategies. Therefore, impacts associated with the disposition of solid waste would be less than significant.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? ***(Less-Than-Significant Impact)***

The proposed project would comply with all federal, State, and local solid waste statutes and/or regulations related to solid waste, including the City's construction and demolition debris waste reduction and recycling requirements, which requires preparation of a waste management plan for demolition and construction of any nonresidential buildings. Also refer to Section 4.19.d. The proposed project would result in a less than significant impact related to solid waste regulations.

61 California Department of Resources Recycling and Recovery (CalRecycle). *Estimated Solid Waste Generation Rates*. https://www2.calrecycle.ca.gov/wastecharacterization/general/rates (accessed September 2022).

62 8.93 pounds per employee per day × 20 employees = 238 pounds of solid waste per day.

4.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

*a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan? **(Less-Than-Significant Impact)***

The project site is not located within any State responsibility areas (SRA) for fire service,[63] and is not within a very high fire hazard severity zone.[64] In addition, as noted in Section 4.9.f, the proposed project would not impair the implementation of, or physically interfere with, and adopted emergency response plan. Therefore, this impact would be less than significant.

*b. Would the project, 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? **(Less-Than-Significant Impact)***

Refer to Section 4.20.a. Additionally, as noted in Section 2.0, Project Description, the project is generally level, and is primarily bound by existing development. Therefore, the proposed project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and this impact would be less than significant.

[63] California Department of Forestry and Fire Protection. *Fire Hazard Severity Zone Viewer*. Available online at: https://egis.fire.ca.gov/FHSZ/ (accessed September 2022).

[64] Hayward, City of, 2014a, op. cit.

c. *Would the project 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?* ***(Less-Than-Significant Impact)***

Refer to Section 4.20.a. The proposed project is not located within an SRA for fire service and is not within a very high fire hazard severity zone. Therefore, the proposed project would not require the installation or maintenance of associated infrastructure, and this impact would be less than significant.

d. *Would the project 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?* ***(Less-Than-Significant Impact)***

Refer to Section 4.20.a and 4.20.b. The project site is generally level and is not located within an SRA for fire service or a very high fire hazard severity zone. Therefore, the proposed project would not expose people or structures to significant risks as a result of post-fire slope instability or drainage and runoff changes.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐

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? ***(Less Than Significant with Mitigation Incorporated)***

Implementation of Mitigation Measures CUL-1 and GEO-1 would ensure that potential impacts to historic, archaeological, tribal and paleontological resources that could be uncovered during construction activities would be reduced to a less-than-significant level. Implementation of Mitigation Measures BIO-1a through BIO-3 would ensure that potential impacts to special-status species and nesting birds are reduced to a less-than-significant level. Therefore, with the incorporation of mitigation measures, development of the proposed project would not: 1) degrade the quality of the environment; 2) substantially reduce the habitat of a fish or wildlife species; 3) cause a fish or wildlife species population to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history.

*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)? **(Less Than Significant with Mitigation Incorporated)***

The proposed project's impacts would be individually limited and not cumulatively considerable. The potentially significant impacts that can be reduced to a less-than-significant level with implementation of recommended mitigation measures include the topics of air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and transportation. These impacts would primarily be related to construction-period activities, would be temporary in nature, and would not substantially contribute to any potential cumulative impacts associated with these topics. For the topic of air quality, potentially significant impacts to air quality standards associated with project construction would be reduced to less-than-significant levels with implementation of Mitigation Measure AIR-1. For the topic of biological resources, implementation of Mitigation Measures BIO-1a through BIO-3 would ensure that impacts to special status-species are reduced to a less-than-significant level. For the topic of cultural resources, potentially significant impacts to archaeological and tribal cultural resources would be reduced to less-than-significant levels with implementation of Mitigation Measure CUL-1. For the topic of geology and soils, potentially significant impacts related to geologic hazards and paleontological resources would be reduced to less-than-significant levels with implementation of Mitigation Measures GEO-1 and GEO-2. For the topic of hazards and hazardous materials, implementation of Mitigation Measures HAZ-1 through HAZ-3 would ensure that potential impacts associated with the release of hazardous materials, which could in turn degrade the quality of the environment, and aviation hazards would be reduced to a less-than-significant level. For the topic of hydrology and water quality, implementation of Mitigation Measures HYD-1 and HYD-2 would ensure that potential water quality impacts are reduced to a less-than-significant level. For the topic of noise, implementation of Mitigation Measure NOI-1 would reduce construction impacts to less-than-significant level. For the topic of transportation, potentially significant impacts related to VMT would be reduced to a less-than-significant impact with implementation of Mitigation Measure TRA-1.

For the topics of aesthetics, agricultural and forestry resources, greenhouse gas emissions, land use and planning, mineral resources, population and housing, public services, recreation, utilities and service systems, and wildfire, the project would have no impacts or less-than-significant impacts, and therefore, the project would not substantially contribute to any potential cumulative impacts for these topics. All environmental impacts that could occur as a result of the proposed project would be reduced to a less-than-significant level through the implementation of the mitigation measures recommended in this document.

Implementation of these measures would ensure that the impacts of the project would be below established thresholds of significance and that these impacts would not combine with the impacts of other cumulative projects to result in a cumulatively considerable impact on the environment as a result of project development. Therefore, this impact would be less than significant.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ***(Less Than Significant with Mitigation Incorporated)***

The proposed project would not result in any environmental effects that would cause substantial direct or indirect adverse effects to human beings. As discussed in Section 4.9, Hazards and Hazardous Materials, implementation of Mitigation Measures HAZ-1 and HAZ-2 would ensure that the proposed project would not create a significant hazard that would cause substantial adverse effects on human beings. Therefore, this impact would be less than significant.

This page intentionally left blank

5.0 LIST OF PREPARERS

LSA Associates, Inc.
157 Park Place
Pt. Richmond, CA 94801

Theresa Wallace, AICP, Principal in Charge
Matthew Wiswell, AICP, Project Manager
Ashley Honer, Environmental Planner
Amy Fischer, Principal/Air Quality Specialist
Cara Cunningham, Associate/Air Quality Specialist
J.T. Stephens, Principal/Noise Specialist
Moe Abushanab, Noise Specialist
John Kunna, Associate/Senior Biologist
Holly Torpey, Senior GIS Specialist/Programmer
Patty Linder, Graphics and Production

This page intentionally left blank

6.0 REFERENCES

Alameda County Community Development Agency, 2010. Planning Department. *Oakland International Airport, Airport Land Use Compatibility Plan*. December.

Alameda County Community Development Agency, 2012. Planning Department. *Hayward Executive Airport, Airport Land Use Compatibility Plan*. August.

Bay Area Air Quality Management District, 2017. Clean Air Plan. April 19.

Bay Area Air Quality Management District. 2022.*Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. April.

BBJ Group. 2021. *Report of Phase II Environmental Site Assessment, 3890 and 3898 Depot Road, Hayward, California, Site Cleanup Program Case No. RO2499*. September 29.

BBJ Group. 2022. Report of Phase I Environmental Site Assessment, 6.6-Acre Former Automotive Salvage Yard, 3890 and 3898 Depot Road, Hayward, California. April 8.

Borrero et. al., 2006. Numerical Modeling of Tsunami Effects at Marine Oil Terminals in San Francisco Bay. Report prepared for: Marine Facilities Division of the California State Lands Commission. June 8.

California Department of Water Resources, 2004. California Groundwater Bulletin 118 – Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin. February 27. Website: www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/2-9.04.pdf (accessed September 2022).

California Energy Commission (CEC). 2015. Medium and Heavy-Duty Truck Prices and Fuel Economy 2013–2026. Website: efiling.energy.ca.gov/getdocument.aspx?tn=206180 (accessed January 2023).

California Energy Commission. 2021. Energy Consumption Data Management Service. Electricity Consumption by County. Website: www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed November 2022).

California Department of Conservation, 2019. *Alameda County Tsunami Hazard Areas*. Available online athttps://www.conservation.ca.gov/cgs/tsunami/maps/alameda (accessed September 2022).

California Department of Conservation, 2019. Earthquake Zones of Required Investigation (map). Website: maps.conservation.ca.gov/cgs/EQZApp/app/ (accessed September 2022). April 4.

California Department of Forestry and Fire Protection. *Fire Hazard Severity Zone Viewer*. Available online at: https://egis.fire.ca.gov/FHSZ/ (accessed September 2022).

California Department of Resources Recycling and Recovery (CalRecycle). Estimated Solid Waste Generation Rates. https://www2.calrecycle.ca.gov/wastecharacterization/general/rates (accessed September 2022).

California, State of, 2015. *Alameda County Williamson Act FY 2014/2015* (map). September 28.

California, State of, 2016. Department of Conservation. California Important Farmland Finder (map). Website: maps.conservation.ca.gov/dlrp/ciff/ (accessed August 2022).

California State Mining and Geology Board, 2014. Surface Mining Reclamation Act Regulations. California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1.

CalRecycle, 2019. SWIS Facility/Site Activity Details. Altamont Landfill & Resource Recovery (01-AA-0009). Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/7?siteID=7 (accessed September 2022).

Cornerstone Earth Group, 2021. *Preliminary Geotechnical Investigation, Depot Road Warehouse*. September 9.

Department of Toxic Substances Control. *EnviroStor*. Website: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29 (accessed September 2022).

East Bay Municipal Utility District GSA and City of Hayward GSA. 2022. *East Bay Plain Subbasin Groundwater Sustainability Plan*. January.

Federal Emergency Management Agency, 2018. Flood Insurance ate Map (FIRM) No. 06001C0269H, effective December 21. Available online at: https://msc.fema.gov/portal/search?AddressQuery=3890%20depot%20road%2C%20hayward%2C%20ca#searchresultsanchor (accessed September 2022).

Hayward, City of, 2011. *2021 Urban Water Management Plan*. July.

Hayward, City of, 2014a. *Hayward 2040 General Plan Background Report.* January.

Hayward, City of, 2014b. *Hayward 2040 General Plan Policy Document, Hazards Element, Policy HAZ-2.2*. January.

Hayward, City of, 2019. Hayward Downtown Specific Plan and Associated Zoning Code Update Draft EIR. January 7.

Hayward, City of, 2019. Hayward Fire Department: Stations. Website: https://www.hayward-ca.gov/fire-department/stations (accessed September 2022).

Hayward, City of. 2019. *Industrial District Design Guidelines.* May 28.

Hayward, City of, 2021. *The City of Hayward 2020 Water Shortage Contingency Plan*. July.

Hayward, City of, 2021. 2020 Urban Water Management Plan. July.

Kittleson & Associates, 2022. *Hayward Depot Road Industrial EIR – CEQA Analysis*. November 18.

Kittelson & Associates, 2022. *Hayward Depot Road Industrial EIR – Local Transportation Assessment.* November 18.

State Water Resources Control Board. GeoTracker. Website: https://geotracker.waterboards.ca.gov/map/ (accessed September 2022).

State Water Resources Control Board. 2021. *2018 California Integrated Report (Clean Water Act Section 303(d) List and 305(b) Report)*. Website: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.html (accessed September 2022).

Taxpayers for Accountable School Bond Spending v. San Diego Unified School Dist. (2013) 215 Cal.App.4th 1013.

University of California Museum of Paleontology. *Databases.* Website: https://ucmp.berkeley.edu/collections/databases/ (accessed September 2022).

U.S. Department of Transportation (DOT). "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles (accessed November 2022).

This page intentionally left blank

APPENDIX A

CALEEMOD OUTPUT SHEETS

This page intentionally left blank

3890 and 3898 Depot Road Project

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	137.04	1000sqft	4.58	137,040.00	0
Parking Lot	83.00	Space	2.00	33,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2024
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 - The proposed project would include 67 surface parking spaces and 16 trailer stalls.

Construction Phase - Construction would begin early 2023 and occur for 10 months.

Grading - Approximately 275 cubic yards of cut would be exported from the site.

Demolition - The proposed project would result in the demolition of the existing buildings and adjacent surface pavements on the project site.

Vehicle Trips - Trip rates based on the trip generation prepared for the proposed project (667 average daily trips).

Energy Use - The proposed project would not include natural gas.

Construction Off-road Equipment Mitigation - Assuming the use of Tier 2 construction equipment and compliance with BAAQMD Basic Construction Mitigation Measures.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	230.00	150.00
tblConstructionPhase	NumDays	20.00	15.00

tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	PhaseEndDate	5/24/2024	1/5/2024
tblConstructionPhase	PhaseEndDate	3/29/2024	12/8/2023
tblConstructionPhase	PhaseEndDate	3/31/2023	3/24/2023
tblConstructionPhase	PhaseEndDate	5/12/2023	4/21/2023
tblConstructionPhase	PhaseEndDate	4/26/2024	12/22/2023
tblConstructionPhase	PhaseEndDate	4/14/2023	3/31/2023
tblConstructionPhase	PhaseStartDate	4/27/2024	12/25/2023
tblConstructionPhase	PhaseStartDate	4/15/2023	4/3/2023
tblConstructionPhase	PhaseStartDate	3/30/2024	12/11/2023
tblConstructionPhase	PhaseStartDate	4/1/2023	3/27/2023
tblEnergyUse	NT24NG	0.21	0.00
tblEnergyUse	T24NG	1.17	0.00
tblGrading	MaterialExported	0.00	275.00
tblLandUse	LotAcreage	3.15	4.58
tblLandUse	LotAcreage	0.75	2.00
tblVehicleTrips	ST_TR	1.74	4.87
tblVehicleTrips	SU_TR	1.74	4.87
tblVehicleTrips	WD_TR	1.74	4.87

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					
2023	0.5408	1.6064	1.7571	3.5900e-003	0.1700	0.0725	0.2425	0.0685	0.0679	0.1364	0.0000	317.0866	317.0866	0.0625	7.5500e-003	320.8990
2024	0.3613	3.1000e-003	5.2500e-003	1.0000e-005	2.8000e-004	1.5000e-004	4.3000e-004	7.0000e-005	1.5000e-004	2.3000e-004	0.0000	0.8468	0.8468	4.0000e-005	1.0000e-005	0.8496
Maximum	**0.5408**	**1.6064**	**1.7571**	**3.5900e-003**	**0.1700**	**0.0725**	**0.2425**	**0.0685**	**0.0679**	**0.1364**	**0.0000**	**317.0866**	**317.0866**	**0.0625**	**7.5500e-003**	**320.8990**

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	0.4868	2.5083	1.9743	3.5900e-003	0.1097	0.0872	0.1969	0.0398	0.0872	0.1270	0.0000	317.0863	317.0863	0.0625	7.5500e-003	320.8988
2024	0.3611	5.9400e-003	5.3100e-003	1.0000e-005	2.8000e-004	2.4000e-004	5.2000e-004	7.0000e-005	2.4000e-004	3.1000e-004	0.0000	0.8468	0.8468	4.0000e-005	1.0000e-005	0.8495
Maximum	**0.4868**	**2.5083**	**1.9743**	**3.5900e-003**	**0.1097**	**0.0872**	**0.1969**	**0.0398**	**0.0872**	**0.1270**	**0.0000**	**317.0863**	**317.0863**	**0.0625**	**7.5500e-003**	**320.8988**

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	6.01	-56.21	-12.33	0.00	35.41	-20.34	18.75	41.80	-28.36	6.83	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	3-6-2023	6-5-2023	0.5055	0.7092
2	6-6-2023	9-5-2023	0.5744	0.8595
3	9-6-2023	12-5-2023	0.5705	0.8525
4	12-6-2023	3-5-2024	0.6944	0.7502
		Highest	0.6944	0.8595

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	0.6097	2.0000e-005	2.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9300e-003	3.9300e-003	1.0000e-005	0.0000	4.1900e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	48.7499	48.7499	7.8900e-003	9.6000e-004	49.2319
Mobile	0.3024	0.4034	2.9955	6.7800e-003	0.7189	5.0000e-003	0.7239	0.1920	4.6700e-003	0.1967	0.0000	626.3744	626.3744	0.0370	0.0313	636.6256
Waste						0.0000	0.0000		0.0000	0.0000	26.1493	0.0000	26.1493	1.5454	0.0000	64.7838
Water						0.0000	0.0000		0.0000	0.0000	10.0539	15.8657	25.9197	1.0352	0.0247	59.1585
Total	**0.9121**	**0.4035**	**2.9975**	**6.7800e-003**	**0.7189**	**5.0100e-003**	**0.7239**	**0.1920**	**4.6800e-003**	**0.1967**	**36.2032**	**690.9939**	**727.1972**	**2.6254**	**0.0570**	**809.8040**

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	0.6097	2.0000e-005	2.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9300e-003	3.9300e-003	1.0000e-005	0.0000	4.1900e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	48.7499	48.7499	7.8900e-003	9.6000e-004	49.2319
Mobile	0.3024	0.4034	2.9955	6.7800e-003	0.7189	5.0000e-003	0.7239	0.1920	4.6700e-003	0.1967	0.0000	626.3744	626.3744	0.0370	0.0313	636.6256
Waste						0.0000	0.0000		0.0000	0.0000	26.1493	0.0000	26.1493	1.5454	0.0000	64.7838
Water						0.0000	0.0000		0.0000	0.0000	10.0539	15.8657	25.9197	1.0352	0.0247	59.1585
Total	**0.9121**	**0.4035**	**2.9975**	**6.7800e-003**	**0.7189**	**5.0100e-003**	**0.7239**	**0.1920**	**4.6800e-003**	**0.1967**	**36.2032**	**690.9939**	**727.1972**	**2.6254**	**0.0570**	**809.8040**

	ROG	NOx	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	Demolition	Demolition	3/6/2023	3/24/2023	5	15	
2	Site Preparation	Site Preparation	3/27/2023	3/31/2023	5	5	
3	Grading	Grading	4/3/2023	4/21/2023	5	15	

4	Building Construction	Building Construction	5/13/2023	12/8/2023	5	150	
5	Paving	Paving	12/11/2023	12/22/2023	5	10	
6	Architectural Coating	Architectural Coating	12/25/2023	1/5/2024	5	10	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 15

Acres of Paving: 2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 205,560; Non-Residential Outdoor: 68,520; Striped Parking Area: 1,992 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Building Construction	Welders	1	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
Demolition	6	15.00	0.00	68.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	34.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	28.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 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					7.3800e-003	0.0000	7.3800e-003	1.1200e-003	0.0000	1.1200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0170	0.1611	0.1473	2.9000e-004		7.4800e-003	7.4800e-003		6.9600e-003	6.9600e-003	0.0000	25.4941	25.4941	7.1400e-003	0.0000	25.6726
Total	**0.0170**	**0.1611**	**0.1473**	**2.9000e-004**	**7.3800e-003**	**7.4800e-003**	**0.0149**	**1.1200e-003**	**6.9600e-003**	**8.0800e-003**	**0.0000**	**25.4941**	**25.4941**	**7.1400e-003**	**0.0000**	**25.6726**

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	7.0000e-005	4.4700e-003	1.0100e-003	2.0000e-005	5.8000e-004	4.0000e-005	6.1000e-004	1.6000e-004	4.0000e-005	1.9000e-004	0.0000	1.9812	1.9812	4.0000e-005	3.1000e-004	2.0755
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	2.9000e-004	2.0000e-004	2.5000e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6926	0.6926	2.0000e-005	2.0000e-005	0.6989
Total	**3.6000e-004**	**4.6700e-003**	**3.5100e-003**	**3.0000e-005**	**1.4700e-003**	**4.0000e-005**	**1.5000e-003**	**4.0000e-004**	**4.0000e-005**	**4.3000e-004**	**0.0000**	**2.6738**	**2.6738**	**6.0000e-005**	**3.3000e-004**	**2.7744**

3.2 Demolition - 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					
Fugitive Dust					3.3200e-003	0.0000	3.3200e-003	5.0000e-004	0.0000	5.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4600e-003	0.2450	0.1851	2.9000e-004		6.8500e-003	6.8500e-003		6.8500e-003	6.8500e-003	0.0000	25.4940	25.4940	7.1400e-003	0.0000	25.6725
Total	**9.4600e-003**	**0.2450**	**0.1851**	**2.9000e-004**	**3.3200e-003**	**6.8500e-003**	**0.0102**	**5.0000e-004**	**6.8500e-003**	**7.3500e-003**	**0.0000**	**25.4940**	**25.4940**	**7.1400e-003**	**0.0000**	**25.6725**

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	7.0000e-005	4.4700e-003	1.0100e-003	2.0000e-005	5.8000e-004	4.0000e-005	6.1000e-004	1.6000e-004	4.0000e-005	1.9000e-004	0.0000	1.9812	1.9812	4.0000e-005	3.1000e-004	2.0755
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	2.9000e-004	2.0000e-004	2.5000e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6926	0.6926	2.0000e-005	2.0000e-005	0.6989
Total	**3.6000e-004**	**4.6700e-003**	**3.5100e-003**	**3.0000e-005**	**1.4700e-003**	**4.0000e-005**	**1.5000e-003**	**4.0000e-004**	**4.0000e-005**	**4.3000e-004**	**0.0000**	**2.6738**	**2.6738**	**6.0000e-005**	**3.3000e-004**	**2.7744**

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					0.0491	0.0000	0.0491	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0688	0.0456	1.0000e-004		3.1700e-003	3.1700e-003		2.9100e-003	2.9100e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	**6.6500e-003**	**0.0688**	**0.0456**	**1.0000e-004**	**0.0491**	**3.1700e-003**	**0.0523**	**0.0253**	**2.9100e-003**	**0.0282**	**0.0000**	**8.3627**	**8.3627**	**2.7000e-003**	**0.0000**	**8.4303**

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	1.2000e-004	8.0000e-005	1.0000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2770	0.2770	1.0000e-005	1.0000e-005	0.2796
Total	**1.2000e-004**	**8.0000e-005**	**1.0000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2770**	**0.2770**	**1.0000e-005**	**1.0000e-005**	**0.2796**

3.3 Site Preparation - 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					
Fugitive Dust					0.0221	0.0000	0.0221	0.0114	0.0000	0.0114	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0200e-003	0.0843	0.0574	1.0000e-004		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	**3.0200e-003**	**0.0843**	**0.0574**	**1.0000e-004**	**0.0221**	**2.3700e-003**	**0.0245**	**0.0114**	**2.3700e-003**	**0.0137**	**0.0000**	**8.3627**	**8.3627**	**2.7000e-003**	**0.0000**	**8.4303**

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	1.2000e-004	8.0000e-005	1.0000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2770	0.2770	1.0000e-005	1.0000e-005	0.2796
Total	**1.2000e-004**	**8.0000e-005**	**1.0000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2770**	**0.2770**	**1.0000e-005**	**1.0000e-005**	**0.2796**

3.4 Grading - 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					0.0531	0.0000	0.0531	0.0257	0.0000	0.0257	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.1345	0.1106	2.2000e-004		5.8100e-003	5.8100e-003		5.3500e-003	5.3500e-003	0.0000	19.5455	19.5455	6.3200e-003	0.0000	19.7035
Total	**0.0128**	**0.1345**	**0.1106**	**2.2000e-004**	**0.0531**	**5.8100e-003**	**0.0589**	**0.0257**	**5.3500e-003**	**0.0310**	**0.0000**	**19.5455**	**19.5455**	**6.3200e-003**	**0.0000**	**19.7035**

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-005	2.2300e-003	5.1000e-004	1.0000e-005	2.9000e-004	2.0000e-005	3.1000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	0.9906	0.9906	2.0000e-005	1.6000e-004	1.0377
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	2.9000e-004	2.0000e-004	2.5000e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6926	0.6926	2.0000e-005	2.0000e-005	0.6989
Total	**3.3000e-004**	**2.4300e-003**	**3.0100e-003**	**2.0000e-005**	**1.1800e-003**	**2.0000e-005**	**1.2000e-003**	**3.2000e-004**	**2.0000e-005**	**3.4000e-004**	**0.0000**	**1.6832**	**1.6832**	**4.0000e-005**	**1.8000e-004**	**1.7367**

3.4 Grading - 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					
Fugitive Dust					0.0239	0.0000	0.0239	0.0116	0.0000	0.0116	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5700e-003	0.1971	0.1424	2.2000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	19.5454	19.5454	6.3200e-003	0.0000	19.7035
Total	**7.5700e-003**	**0.1971**	**0.1424**	**2.2000e-004**	**0.0239**	**5.7900e-003**	**0.0297**	**0.0116**	**5.7900e-003**	**0.0174**	**0.0000**	**19.5454**	**19.5454**	**6.3200e-003**	**0.0000**	**19.7035**

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-005	2.2300e-003	5.1000e-004	1.0000e-005	2.9000e-004	2.0000e-005	3.1000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	0.9906	0.9906	2.0000e-005	1.6000e-004	1.0377
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	2.9000e-004	2.0000e-004	2.5000e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6926	0.6926	2.0000e-005	2.0000e-005	0.6989
Total	**3.3000e-004**	**2.4300e-003**	**3.0100e-003**	**2.0000e-005**	**1.1800e-003**	**2.0000e-005**	**1.2000e-003**	**3.2000e-004**	**2.0000e-005**	**3.4000e-004**	**0.0000**	**1.6832**	**1.6832**	**4.0000e-005**	**1.8000e-004**	**1.7367**

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	0.1180	1.0789	1.2183	2.0200e-003		0.0525	0.0525		0.0494	0.0494	0.0000	173.8536	173.8536	0.0414	0.0000	174.8875
Total	**0.1180**	**1.0789**	**1.2183**	**2.0200e-003**		**0.0525**	**0.0525**		**0.0494**	**0.0494**	**0.0000**	**173.8536**	**173.8536**	**0.0414**	**0.0000**	**174.8875**

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	2.1200e-003	0.0918	0.0278	4.2000e-004	0.0138	5.5000e-004	0.0144	3.9900e-003	5.3000e-004	4.5200e-003	0.0000	40.6229	40.6229	5.5000e-004	6.0800e-003	42.4495
Worker	0.0141	9.6800e-003	0.1201	3.6000e-004	0.0427	2.2000e-004	0.0429	0.0114	2.0000e-004	0.0116	0.0000	33.2450	33.2450	9.9000e-004	9.3000e-004	33.5481
Total	**0.0162**	**0.1015**	**0.1478**	**7.8000e-004**	**0.0565**	**7.7000e-004**	**0.0573**	**0.0154**	**7.3000e-004**	**0.0161**	**0.0000**	**73.8679**	**73.8679**	**1.5400e-003**	**7.0100e-003**	**75.9975**

3.5 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	0.0811	1.7666	1.3405	2.0200e-003		0.0678	0.0678		0.0678	0.0678	0.0000	173.8534	173.8534	0.0414	0.0000	174.8873
Total	**0.0811**	**1.7666**	**1.3405**	**2.0200e-003**		**0.0678**	**0.0678**		**0.0678**	**0.0678**	**0.0000**	**173.8534**	**173.8534**	**0.0414**	**0.0000**	**174.8873**

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	2.1200e-003	0.0918	0.0278	4.2000e-004	0.0138	5.5000e-004	0.0144	3.9900e-003	5.3000e-004	4.5200e-003	0.0000	40.6229	40.6229	5.5000e-004	6.0800e-003	42.4495
Worker	0.0141	9.6800e-003	0.1201	3.6000e-004	0.0427	2.2000e-004	0.0429	0.0114	2.0000e-004	0.0116	0.0000	33.2450	33.2450	9.9000e-004	9.3000e-004	33.5481
Total	**0.0162**	**0.1015**	**0.1478**	**7.8000e-004**	**0.0565**	**7.7000e-004**	**0.0573**	**0.0154**	**7.3000e-004**	**0.0161**	**0.0000**	**73.8679**	**73.8679**	**1.5400e-003**	**7.0100e-003**	**75.9975**

3.6 Paving - 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	5.1600e-003	0.0510	0.0729	1.1000e-004		2.5500e-003	2.5500e-003		2.3500e-003	2.3500e-003	0.0000	10.0134	10.0134	3.2400e-003	0.0000	10.0944
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.7800e-003**	**0.0510**	**0.0729**	**1.1000e-004**		**2.5500e-003**	**2.5500e-003**		**2.3500e-003**	**2.3500e-003**	**0.0000**	**10.0134**	**10.0134**	**3.2400e-003**	**0.0000**	**10.0944**

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	2.0000e-004	1.3000e-004	1.6700e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4617	0.4617	1.0000e-005	1.0000e-005	0.4660
Total	**2.0000e-004**	**1.3000e-004**	**1.6700e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4617**	**0.4617**	**1.0000e-005**	**1.0000e-005**	**0.4660**

3.6 Paving - 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	4.6600e-003	0.1006	0.0865	1.1000e-004		3.3300e-003	3.3300e-003		3.3300e-003	3.3300e-003	0.0000	10.0134	10.0134	3.2400e-003	0.0000	10.0944
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.2800e-003**	**0.1006**	**0.0865**	**1.1000e-004**		**3.3300e-003**	**3.3300e-003**		**3.3300e-003**	**3.3300e-003**	**0.0000**	**10.0134**	**10.0134**	**3.2400e-003**	**0.0000**	**10.0944**

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	2.0000e-004	1.3000e-004	1.6700e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4617	0.4617	1.0000e-005	1.0000e-005	0.4660
Total	**2.0000e-004**	**1.3000e-004**	**1.6700e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4617**	**0.4617**	**1.0000e-005**	**1.0000e-005**	**0.4660**

3.7 Architectural Coating - 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					
Archit. Coating	0.3608					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.3612**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

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	9.0000e-005	6.0000e-005	7.8000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2155	0.2155	1.0000e-005	1.0000e-005	0.2174
Total	**9.0000e-005**	**6.0000e-005**	**7.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2155**	**0.2155**	**1.0000e-005**	**1.0000e-005**	**0.2174**

3.7 Architectural Coating - 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					
Archit. Coating	0.3608					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	5.8800e-003	4.5800e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.3610**	**5.8800e-003**	**4.5800e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

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	9.0000e-005	6.0000e-005	7.8000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2155	0.2155	1.0000e-005	1.0000e-005	0.2174
Total	**9.0000e-005**	**6.0000e-005**	**7.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2155**	**0.2155**	**1.0000e-005**	**1.0000e-005**	**0.2174**

3.7 Architectural Coating - 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					
Archit. Coating	0.3608					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5000e-004	3.0500e-003	4.5300e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6392
Total	**0.3612**	**3.0500e-003**	**4.5300e-003**	**1.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6392**

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	9.0000e-005	6.0000e-005	7.3000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2085	0.2085	1.0000e-005	1.0000e-005	0.2103
Total	**9.0000e-005**	**6.0000e-005**	**7.3000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2085**	**0.2085**	**1.0000e-005**	**1.0000e-005**	**0.2103**

3.7 Architectural Coating - 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					
Archit. Coating	0.3608					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	5.8800e-003	4.5800e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6392
Total	**0.3610**	**5.8800e-003**	**4.5800e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6392**

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	9.0000e-005	6.0000e-005	7.3000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2085	0.2085	1.0000e-005	1.0000e-005	0.2103
Total	**9.0000e-005**	**6.0000e-005**	**7.3000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2085**	**0.2085**	**1.0000e-005**	**1.0000e-005**	**0.2103**

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	0.3024	0.4034	2.9955	6.7800e-003	0.7189	5.0000e-003	0.7239	0.1920	4.6700e-003	0.1967	0.0000	626.3744	626.3744	0.0370	0.0313	636.6256
Unmitigated	0.3024	0.4034	2.9955	6.7800e-003	0.7189	5.0000e-003	0.7239	0.1920	4.6700e-003	0.1967	0.0000	626.3744	626.3744	0.0370	0.0313	636.6256

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	667.38	667.38	667.38	1,948,437	1,948,437
Total	667.38	667.38	667.38	1,948,437	1,948,437

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451
Unrefrigerated Warehouse-No Rail	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451

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	48.7499	48.7499	7.8900e-003	9.6000e-004	49.2319
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	48.7499	48.7499	7.8900e-003	9.6000e-004	49.2319
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

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					
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
Unrefrigerated Warehouse-No Rail	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					
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
Unrefrigerated Warehouse-No Rail	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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	11620	1.0751	1.7000e-004	2.0000e-005	1.0858
Unrefrigerated Warehouse-No Rail	515270	47.6748	7.7100e-003	9.3000e-004	48.1462
Total		**48.7499**	**7.8800e-003**	**9.5000e-004**	**49.2319**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	11620	1.0751	1.7000e-004	2.0000e-005	1.0858
Unrefrigerated Warehouse-No Rail	515270	47.6748	7.7100e-003	9.3000e-004	48.1462
Total		**48.7499**	**7.8800e-003**	**9.5000e-004**	**49.2319**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	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	0.6097	2.0000e-005	2.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9300e-003	3.9300e-003	1.0000e-005	0.0000	4.1900e-003
Unmitigated	0.6097	2.0000e-005	2.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9300e-003	3.9300e-003	1.0000e-005	0.0000	4.1900e-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	0.0722					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5374					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.9000e-004	2.0000e-005	2.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9300e-003	3.9300e-003	1.0000e-005	0.0000	4.1900e-003
Total	**0.6097**	**2.0000e-005**	**2.0200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.9300e-003**	**3.9300e-003**	**1.0000e-005**	**0.0000**	**4.1900e-003**

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	0.0722					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5374					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.9000e-004	2.0000e-005	2.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9300e-003	3.9300e-003	1.0000e-005	0.0000	4.1900e-003
Total	**0.6097**	**2.0000e-005**	**2.0200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.9300e-003**	**3.9300e-003**	**1.0000e-005**	**0.0000**	**4.1900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	25.9197	1.0352	0.0247	59.1585
Unmitigated	25.9197	1.0352	0.0247	59.1585

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	31.6905 / 0	25.9197	1.0352	0.0247	59.1585
Total		**25.9197**	**1.0352**	**0.0247**	**59.1585**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	31.6905 / 0	25.9197	1.0352	0.0247	59.1585
Total		**25.9197**	**1.0352**	**0.0247**	**59.1585**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.1493	1.5454	0.0000	64.7838
Unmitigated	26.1493	1.5454	0.0000	64.7838

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	128.82	26.1493	1.5454	0.0000	64.7838
Total		**26.1493**	**1.5454**	**0.0000**	**64.7838**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	128.82	26.1493	1.5454	0.0000	64.7838
Total		**26.1493**	**1.5454**	**0.0000**	**64.7838**

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3890 and 3898 Depot Road Project

Alameda County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	137.04	1000sqft	4.58	137,040.00	0
Parking Lot	83.00	Space	2.00	33,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2024
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 - The proposed project would include 67 surface parking spaces and 16 trailer stalls.

Construction Phase - Construction would begin early 2023 and occur for 10 months.

Grading - Approximately 275 cubic yards of cut would be exported from the site.

Demolition - The proposed project would result in the demolition of the existing buildings and adjacent surface pavements on the project site.

Vehicle Trips - Trip rates based on the trip generation prepared for the proposed project (667 average daily trips).

Energy Use - The proposed project would not include natural gas.

Construction Off-road Equipment Mitigation - Assuming the use of Tier 2 construction equipment and compliance with BAAQMD Basic Construction Mitigation Measures.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	230.00	150.00
tblConstructionPhase	NumDays	20.00	15.00

tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	PhaseEndDate	5/24/2024	1/5/2024
tblConstructionPhase	PhaseEndDate	3/29/2024	12/8/2023
tblConstructionPhase	PhaseEndDate	3/31/2023	3/24/2023
tblConstructionPhase	PhaseEndDate	5/12/2023	4/21/2023
tblConstructionPhase	PhaseEndDate	4/26/2024	12/22/2023
tblConstructionPhase	PhaseEndDate	4/14/2023	3/31/2023
tblConstructionPhase	PhaseStartDate	4/27/2024	12/25/2023
tblConstructionPhase	PhaseStartDate	4/15/2023	4/3/2023
tblConstructionPhase	PhaseStartDate	3/30/2024	12/11/2023
tblConstructionPhase	PhaseStartDate	4/1/2023	3/27/2023
tblEnergyUse	NT24NG	0.21	0.00
tblEnergyUse	T24NG	1.17	0.00
tblGrading	MaterialExported	0.00	275.00
tblLandUse	LotAcreage	3.15	4.58
tblLandUse	LotAcreage	0.75	2.00
tblVehicleTrips	ST_TR	1.74	4.87
tblVehicleTrips	SU_TR	1.74	4.87
tblVehicleTrips	WD_TR	1.74	4.87

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2023	144.5311	27.5526	20.1371	0.0426	19.8049	1.2668	21.0716	10.1417	1.1654	11.3071	0.0000	4,146.9495	4,146.9495	1.1959	0.1019	4,187.8956
2024	144.5176	1.2386	2.1221	3.9400e-003	0.1150	0.0615	0.1765	0.0305	0.0614	0.0919	0.0000	379.8012	379.8012	0.0182	2.2900e-003	380.9393
Maximum	**144.5311**	**27.5526**	**20.1371**	**0.0426**	**19.8049**	**1.2668**	**21.0716**	**10.1417**	**1.1654**	**11.3071**	**0.0000**	**4,146.9495**	**4,146.9495**	**1.1959**	**0.1019**	**4,187.8956**

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	lb/day										lb/day					
2023	144.4534	33.7498	25.1676	0.0426	8.9935	0.9469	9.9404	4.5853	0.9469	5.5322	0.0000	4,146.9495	4,146.9495	1.1959	0.1019	4,187.8956
2024	144.4507	2.3722	2.1444	3.9400e-003	0.1150	0.0956	0.2106	0.0305	0.0956	0.1261	0.0000	379.8012	379.8012	0.0182	2.2900e-003	380.9393
Maximum	**144.4534**	**33.7498**	**25.1676**	**0.0426**	**8.9935**	**0.9469**	**9.9404**	**4.5853**	**0.9469**	**5.5322**	**0.0000**	**4,146.9495**	**4,146.9495**	**1.1959**	**0.1019**	**4,187.8956**

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	0.05	-25.46	-22.70	0.00	54.27	21.51	52.23	54.62	15.03	50.36	0.00	0.00	0.00	0.00	0.00	0.00

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	lb/day										lb/day					
Area	3.3418	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
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
Mobile	1.8362	2.0432	16.5542	0.0393	4.1025	0.0275	4.1300	1.0926	0.0257	1.1182		4,002.5898	4,002.5898	0.2101	0.1806	4,061.6656
Total	**5.1780**	**2.0434**	**16.5767**	**0.0393**	**4.1025**	**0.0276**	**4.1301**	**1.0926**	**0.0257**	**1.1183**		**4,002.6380**	**4,002.6380**	**0.2102**	**0.1806**	**4,061.7169**

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	lb/day										lb/day					
Area	3.3418	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
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
Mobile	1.8362	2.0432	16.5542	0.0393	4.1025	0.0275	4.1300	1.0926	0.0257	1.1182		4,002.5898	4,002.5898	0.2101	0.1806	4,061.6656
Total	**5.1780**	**2.0434**	**16.5767**	**0.0393**	**4.1025**	**0.0276**	**4.1301**	**1.0926**	**0.0257**	**1.1183**		**4,002.6380**	**4,002.6380**	**0.2102**	**0.1806**	**4,061.7169**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/6/2023	3/24/2023	5	15	
2	Site Preparation	Site Preparation	3/27/2023	3/31/2023	5	5	
3	Grading	Grading	4/3/2023	4/21/2023	5	15	
4	Building Construction	Building Construction	5/13/2023	12/8/2023	5	150	
5	Paving	Paving	12/11/2023	12/22/2023	5	10	
6	Architectural Coating	Architectural Coating	12/25/2023	1/5/2024	5	10	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 15

Acres of Paving: 2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 205,560; Non-Residential Outdoor: 68,520; Striped Parking Area: 1,992 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	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
Demolition	6	15.00	0.00	68.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	34.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	28.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 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	lb/day										lb/day					
Fugitive Dust					0.9844	0.0000	0.9844	0.1490	0.0000	0.1490			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.9844**	**0.9975**	**1.9819**	**0.1490**	**0.9280**	**1.0770**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

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	lb/day										lb/day					
Hauling	9.6200e-003	0.5738	0.1344	2.7000e-003	0.0794	5.0700e-003	0.0845	0.0218	4.8500e-003	0.0266		291.0469	291.0469	6.1900e-003	0.0460	304.9043
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
Worker	0.0417	0.0237	0.3594	1.0800e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		108.9186	108.9186	2.8300e-003	2.6300e-003	109.7730
Total	**0.0513**	**0.5975**	**0.4937**	**3.7800e-003**	**0.2026**	**5.6900e-003**	**0.2083**	**0.0545**	**5.4200e-003**	**0.0599**		**399.9655**	**399.9655**	**9.0200e-003**	**0.0486**	**414.6773**

3.2 Demolition - 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	lb/day										lb/day					
Fugitive Dust					0.4430	0.0000	0.4430	0.0671	0.0000	0.0671			0.0000			0.0000
Off-Road	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**1.2617**	**32.6638**	**24.6739**	**0.0388**	**0.4430**	**0.9135**	**1.3565**	**0.0671**	**0.9135**	**0.9806**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

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	lb/day										lb/day					
Hauling	9.6200e-003	0.5738	0.1344	2.7000e-003	0.0794	5.0700e-003	0.0845	0.0218	4.8500e-003	0.0266		291.0469	291.0469	6.1900e-003	0.0460	304.9043
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
Worker	0.0417	0.0237	0.3594	1.0800e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		108.9186	108.9186	2.8300e-003	2.6300e-003	109.7730
Total	**0.0513**	**0.5975**	**0.4937**	**3.7800e-003**	**0.2026**	**5.6900e-003**	**0.2083**	**0.0545**	**5.4200e-003**	**0.0599**		**399.9655**	**399.9655**	**9.0200e-003**	**0.0486**	**414.6773**

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	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	lb/day										lb/day					
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
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
Worker	0.0500	0.0285	0.4312	1.2900e-003	0.1479	7.4000e-004	0.1486	0.0392	6.8000e-004	0.0399		130.7024	130.7024	3.3900e-003	3.1600e-003	131.7276
Total	**0.0500**	**0.0285**	**0.4312**	**1.2900e-003**	**0.1479**	**7.4000e-004**	**0.1486**	**0.0392**	**6.8000e-004**	**0.0399**		**130.7024**	**130.7024**	**3.3900e-003**	**3.1600e-003**	**131.7276**

3.3 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0381		0.9462	0.9462		0.9462	0.9462	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	**1.2097**	**33.7214**	**22.9600**	**0.0381**	**8.8457**	**0.9462**	**9.7918**	**4.5461**	**0.9462**	**5.4923**	**0.0000**	**3,687.308 1**	**3,687.308 1**	**1.1926**		**3,717.121 9**

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	lb/day										lb/day					
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
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
Worker	0.0500	0.0285	0.4312	1.2900e-003	0.1479	7.4000e-004	0.1486	0.0392	6.8000e-004	0.0399		130.7024	130.7024	3.3900e-003	3.1600e-003	131.7276
Total	**0.0500**	**0.0285**	**0.4312**	**1.2900e-003**	**0.1479**	**7.4000e-004**	**0.1486**	**0.0392**	**6.8000e-004**	**0.0399**		**130.7024**	**130.7024**	**3.3900e-003**	**3.1600e-003**	**131.7276**

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					7.0847	0.0000	7.0847	3.4251	0.0000	3.4251			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**7.0847**	**0.7749**	**7.8596**	**3.4251**	**0.7129**	**4.1380**		**2,872.691 0**	**2,872.691 0**	**0.9291**		**2,895.918 2**

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	lb/day										lb/day					
Hauling	4.8100e-003	0.2869	0.0672	1.3500e-003	0.0397	2.5400e-003	0.0422	0.0109	2.4300e-003	0.0133		145.5234	145.5234	3.0900e-003	0.0230	152.4522
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
Worker	0.0417	0.0237	0.3594	1.0800e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		108.9186	108.9186	2.8300e-003	2.6300e-003	109.7730
Total	**0.0465**	**0.3106**	**0.4265**	**2.4300e-003**	**0.1629**	**3.1600e-003**	**0.1661**	**0.0436**	**3.0000e-003**	**0.0466**		**254.4421**	**254.4421**	**5.9200e-003**	**0.0256**	**262.2252**

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					3.1881	0.0000	3.1881	1.5413	0.0000	1.5413			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0297		0.7725	0.7725		0.7725	0.7725	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.0093**	**26.2791**	**18.9906**	**0.0297**	**3.1881**	**0.7725**	**3.9606**	**1.5413**	**0.7725**	**2.3138**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

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	lb/day										lb/day					
Hauling	4.8100e-003	0.2869	0.0672	1.3500e-003	0.0397	2.5400e-003	0.0422	0.0109	2.4300e-003	0.0133		145.5234	145.5234	3.0900e-003	0.0230	152.4522
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
Worker	0.0417	0.0237	0.3594	1.0800e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		108.9186	108.9186	2.8300e-003	2.6300e-003	109.7730
Total	**0.0465**	**0.3106**	**0.4265**	**2.4300e-003**	**0.1629**	**3.1600e-003**	**0.1661**	**0.0436**	**3.0000e-003**	**0.0466**		**254.4421**	**254.4421**	**5.9200e-003**	**0.0256**	**262.2252**

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	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	lb/day										lb/day					
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
Vendor	0.0290	1.1807	0.3647	5.5900e-003	0.1898	7.3800e-003	0.1971	0.0546	7.0600e-003	0.0617		596.6343	596.6343	8.1700e-003	0.0893	623.4470
Worker	0.2001	0.1139	1.7249	5.1700e-003	0.5915	2.9600e-003	0.5944	0.1569	2.7200e-003	0.1596		522.8094	522.8094	0.0136	0.0126	526.9104
Total	**0.2291**	**1.2946**	**2.0896**	**0.0108**	**0.7812**	**0.0103**	**0.7916**	**0.2115**	**9.7800e-003**	**0.2213**		**1,119.4437**	**1,119.4437**	**0.0218**	**0.1019**	**1,150.3574**

3.5 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	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	lb/day										lb/day					
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
Vendor	0.0290	1.1807	0.3647	5.5900e-003	0.1898	7.3800e-003	0.1971	0.0546	7.0600e-003	0.0617		596.6343	596.6343	8.1700e-003	0.0893	623.4470
Worker	0.2001	0.1139	1.7249	5.1700e-003	0.5915	2.9600e-003	0.5944	0.1569	2.7200e-003	0.1596		522.8094	522.8094	0.0136	0.0126	526.9104
Total	**0.2291**	**1.2946**	**2.0896**	**0.0108**	**0.7812**	**0.0103**	**0.7916**	**0.2115**	**9.7800e-003**	**0.2213**		**1,119.4437**	**1,119.4437**	**0.0218**	**0.1019**	**1,150.3574**

3.6 Paving - 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	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.5240					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5567**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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	lb/day										lb/day					
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
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
Worker	0.0417	0.0237	0.3594	1.0800e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		108.9186	108.9186	2.8300e-003	2.6300e-003	109.7730
Total	**0.0417**	**0.0237**	**0.3594**	**1.0800e-003**	**0.1232**	**6.2000e-004**	**0.1238**	**0.0327**	**5.7000e-004**	**0.0333**		**108.9186**	**108.9186**	**2.8300e-003**	**2.6300e-003**	**109.7730**

3.6 Paving - 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	lb/day										lb/day					
Off-Road	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.5240					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4551**	**20.1146**	**17.2957**	**0.0228**		**0.6670**	**0.6670**		**0.6670**	**0.6670**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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	lb/day										lb/day					
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
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
Worker	0.0417	0.0237	0.3594	1.0800e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		108.9186	108.9186	2.8300e-003	2.6300e-003	109.7730
Total	**0.0417**	**0.0237**	**0.3594**	**1.0800e-003**	**0.1232**	**6.2000e-004**	**0.1238**	**0.0327**	**5.7000e-004**	**0.0333**		**108.9186**	**108.9186**	**2.8300e-003**	**2.6300e-003**	**109.7730**

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	144.3005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**144.4922**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	lb/day										lb/day					
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
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
Worker	0.0389	0.0221	0.3354	1.0100e-003	0.1150	5.8000e-004	0.1156	0.0305	5.3000e-004	0.0310		101.6574	101.6574	2.6400e-003	2.4500e-003	102.4548
Total	**0.0389**	**0.0221**	**0.3354**	**1.0100e-003**	**0.1150**	**5.8000e-004**	**0.1156**	**0.0305**	**5.3000e-004**	**0.0310**		**101.6574**	**101.6574**	**2.6400e-003**	**2.4500e-003**	**102.4548**

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	144.3005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**144.4144**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	lb/day										lb/day					
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
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
Worker	0.0389	0.0221	0.3354	1.0100e-003	0.1150	5.8000e-004	0.1156	0.0305	5.3000e-004	0.0310		101.6574	101.6574	2.6400e-003	2.4500e-003	102.4548
Total	**0.0389**	**0.0221**	**0.3354**	**1.0100e-003**	**0.1150**	**5.8000e-004**	**0.1156**	**0.0305**	**5.3000e-004**	**0.0310**		**101.6574**	**101.6574**	**2.6400e-003**	**2.4500e-003**	**102.4548**

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	144.3005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**144.4813**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	lb/day										lb/day					
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
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
Worker	0.0363	0.0198	0.3120	9.7000e-004	0.1150	5.5000e-004	0.1156	0.0305	5.0000e-004	0.0310		98.3532	98.3532	2.3900e-003	2.2900e-003	99.0951
Total	**0.0363**	**0.0198**	**0.3120**	**9.7000e-004**	**0.1150**	**5.5000e-004**	**0.1156**	**0.0305**	**5.0000e-004**	**0.0310**		**98.3532**	**98.3532**	**2.3900e-003**	**2.2900e-003**	**99.0951**

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	144.3005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**144.4144**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	lb/day										lb/day					
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
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
Worker	0.0363	0.0198	0.3120	9.7000e-004	0.1150	5.5000e-004	0.1156	0.0305	5.0000e-004	0.0310		98.3532	98.3532	2.3900e-003	2.2900e-003	99.0951
Total	**0.0363**	**0.0198**	**0.3120**	**9.7000e-004**	**0.1150**	**5.5000e-004**	**0.1156**	**0.0305**	**5.0000e-004**	**0.0310**		**98.3532**	**98.3532**	**2.3900e-003**	**2.2900e-003**	**99.0951**

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	lb/day										lb/day					
Mitigated	1.8362	2.0432	16.5542	0.0393	4.1025	0.0275	4.1300	1.0926	0.0257	1.1182		4,002.589 8	4,002.589 8	0.2101	0.1806	4,061.665 6
Unmitigated	1.8362	2.0432	16.5542	0.0393	4.1025	0.0275	4.1300	1.0926	0.0257	1.1182		4,002.589 8	4,002.589 8	0.2101	0.1806	4,061.665 6

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	667.38	667.38	667.38	1,948,437	1,948,437
Total	667.38	667.38	667.38	1,948,437	1,948,437

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451
Unrefrigerated Warehouse-No Rail	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451

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	lb/day										lb/day					
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
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

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	lb/day										lb/day					
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
Unrefrigerated Warehouse-No Rail	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
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**

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	lb/day										lb/day					
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
Unrefrigerated Warehouse-No Rail	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
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**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	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	lb/day										lb/day					
Mitigated	3.3418	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Unmitigated	3.3418	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513

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	lb/day										lb/day					
Architectural Coating	0.3953					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9444					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Total	**3.3418**	**2.0000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0482**	**0.0482**	**1.3000e-004**		**0.0513**

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	lb/day										lb/day					
Architectural Coating	0.3953					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9444					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Total	**3.3418**	**2.0000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0482**	**0.0482**	**1.3000e-004**		**0.0513**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3890 and 3898 Depot Road Project

Alameda County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	137.04	1000sqft	4.58	137,040.00	0
Parking Lot	83.00	Space	2.00	33,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2024
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 - The proposed project would include 67 surface parking spaces and 16 trailer stalls.

Construction Phase - Construction would begin early 2023 and occur for 10 months.

Grading - Approximately 275 cubic yards of cut would be exported from the site.

Demolition - The proposed project would result in the demolition of the existing buildings and adjacent surface pavements on the project site.

Vehicle Trips - Trip rates based on the trip generation prepared for the proposed project (667 average daily trips).

Energy Use - The proposed project would not include natural gas.

Construction Off-road Equipment Mitigation - Assuming the use of Tier 2 construction equipment and compliance with BAAQMD Basic Construction Mitigation Measures.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	230.00	150.00
tblConstructionPhase	NumDays	20.00	15.00

tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	PhaseEndDate	5/24/2024	1/5/2024
tblConstructionPhase	PhaseEndDate	3/29/2024	12/8/2023
tblConstructionPhase	PhaseEndDate	3/31/2023	3/24/2023
tblConstructionPhase	PhaseEndDate	5/12/2023	4/21/2023
tblConstructionPhase	PhaseEndDate	4/26/2024	12/22/2023
tblConstructionPhase	PhaseEndDate	4/14/2023	3/31/2023
tblConstructionPhase	PhaseStartDate	4/27/2024	12/25/2023
tblConstructionPhase	PhaseStartDate	4/15/2023	4/3/2023
tblConstructionPhase	PhaseStartDate	3/30/2024	12/11/2023
tblConstructionPhase	PhaseStartDate	4/1/2023	3/27/2023
tblEnergyUse	NT24NG	0.21	0.00
tblEnergyUse	T24NG	1.17	0.00
tblGrading	MaterialExported	0.00	275.00
tblLandUse	LotAcreage	3.15	4.58
tblLandUse	LotAcreage	0.75	2.00
tblVehicleTrips	ST_TR	1.74	4.87
tblVehicleTrips	SU_TR	1.74	4.87
tblVehicleTrips	WD_TR	1.74	4.87

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2023	144.5317	27.5595	20.1250	0.0425	19.8049	1.2668	21.0716	10.1417	1.1654	11.3071	0.0000	4,139.4593	4,139.4593	1.1964	0.1041	4,180.5527
2024	144.5183	1.2433	2.1110	3.8700e-003	0.1150	0.0615	0.1765	0.0305	0.0614	0.0919	0.0000	372.7645	372.7645	0.0186	2.6500e-003	374.0177
Maximum	**144.5317**	**27.5595**	**20.1250**	**0.0425**	**19.8049**	**1.2668**	**21.0716**	**10.1417**	**1.1654**	**11.3071**	**0.0000**	**4,139.4593**	**4,139.4593**	**1.1964**	**0.1041**	**4,180.5527**

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	lb/day										lb/day					
2023	144.4540	33.7567	25.1555	0.0425	8.9935	0.9469	9.9404	4.5853	0.9469	5.5322	0.0000	4,139.4593	4,139.4593	1.1964	0.1041	4,180.5527
2024	144.4514	2.3770	2.1333	3.8700e-003	0.1150	0.0956	0.2106	0.0305	0.0956	0.1261	0.0000	372.7645	372.7645	0.0186	2.6500e-003	374.0177
Maximum	**144.4540**	**33.7567**	**25.1555**	**0.0425**	**8.9935**	**0.9469**	**9.9404**	**4.5853**	**0.9469**	**5.5322**	**0.0000**	**4,139.4593**	**4,139.4593**	**1.1964**	**0.1041**	**4,180.5527**

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	0.05	-25.45	-22.72	0.00	54.27	21.51	52.23	54.62	15.03	50.36	0.00	0.00	0.00	0.00	0.00	0.00

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	lb/day										lb/day					
Area	3.3418	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
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
Mobile	1.6661	2.3401	17.4985	0.0371	4.1025	0.0275	4.1300	1.0926	0.0257	1.1182		3,780.0165	3,780.0165	0.2362	0.1965	3,844.4769
Total	**5.0080**	**2.3403**	**17.5209**	**0.0371**	**4.1025**	**0.0276**	**4.1301**	**1.0926**	**0.0258**	**1.1183**		**3,780.0646**	**3,780.0646**	**0.2364**	**0.1965**	**3,844.5282**

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	lb/day										lb/day					
Area	3.3418	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
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
Mobile	1.6661	2.3401	17.4985	0.0371	4.1025	0.0275	4.1300	1.0926	0.0257	1.1182		3,780.0165	3,780.0165	0.2362	0.1965	3,844.4769
Total	**5.0080**	**2.3403**	**17.5209**	**0.0371**	**4.1025**	**0.0276**	**4.1301**	**1.0926**	**0.0258**	**1.1183**		**3,780.0646**	**3,780.0646**	**0.2364**	**0.1965**	**3,844.5282**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/6/2023	3/24/2023	5	15	
2	Site Preparation	Site Preparation	3/27/2023	3/31/2023	5	5	
3	Grading	Grading	4/3/2023	4/21/2023	5	15	
4	Building Construction	Building Construction	5/13/2023	12/8/2023	5	150	
5	Paving	Paving	12/11/2023	12/22/2023	5	10	
6	Architectural Coating	Architectural Coating	12/25/2023	1/5/2024	5	10	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 15

Acres of Paving: 2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 205,560; Non-Residential Outdoor: 68,520; Striped Parking Area: 1,992 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38

Building Construction	Forklifts		3	8.00	89	0.20
Building Construction	Generator Sets		1	8.00	84	0.74
Grading	Graders		1	8.00	187	0.41
Paving	Pavers		2	8.00	130	0.42
Paving	Paving Equipment		2	8.00	132	0.36
Paving	Rollers		2	8.00	80	0.38
Demolition	Rubber Tired Dozers		2	8.00	247	0.40
Grading	Rubber Tired Dozers		1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers		3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes		3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes		3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes		4	8.00	97	0.37
Building Construction	Welders		1	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
Demolition	6	15.00	0.00	68.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	34.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	28.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 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	lb/day										lb/day					
Fugitive Dust					0.9844	0.0000	0.9844	0.1490	0.0000	0.1490			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.9844**	**0.9975**	**1.9819**	**0.1490**	**0.9280**	**1.0770**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

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	lb/day										lb/day					
Hauling	8.9900e-003	0.6075	0.1363	2.7000e-003	0.0794	5.0800e-003	0.0845	0.0218	4.8600e-003	0.0266		291.3664	291.3664	6.1600e-003	0.0460	305.2385
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
Worker	0.0424	0.0295	0.3453	1.0000e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		101.1089	101.1089	3.2300e-003	3.0400e-003	102.0959
Total	**0.0514**	**0.6370**	**0.4816**	**3.7000e-003**	**0.2026**	**5.7000e-003**	**0.2083**	**0.0545**	**5.4300e-003**	**0.0599**		**392.4753**	**392.4753**	**9.3900e-003**	**0.0491**	**407.3344**

3.2 Demolition - 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	lb/day										lb/day					
Fugitive Dust					0.4430	0.0000	0.4430	0.0671	0.0000	0.0671			0.0000			0.0000
Off-Road	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,746.984 0	3,746.984 0	1.0494		3,773.218 3
Total	**1.2617**	**32.6638**	**24.6739**	**0.0388**	**0.4430**	**0.9135**	**1.3565**	**0.0671**	**0.9135**	**0.9806**	**0.0000**	**3,746.984 0**	**3,746.984 0**	**1.0494**		**3,773.218 3**

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	lb/day										lb/day					
Hauling	8.9900e-003	0.6075	0.1363	2.7000e-003	0.0794	5.0800e-003	0.0845	0.0218	4.8600e-003	0.0266		291.3664	291.3664	6.1600e-003	0.0460	305.2385
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
Worker	0.0424	0.0295	0.3453	1.0000e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		101.1089	101.1089	3.2300e-003	3.0400e-003	102.0959
Total	**0.0514**	**0.6370**	**0.4816**	**3.7000e-003**	**0.2026**	**5.7000e-003**	**0.2083**	**0.0545**	**5.4300e-003**	**0.0599**		**392.4753**	**392.4753**	**9.3900e-003**	**0.0491**	**407.3344**

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	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	lb/day										lb/day					
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
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
Worker	0.0509	0.0354	0.4144	1.2000e-003	0.1479	7.4000e-004	0.1486	0.0392	6.8000e-004	0.0399		121.3306	121.3306	3.8800e-003	3.6500e-003	122.5150
Total	**0.0509**	**0.0354**	**0.4144**	**1.2000e-003**	**0.1479**	**7.4000e-004**	**0.1486**	**0.0392**	**6.8000e-004**	**0.0399**		**121.3306**	**121.3306**	**3.8800e-003**	**3.6500e-003**	**122.5150**

3.3 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0381		0.9462	0.9462		0.9462	0.9462	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**1.2097**	**33.7214**	**22.9600**	**0.0381**	**8.8457**	**0.9462**	**9.7918**	**4.5461**	**0.9462**	**5.4923**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	lb/day										lb/day					
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
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
Worker	0.0509	0.0354	0.4144	1.2000e-003	0.1479	7.4000e-004	0.1486	0.0392	6.8000e-004	0.0399		121.3306	121.3306	3.8800e-003	3.6500e-003	122.5150
Total	**0.0509**	**0.0354**	**0.4144**	**1.2000e-003**	**0.1479**	**7.4000e-004**	**0.1486**	**0.0392**	**6.8000e-004**	**0.0399**		**121.3306**	**121.3306**	**3.8800e-003**	**3.6500e-003**	**122.5150**

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					7.0847	0.0000	7.0847	3.4251	0.0000	3.4251			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**7.0847**	**0.7749**	**7.8596**	**3.4251**	**0.7129**	**4.1380**		**2,872.691 0**	**2,872.691 0**	**0.9291**		**2,895.918 2**

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	lb/day										lb/day					
Hauling	4.4900e-003	0.3038	0.0682	1.3500e-003	0.0397	2.5400e-003	0.0422	0.0109	2.4300e-003	0.0133		145.6832	145.6832	3.0800e-003	0.0230	152.6193
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
Worker	0.0424	0.0295	0.3453	1.0000e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		101.1089	101.1089	3.2300e-003	3.0400e-003	102.0959
Total	**0.0469**	**0.3332**	**0.4135**	**2.3500e-003**	**0.1629**	**3.1600e-003**	**0.1661**	**0.0436**	**3.0000e-003**	**0.0466**		**246.7921**	**246.7921**	**6.3100e-003**	**0.0261**	**254.7151**

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					3.1881	0.0000	3.1881	1.5413	0.0000	1.5413			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0297		0.7725	0.7725		0.7725	0.7725	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.0093**	**26.2791**	**18.9906**	**0.0297**	**3.1881**	**0.7725**	**3.9606**	**1.5413**	**0.7725**	**2.3138**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

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	lb/day										lb/day					
Hauling	4.4900e-003	0.3038	0.0682	1.3500e-003	0.0397	2.5400e-003	0.0422	0.0109	2.4300e-003	0.0133		145.6832	145.6832	3.0800e-003	0.0230	152.6193
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
Worker	0.0424	0.0295	0.3453	1.0000e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		101.1089	101.1089	3.2300e-003	3.0400e-003	102.0959
Total	**0.0469**	**0.3332**	**0.4135**	**2.3500e-003**	**0.1629**	**3.1600e-003**	**0.1661**	**0.0436**	**3.0000e-003**	**0.0466**		**246.7921**	**246.7921**	**6.3100e-003**	**0.0261**	**254.7151**

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	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	lb/day										lb/day					
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
Vendor	0.0276	1.2510	0.3768	5.6000e-003	0.1898	7.4000e-003	0.1972	0.0546	7.0800e-003	0.0617		597.6381	597.6381	8.0900e-003	0.0895	624.5174
Worker	0.2034	0.1414	1.6574	4.8000e-003	0.5915	2.9600e-003	0.5944	0.1569	2.7200e-003	0.1596		485.3225	485.3225	0.0155	0.0146	490.0601
Total	**0.2310**	**1.3924**	**2.0342**	**0.0104**	**0.7812**	**0.0104**	**0.7916**	**0.2115**	**9.8000e-003**	**0.2213**		**1,082.9606**	**1,082.9606**	**0.0236**	**0.1041**	**1,114.5775**

3.5 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	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	lb/day										lb/day					
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
Vendor	0.0276	1.2510	0.3768	5.6000e-003	0.1898	7.4000e-003	0.1972	0.0546	7.0800e-003	0.0617		597.6381	597.6381	8.0900e-003	0.0895	624.5174
Worker	0.2034	0.1414	1.6574	4.8000e-003	0.5915	2.9600e-003	0.5944	0.1569	2.7200e-003	0.1596		485.3225	485.3225	0.0155	0.0146	490.0601
Total	**0.2310**	**1.3924**	**2.0342**	**0.0104**	**0.7812**	**0.0104**	**0.7916**	**0.2115**	**9.8000e-003**	**0.2213**		**1,082.9606**	**1,082.9606**	**0.0236**	**0.1041**	**1,114.5775**

3.6 Paving - 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	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.5240					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5567**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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	lb/day										lb/day					
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
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
Worker	0.0424	0.0295	0.3453	1.0000e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		101.1089	101.1089	3.2300e-003	3.0400e-003	102.0959
Total	**0.0424**	**0.0295**	**0.3453**	**1.0000e-003**	**0.1232**	**6.2000e-004**	**0.1238**	**0.0327**	**5.7000e-004**	**0.0333**		**101.1089**	**101.1089**	**3.2300e-003**	**3.0400e-003**	**102.0959**

3.6 Paving - 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	lb/day										lb/day					
Off-Road	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.5240					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4551**	**20.1146**	**17.2957**	**0.0228**		**0.6670**	**0.6670**		**0.6670**	**0.6670**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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	lb/day										lb/day					
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
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
Worker	0.0424	0.0295	0.3453	1.0000e-003	0.1232	6.2000e-004	0.1238	0.0327	5.7000e-004	0.0333		101.1089	101.1089	3.2300e-003	3.0400e-003	102.0959
Total	**0.0424**	**0.0295**	**0.3453**	**1.0000e-003**	**0.1232**	**6.2000e-004**	**0.1238**	**0.0327**	**5.7000e-004**	**0.0333**		**101.1089**	**101.1089**	**3.2300e-003**	**3.0400e-003**	**102.0959**

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	144.3005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**144.4922**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	lb/day										lb/day					
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
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
Worker	0.0396	0.0275	0.3223	9.3000e-004	0.1150	5.8000e-004	0.1156	0.0305	5.3000e-004	0.0310		94.3683	94.3683	3.0100e-003	2.8400e-003	95.2895
Total	**0.0396**	**0.0275**	**0.3223**	**9.3000e-004**	**0.1150**	**5.8000e-004**	**0.1156**	**0.0305**	**5.3000e-004**	**0.0310**		**94.3683**	**94.3683**	**3.0100e-003**	**2.8400e-003**	**95.2895**

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	144.3005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**144.4144**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	lb/day										lb/day					
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
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
Worker	0.0396	0.0275	0.3223	9.3000e-004	0.1150	5.8000e-004	0.1156	0.0305	5.3000e-004	0.0310		94.3683	94.3683	3.0100e-003	2.8400e-003	95.2895
Total	**0.0396**	**0.0275**	**0.3223**	**9.3000e-004**	**0.1150**	**5.8000e-004**	**0.1156**	**0.0305**	**5.3000e-004**	**0.0310**		**94.3683**	**94.3683**	**3.0100e-003**	**2.8400e-003**	**95.2895**

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	144.3005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**144.4813**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	lb/day										lb/day					
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
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
Worker	0.0370	0.0245	0.3009	9.0000e-004	0.1150	5.5000e-004	0.1156	0.0305	5.0000e-004	0.0310		91.3164	91.3164	2.7400e-003	2.6500e-003	92.1734
Total	**0.0370**	**0.0245**	**0.3009**	**9.0000e-004**	**0.1150**	**5.5000e-004**	**0.1156**	**0.0305**	**5.0000e-004**	**0.0310**		**91.3164**	**91.3164**	**2.7400e-003**	**2.6500e-003**	**92.1734**

3.7 Architectural Coating - 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	lb/day										lb/day					
Archit. Coating	144.3005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**144.4144**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	lb/day										lb/day					
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
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
Worker	0.0370	0.0245	0.3009	9.0000e-004	0.1150	5.5000e-004	0.1156	0.0305	5.0000e-004	0.0310		91.3164	91.3164	2.7400e-003	2.6500e-003	92.1734
Total	**0.0370**	**0.0245**	**0.3009**	**9.0000e-004**	**0.1150**	**5.5000e-004**	**0.1156**	**0.0305**	**5.0000e-004**	**0.0310**		**91.3164**	**91.3164**	**2.7400e-003**	**2.6500e-003**	**92.1734**

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	lb/day										lb/day					
Mitigated	1.6661	2.3401	17.4985	0.0371	4.1025	0.0275	4.1300	1.0926	0.0257	1.1182		3,780.0165	3,780.0165	0.2362	0.1965	3,844.4769
Unmitigated	1.6661	2.3401	17.4985	0.0371	4.1025	0.0275	4.1300	1.0926	0.0257	1.1182		3,780.0165	3,780.0165	0.2362	0.1965	3,844.4769

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	667.38	667.38	667.38	1,948,437	1,948,437
Total	667.38	667.38	667.38	1,948,437	1,948,437

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451
Unrefrigerated Warehouse-No Rail	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451

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	lb/day										lb/day					
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
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

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	lb/day										lb/day					
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
Unrefrigerated Warehouse-No Rail	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
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**

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	lb/day										lb/day					
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
Unrefrigerated Warehouse-No Rail	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
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**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	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	lb/day										lb/day					
Mitigated	3.3418	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Unmitigated	3.3418	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513

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	lb/day										lb/day					
Architectural Coating	0.3953					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9444					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Total	**3.3418**	**2.0000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0482**	**0.0482**	**1.3000e-004**		**0.0513**

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	lb/day										lb/day					
Architectural Coating	0.3953					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9444					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Total	**3.3418**	**2.0000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0482**	**0.0482**	**1.3000e-004**		**0.0513**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

OPERATIONAL NOISE IMPACT ANALYSIS

This page intentionally left blank

Construction Calculations

Phase: Demolition

Equipment	Quantity	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Concrete Saw	1	90	20	50	0.5	90	83
Excavator	3	81	40	50	0.5	81	82
Dozer	2	82	40	50	0.5	82	81
					Combined at 50 feet	**91**	**87**
					Combined at Receptor 350 feet	**74**	**70**

Phase: Site Preparation

Equipment	Quantity	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Dozer	3	82	40	50	0.5	82	83
Tractor	4	84	40	50	0.5	84	86
					Combined at 50 feet	**86**	**88**
					Combined at Receptor 350 feet	**69**	**71**
					Combined at Receptor 400 feet	**68**	**70**

Phase: Grading

Equipment	Quantity	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Excavator	1	81	40	50	0.5	81	77
Grader	1	85	40	50	0.5	85	81
Dozer	1	82	40	50	0.5	82	78
Tractor	3	84	40	50	0.5	84	85
					Combined at 50 feet	**89**	**87**
					Combined at Receptor 350 feet	**72**	**70**

Phase:Building Construstion

Equipment	Quantity	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Crane	1	81	16	50	0.5	81	73
Man Lift	3	75	20	50	0.5	75	73
Generator	1	81	50	50	0.5	81	78
Tractor	3	84	40	50	0.5	84	85
Welder / Torch	1	74	40	50	0.5	74	70
					Combined at 50 feet	**87**	**86**
					Combined at Receptor 350 feet	**71**	**69**

Phase:Paving

Equipment	Quantity	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Paver	2	77	50	50	0.5	77	77
All Other Equipment > 5 HP	2	85	50	50	0.5	85	85
Roller	2	80	20	50	0.5	80	76
					Combined at 50 feet	**87**	**86**
					Combined at Receptor 350 feet	**70**	**69**

Phase:Architectural Coating

Equipment	Quantity	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Compressor (air)	1	78	40	50	0.5	78	74
					Combined at 50 feet	**78**	**74**
					Combined at Receptor 350 feet	**61**	**57**

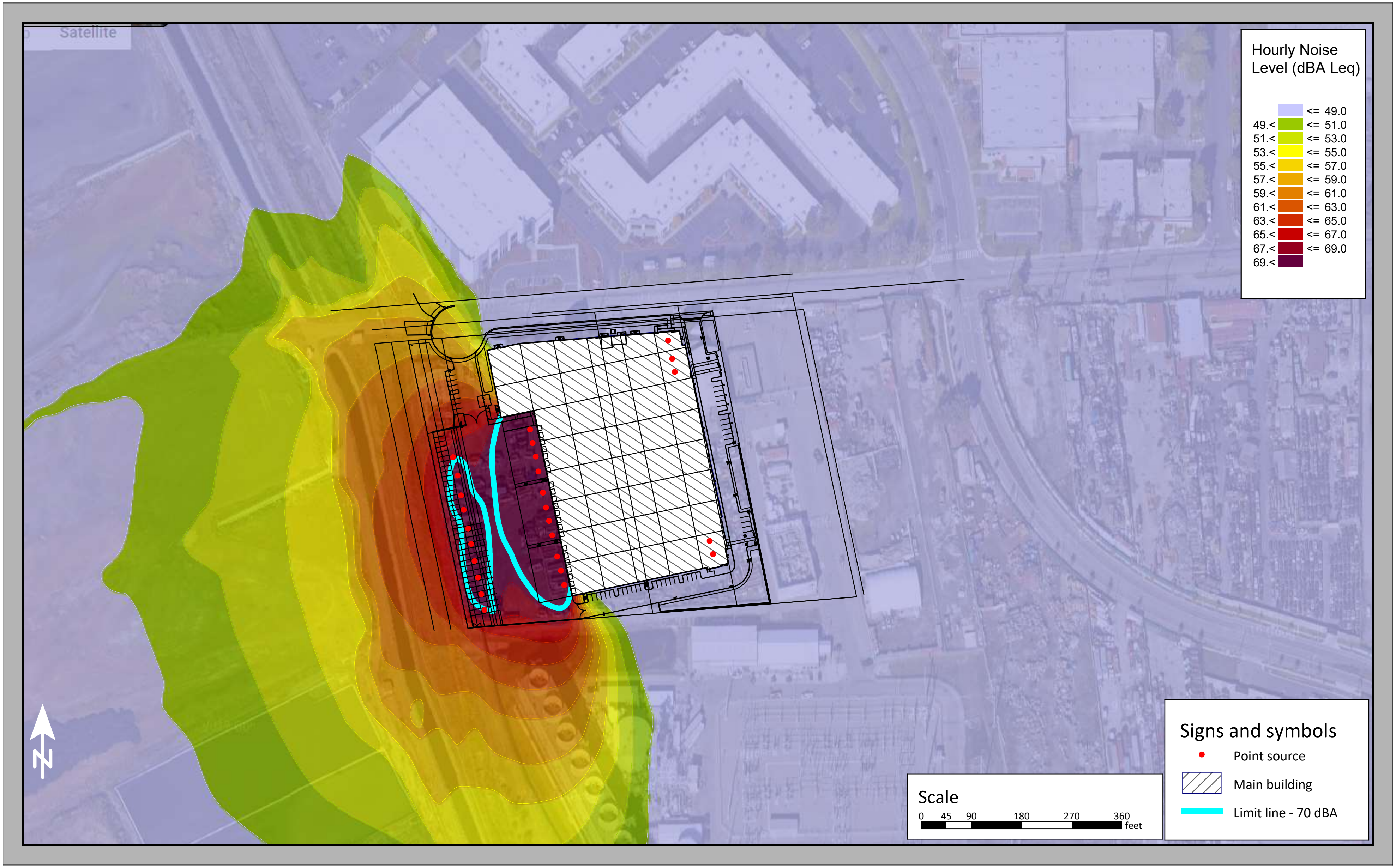
Sources: RCNM

[1]- Percentage of time that a piece of equipment is operating at full power.
dBA – A-weighted Decibels
Lmax- Maximum Level
Leq- Equivalent Level

3890 Depot Road

Project No. HAY2001.07

Project Operational Noise Levels



C:\SoundPlan\HAY2001.07 - 3890 Depot Road\Sheet1.sgs - last edit 11/22/2022

APPENDIX C

TRANSPORTATION CEQA ANALYSIS

This page intentionally left blank.

HAYWARD DEPOT ROAD INDUSTRIAL EIR- CEQA ANALYSIS

3890 & 3898 DEPOT ROAD

HAYWARD, CALIFORNIA

November 18, 2022

Inside front cover

Page Intentionally blank

Hayward Depot Road Industrial EIR- CEQA Analysis

3890 & 3898 Depot Road Hayward, California

Prepared for:
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Prepared by:
Kittelson & Associates, Inc.
155 Grand Avenue, Suite 505
Oakland, CA 94612
510.839.1742

Project Manager:
Michael Ruiz-Leon
Engineering Associate/Planner

Project Principal:
Damian Stefanakis
Senior Principal Planner

Project Analyst:
McKenna Milacek
Transportation Analyst

Kittelson Project Number 28037
City of Hayward Planning Application 202102725

November 18, 2022

Page Intentionally blank

CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

Appendix A: VMT Calculations

Appendix B: ACTC Development Review Complete Streets Checklist

Executive Summary

EXECUTIVE SUMMARY

This report presents the findings, conclusions, and transportation impact analysis conducted by Kittelson & Associates for the proposed 3890 and 3898 Depot Road Industrial Project (Project) located in Hayward, California. The project is located at 3890 and 3898 Depot Road, north of State Route 92 (SR-92) and west of Whitesell Road. The site currently serves as a cardboard recycling facility, which will be vacated by December 2022. As part of the project, the existing structures will be demolished, and the site will be vacated by December 2022. The project is 137,040 square feet (sf) of industrial/warehouse uses consisting of 132,040 sf of warehouse and 5,000 sf of potential office space. The project would include two new full-access driveways on the northern portion of the site along Depot Road.

SUMMARY OF FINDINGS

An assessment of vehicle miles traveled (VMT) determined the Project cannot be screened out of a detailed VMT analysis under the City's SB 743-consistent VMT criteria. The project is located in an area with higher than average VMT compared to the regional average. In addition, the project does not satisfy any other screening out criteria. Therefore, it was determined that the project would need to include VMT mitigation improvements to reach a less than significant finding.

The analysis concluded that the Project VMT will need to be reduced from 18.58 VMT per employee to 18.15 VMT per employee, representing a 2.3% decrease. To achieve the 2.3% VMT per employee reduction, the project applicant and/or operator of the facility shall implement any of the following TDM measures:

1. Employee Transit Subsidies (including a "Guaranteed Ride Home" program) = 5.2% total VMT per employee reduction
2. Rideshare Program = 8.0% total VMT per employee reduction
3. Promotions and Marketing Program= 4.0% total VMT per employee reduction

To further support the use of transit and non-auto use, a 5-foot wide sidewalk will be constructed along the project frontage on the south side of Depot Road.

Section 2 describes each TDM measure in detail, the level of subsidies and incentives, and the project design features and infrastructure that would encourage users to adopt the measures that would reduce VMT. With the implementation of any of the combination of measures outlined above, would reduce the significant project impact and significant cumulative impact to **less-than-significant** with mitigation.

Section 1
Methodologies and Existing Conditions

1 METHODOLOGIES AND EXISTING CONDITIONS

The project is located at 3890 and 3898 Depot Road, north of State Route 92 (SR-92) and west of Whitesell Road, in the City of Hayward, CA. The site consists of 6.58 acres on two parcels (APN 439-0070-013-01 and APN 439-0070-014-00). The proposed project consists of the development of one new warehousing speculative building on the two lots after vacating and demolishing to existing buildings.

The project is 137,040 square feet (sf) of industrial/warehouse uses consisting of a 132,040 sf of warehouse and a potential 5,000 sf of office space. The project would also include a parking lot with 67 automobile parking spaces. Access to the project site would be via two driveways along Depot. Both driveways would be located at the northern portion of the site with access to Depot. The project site and study area are shown in **Figure 1**. The proposed site plan is shown in **Figure 2**.

This transportation impact analysis is therefore subject to the regulations and standards currently in place in the City of Hayward. These standards are outlined in the *Hayward 2040 General Plan – Mobility Element* (2014), and the City of Hayward Traffic Study Guidelines, as summarized below.

The analysis methodology used in this report was approved by City Transportation Staff prior to commencement of the study.

1.1 IMPACT CRITERIA AND ANALYSIS STANDARDS

Under Senate Bill (SB) 743, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, level of service (LOS) and other similar vehicle delay or capacity metrics may no longer serve to determine environmental impacts from projects being evaluated for potential impacts under the California Environmental Quality Act (CEQA). The Governor's Office of Planning and Research (OPR) has updated the CEQA Guidelines and provided a final technical advisory in December 2018 which recommends vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts under CEQA. For land use and transportation projects, SB 743-compliant CEQA analysis became mandatory on July 1, 2020.

The City of Hayward has adopted VMT thresholds of significance and screening criteria, which are used in this study for impact analysis purposes.

1.1.1 VMT IMPACT SIGNIFICANT CRITERIA

The City's thresholds of significance by land use to evaluate project impacts under CEQA are shown in **Table 1**.

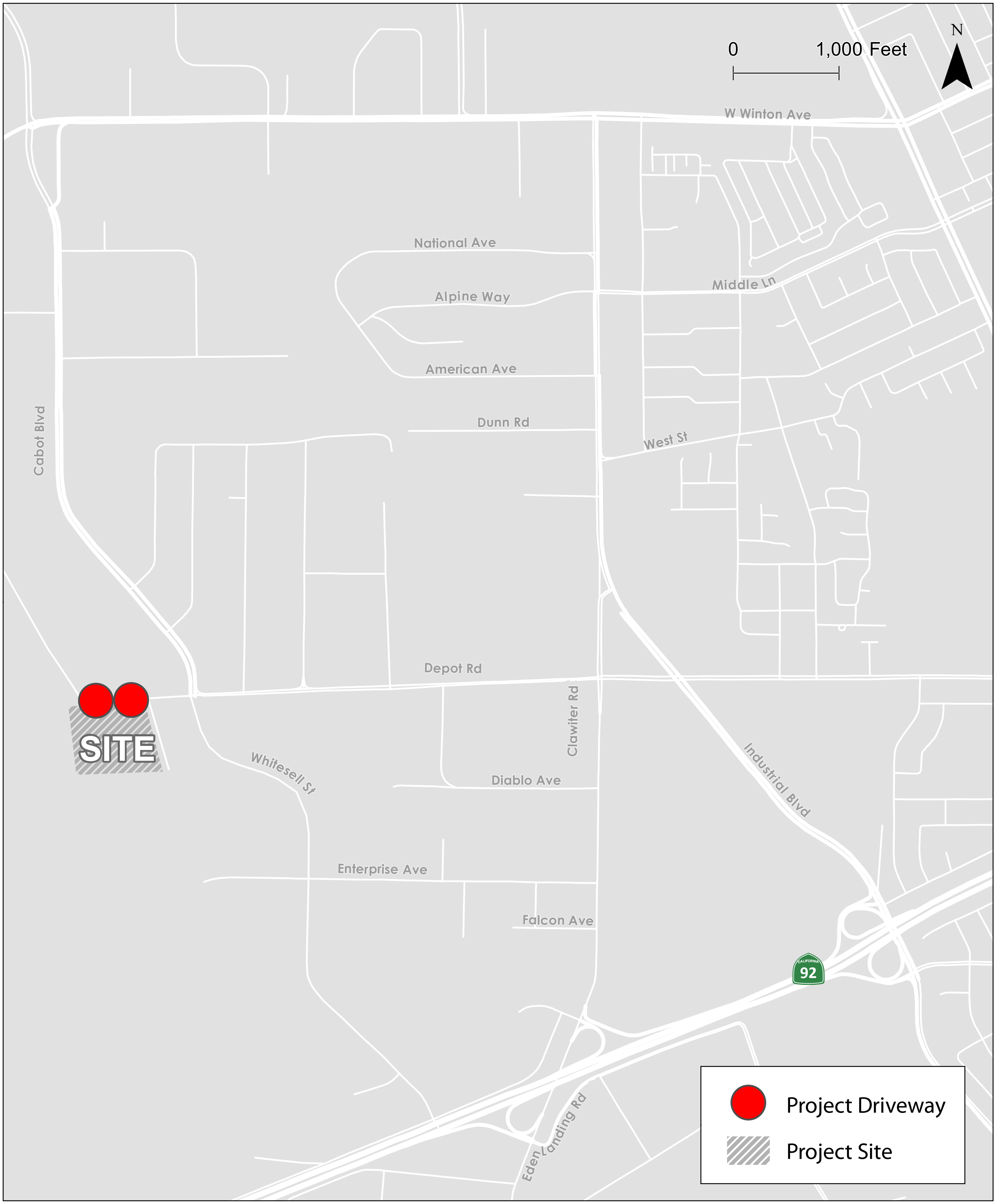
Table 1: Thresholds of Significance for Residential and Employment Projects

Land Use	Threshold of Significance
Residential	15% below existing average VMT per capita for the City of Hayward
Employment - Office	15% below existing regional average VMT per employee
Employment - Industrial	**Below existing regional average VMT per employee**
Retail	Net increase in total regional VMT

Source: City of Hayward, December 2020
Bold signifies the appropriate impact threshold for this project.

The City has also adopted screening criteria, which can be used to quickly identify when a project should be expected to cause a less-than-significant impact related to VMT and if screened out would not require a detailed VMT analysis. Before any VMT analysis is undertaken, the project must undergo this screening assessment to determine if it can be screened out of a detailed VMT study. The City's screening criterion for industrial projects is detailed below. Note, all of the following conditions must be met for the project to be screened out.

- Located in areas with below average VMT per employee and/or within a half mile of a major transit stop or corridor.
- Include low VMT-supporting features that will produce low VMT per employee.
- Must include features that are similar to or better than what exists today for density and parking to support no increase in VMT per industrial employee.



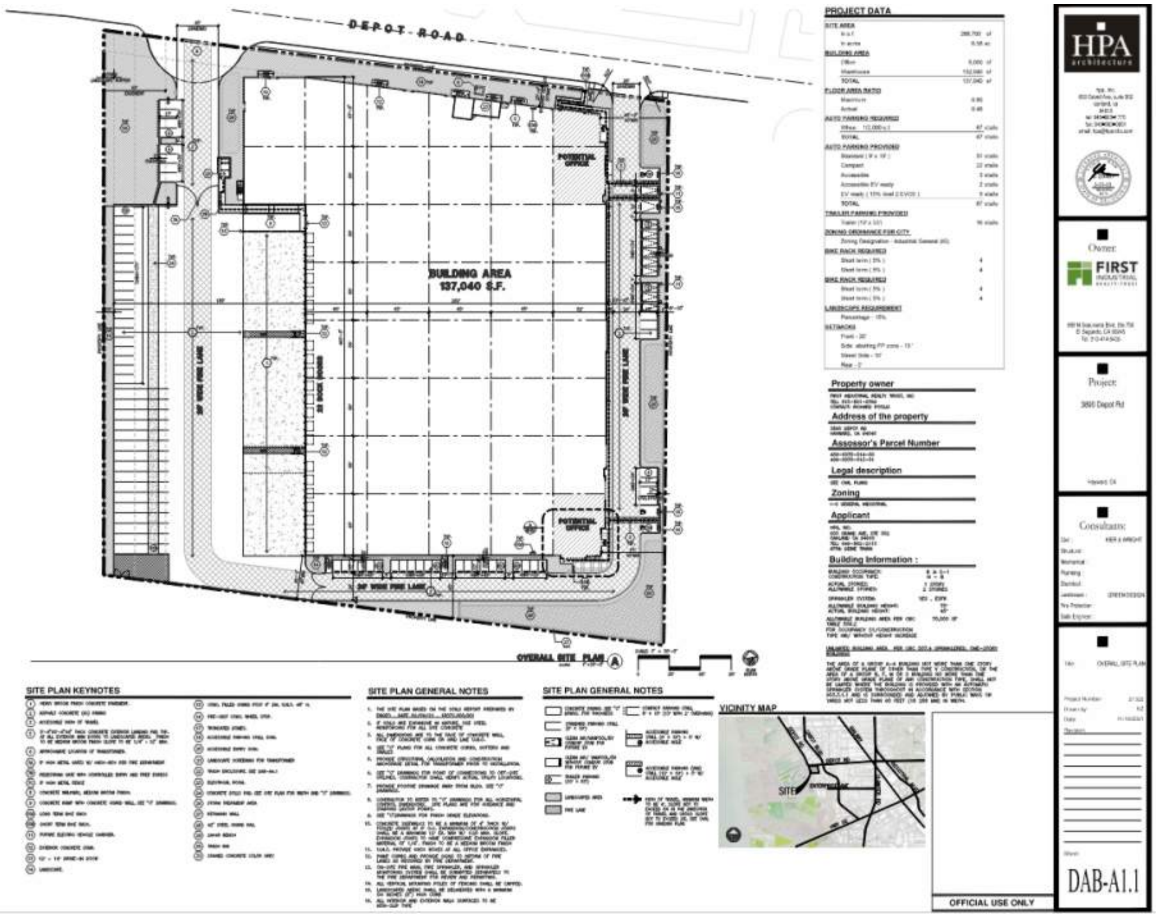
Study Area and Project Site
Hayward, California

Figure 1

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

Figure 2: Site Plan



Source: HPA Architects, Inc, 11/19/2021

1.2 EXISTING NETWORK

1.2.1 ROADWAYS

The roadway system in the study area consists of arterial, collector, and local roadways that serve local and regional traffic demand. The vehicular facilities in the study area are discussed below

1.2.1.1 Arterial Roadways

Clawiter Road is a north-south facility that is classified as a Minor Arterial north of Depot Road and designated as a truck route by the City of Hayward. Clawiter Road extends from Winton Avenue and ends at the SR 92 interchange, where it connects to Eden Landing Road. North of Industrial Boulevard, it is a four-lane facility with a two-way left-turn lane in the center and street parking on both sides of the road. The inner lanes are 10 feet wide and the outer lanes are 18 feet wide to accommodate street parking. The speed limit is 35 mph. The curb-to-curb right-of-way is about 72 feet. Clawiter Road provides access to mostly light industrial and commercial land uses. About 1,000 feet north of Depot Road, Clawiter Road becomes a Collector Street. Clawiter Road is designated as a bicycle route.

Winton Avenue is an east-west facility that is classified as a Minor Arterial and truck route. It is a four-lane facility with a two-way left-turn lane in the center. The curb-to-curb right-of-way is approximately 72 feet and widens to about 90 feet at the intersection with Clawiter Road. Travel lanes are typically 11 feet wide and widen to 18 feet when street parking is available. The posted speed limit is 35 mph. Winton Avenue begins at the Hayward Regional Shoreline to the west, passes by the Hayward Executive Airport and I-880, and terminates at the intersection of SR 92. Winton Avenue is a bicycle route west of Clawiter Road and has a buffered bike lane on the south side east of Clawiter Road.

1.2.1.2 Collector Roadways

Depot Road is an east-west Collector that begins to the west at the shoreline and terminates at Hesperian Boulevard, where it becomes Cathy Way. It is a four-lane facility that is a bicycle route. The curb-to-curb right-of-way is 48 feet west of Clawiter Road and expands to approximately 60 feet wide to the east to accommodate turn pockets. East of Industrial Boulevard, Depot Road narrows to 48 feet. Travel lanes are about 12 feet wide. There are sidewalks on both sides of the road, but no on-street parking west of Industrial Boulevard. East of Whitesell Street, Depot Road has sidewalks on the north side, but intermittently along the south side.

Clawiter Road is a north-south Collector south of Depot Road and designated as a truck route by the City of Hayward. It is a two-lane facility south of Industrial Boulevard. A two-way left-turn lane runs between Enterprise Avenue and the railroad crossing north of the SR 92 interchange. The curb-to-curb right-of-way is 35 to 45 feet and the travel lanes are about 16 feet wide. The posted speed limit is 35 mph north of the SR 92 interchange and 25 mph south of the interchange. Sidewalks are available intermittently and street parking is prohibited. Clawiter Road is designated as a bicycle route.

Cabot Boulevard is a north-south Collector south of Winton Avenue and is not designated as a truck route by the City of Hayward. It is a four-lane facility north of Depot Road and south of Winton Avenue. The curb-to-curb right of way is 70 feet and the travel lanes are about 15 feet wide. The posted speed limit is 35 mph. Sidewalks are available and street parking is prohibited. Cabot Boulevard is designated as a bicycle route.

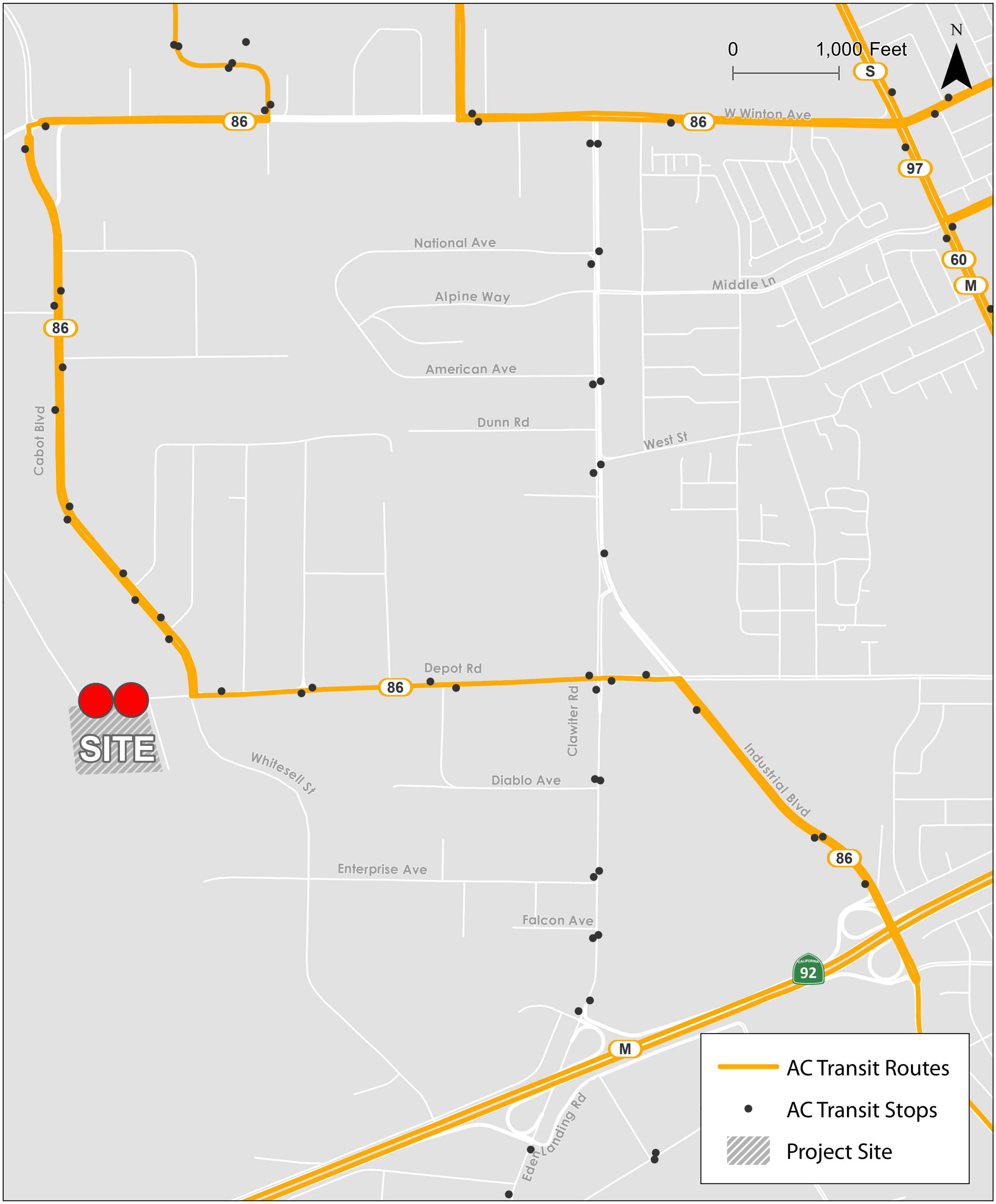
Enterprise Avenue is an east-west Collector that begins in the west at the project site west of Whitesell Street and extends to the east at a t-intersection on Clawiter Road. Enterprise Avenue is designated as a truck route by the City of Hayward. It is a two-lane facility servicing the mostly industrial areas near the project site. The curb-to-curb right of way is 44 feet with two wide travel lanes for truck use. The posted speed limit is 25 mph. Some sidewalks are available and street parking is permitted. Enterprise Avenue is not designated as a bicycle route.

1.2.1.3 Local Roadways

Whitesell Street is a north-south Local roadway that begins south of Depot Road. It is a two-lane facility with a posted speed limit of 25 mph. The curb-to-curb right-of-way at Depot Road is 56 feet. The facility has sidewalks, bicycles, and has prohibited street parking.

1.2.2 TRANSIT SERVICE

The transit system in the study area consists of local bus service. The transit facilities in the study area are discussed below and shown in **Figure 3**.



Transit Facilities Withing Study Area
Hayward, California

Figure
3

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\GIS\CEQA\Figure 03 Transit Facilities Within Study Area.mxd - mmilacek - 10:15 AM 10/7/2022

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

1.2.2.1 Alameda-Contra Costa Transit District

Alameda-Contra Costa Transit District (AC Transit) provides bus service in the study area. AC Transit bus routes and local bus stops are shown in **Figure 3**. In addition, weekday bus service in the study area is documented in **Table 2**.

Table 2: Existing AC Transit Weekday Service

Route	Beginning and End Points		Peak / Off-Peak Frequency (in Minutes)
	North/West	South/East	
86	Hayward BART	South Hayward BART	35/35

Data Source: AC Transit (2022)

There are two bus stops approximately ¼ mile distance from the project site to the north on Whitesell Street and to the east on Depot Road. Both bus stops can be accessed via sidewalks on Depot Road and Whitesell St and are currently served by AC Transit Line 86 which operates at 35-minute headways during both peak and off-peak times. Route 86 begins at the Hayward BART station and travels west on Winton Avenue, south on Cabot Boulevard, and east on Depot Road. It then travels south on Industrial Boulevard and east on Tennyson Road before terminating at the South Hayward BART station.

The bus stops near the project site do not provide any benches or shelters. All AC Transit buses are equipped with bike racks at the front of the bus. Bicycles are allowed inside buses between midnight and 5:30 a.m. weekdays and between midnight and 9 a.m. weekends and holidays, or if the rack is full and there is room inside[1].

1.2.3 PEDESTRIAN FACILITIES

The study area offers several types of facilities and amenities that support walking. The availability and quality of pedestrian facilities can be analyzed using seven key factors as shown in **Table 3**.

Table 3: Pedestrian Facility Conditions

Factor	Description	Assessment
 Sidewalk Availability	Sidewalk availability is core to supporting walkability and safety separating pedestrians from vehicles and other modes. In addition, it is important that sidewalks are present on both sides of the roadway and are available along the entire segment rather than end midblock.	Roadways in the study area have partial sidewalk on one or both sides of the road. Near the project vicinity, sidewalk is provided on the north side of Depot Road and partial sidewalk is provided along the south side of Depot Road. Cabot Boulevard has sidewalk on both sides of the road for approximately ¾ miles north of the project site before terminating on both sides. Sidewalk is provided on both sides of Whitesell Street from Deport Road to Breakwater Avenue. The roadways in the study area mostly traverse light industrial and commercial land uses, and most of the arterials and collectors are designated truck routes. Thus, pedestrian-oriented uses are generally not prioritized in the area.

[1] Bikes on Buses | Alameda-Contra Costa Transit District (actransit.org)

Factor	Description	Assessment
Sidewalk Conditions	Cracked, broken, or otherwise damaged sidewalks can pose a safety hazard and discourage walking.	Sidewalks are consistently available on the north side and intermittently on the south side of Depot Road. Other existing sidewalks, in particular on Whitesell Street and Cabot Boulevard, generally appear in good condition based on aerial photography.
Crosswalk Availability	Marked crosswalks can safely accommodate pedestrians that need to cross streets. A lack of marked crosswalks could hinder walkability since pedestrians need to travel greater distances to reach a safe marked crossing point. Drivers may also be less likely to yield to intersections at unmarked crossings.	Most of the intersections on Depot Road and Cabot Boulevard do not feature crosswalks. The intersection of Whitesell Street and Depot Road, which includes crosswalks on all approaches and is all-way stop controlled. The intersection of Depot Road and Clawiter road is signalized with two crosswalks, both adjacent to Depot Road.
Shading	Shading, whether natural or artificial, can encourage walking in areas such as Southern California which are relatively warm with limited rainfall, especially in the summer.	Shading around the study streets is sparsely provided by street trees and buildings. There are relatively long stretches of Depot Road and Whitesell Street that are not shaded. Cabot Road is mostly unshaded.
Flat Grade	Steep hills and ravines can discourage walking, especially for pedestrians with limited mobility.	The study area is generally flat.
Buffer	Buffers which provide separation between pedestrians and moving vehicles can help improve the walking experience, and can include landscaping, parked vehicles, and bulbouts, which serve to both reduce pedestrian crossing distances at intersections and as a traffic calming measure.	Buffers in the form of landscaping are present on Whitesell Road south of Depot Road and provide approximately 3 feet of space between the sidewalk and curb. No buffers exist on the sidewalks on Depot Road or Cabot Boulevard north of the project site.
Amenities	In addition to physical facilities that accommodate walking, useful or interesting amenities along sidewalks create a more interesting walking environment and increase pedestrian comfort. Amenities can include sidewalk-adjacent retail and restaurants, landscaping, and street furniture.	Street furniture generally is not included along the roadways in the study area. As outlined in the transit section above, most bus stops do not provide any amenities other than a bus stop sign. Some, such as the Depot Road & Connecticut Street bus stop, are not located on sidewalks. This particular stop is located on the South side of Depot Road and consists of a bus stop sign on an unpaved curb.

The draft City of Hayward Bicycle & Pedestrian Master Plan (BPMP) includes a map of roadways with the top pedestrian prioritization scores, highlighting roads that are prime candidates for improvements. Within the study area, these include portions of Clawiter Road, Depot Road, and Winton Avenue.

1.2.4 BICYCLE FACILITIES

The study area contains a bicycle facilities network that consists primarily of dedicated street space for bicyclists.

Figure 4 displays the existing designated bicycle facilities in the study area.

Bicycle facilities are categorized into four types, as described below:

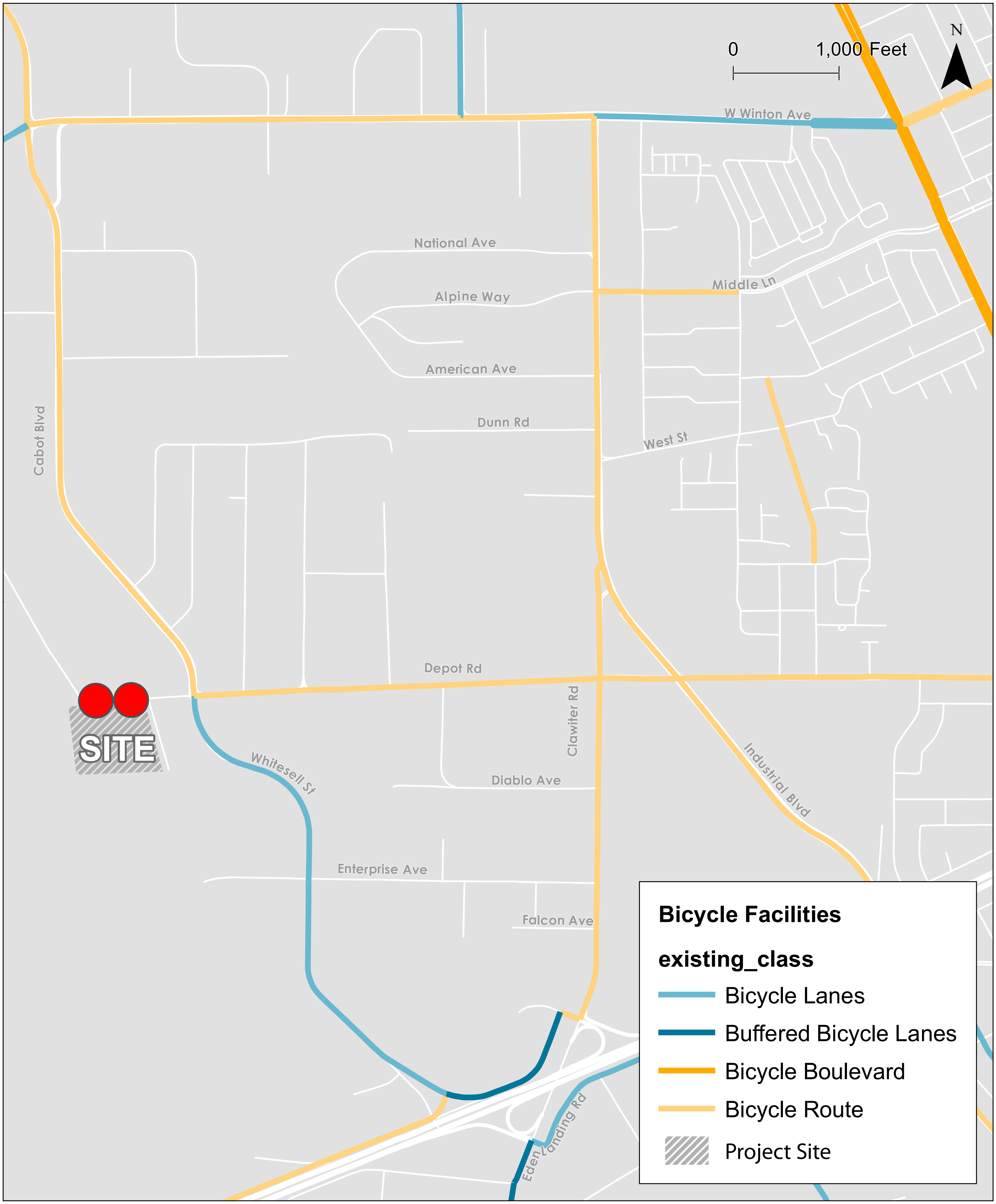
- **Class I Bikeway (Bike Path).** Also known as a shared path or multi-use path, a bike path is a paved right-of-way for bicycle travel that is completely separate from any street or highway.
- **Class II Bikeway (Bike Lane).** A striped and stenciled lane for one-way bicycle travel on a street or highway. This facility could include a buffered space between the bike lane and vehicle lane and the bike lane could be adjacent to on-street parking.
- **Class III Bikeway (Bike Route).** A signed route along a street where the bicyclist shares the right-of-way with motor vehicles. This facility can also be designated using a shared-lane marking (sharrow).
- **Class IV Bikeway (Separated Bike Lane).** A bikeway for the exclusive use of bicycles including a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

As shown in **Figure 4**, the existing bicycle facilities in the study area include:

- Class II bike lane on Whitesell Street south of Depot Road
- Class III bike route on Depot Road
- Class III bike route on Industrial Boulevard
- Class III bike route on Cabot Boulevard north of Depot Road to Winton Road
- Class III bike route on Clawiter Road
- Class III bike route on Winton Avenue west of Clawiter Road

The City of Hayward Bicycle & Pedestrian Master Plan (BPMP) includes a map of roadways with the top bicycle prioritization scores, highlighting roads that are prime candidates for improvements. Within the study area, these include portions of Hesperian Boulevard, Clawiter Road, Winton Avenue, Industrial Boulevard, Depot Road, and Breakwater Avenue (parallel to SR 92). The draft plan includes the following bicycle improvements in the study area:

- Class II bicycle lane on Depot Road east of Industrial Boulevard
- Class IV separated bikeway on Depot Road west of Industrial Boulevard
- Class IV separated bikeway on Clawiter Road
- Class IV separated bikeway on Winton Avenue



Existing Bicycle Network Within Study Area
Hayward, California

Figure
4

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

Section 2

VMT Impact Analysis

2 VMT IMPACT ANALYSIS

The project is located at 3890 and 3898 Depot Road, north of State Route 92 (SR-92) and west of Whitesell Road, in the City of Hayward, CA. The site consists of 6.58 acres on two parcel (APN 439-0070-013-01 and APN 439-0070-014-00). The stie is currently used as a cardboard recycling facility, which will be vacated by December 2022 and existing structures will be demolished as part of this project.

The project is 137,040 square feet (sf) industrial building, including 132,040 sf of warehouse space and 5,000 sf of potential office space likely dedicated to the warehouse uses. The project would also include a parking lot with 67 automobile parking spaces in addition to 22 loading docks and 16 trailer stalls. Access to the project site would be via two full-access driveways along Depot Road. Both driveways are located at the northern portion of the site with access to Depot Road. The project site is bound by Depot Road to the north, the Calpine Russell City Energy Center to the east and south, and the Hayward Water Pollution Control Facility's wet weather storage ponds to the west. The project site and study area are shown in **Figure 1**. The proposed site plan is shown in **Figure 2**.

This section discusses the results of the VMT analysis using the City's SB 743-consistent VMT thresholds of significance and screening criteria.

2.1 EQUIVALENT LAND USE AND APPLICABLE THRESHOLDS AND SCREENING CRITERIA

The City of Hayward has developed VMT impact thresholds of significance that cover residential, office employment, industrial employment, and retail projects. This is generally consistent with OPR's technical advisory, which provided recommended metrics and impact thresholds for residential, office, and retail projects, since they tend to have the greatest influence of land use projects on VMT in California.

The City's thresholds of significance by land use are shown in **Figure 5**. Given that the project is an industrial park with primarily industrial uses and other minor supporting uses, it was determined that the employment-industrial threshold (VMT per employee below the existing regional average) would be appropriate to apply to the project.

2.2 VMT SCREENING

Before any VMT analysis is undertaken, the Project must undergo screening using the City's screening criteria to determine if it can be expected to cause a less-than-significant impact without conducting a detailed VMT study.

The City's screening criteria for projects analyzed under the employment-industrial threshold is detailed below. Note, all of the following conditions must be met for the project to be screened out.

- Located in areas with below average VMT per employee and/or within a half mile of a major transit stop or corridor.
- Include low VMT-supporting features that will produce low VMT per employee.
- Must include features that are similar to or better than what exists today for density and parking to support no increase in VMT per industrial employee.

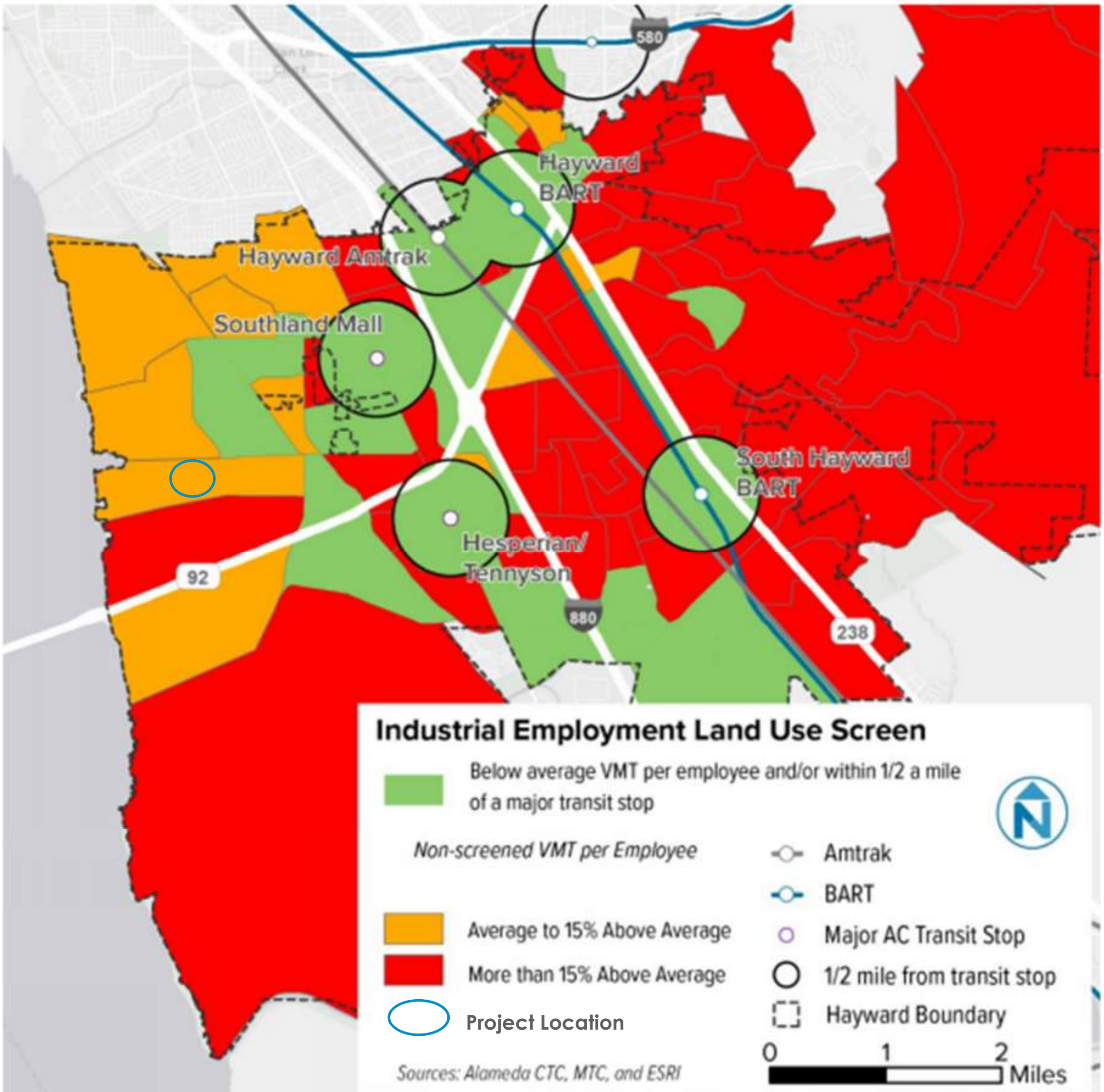
The low-VMT area screening criterion does not apply to this project and therefore the project cannot be screened out of a detailed VMT analysis for the following reasons:

- As shown in **Figure 5**, the project is located in an area with average to 15% above average VMT.

- The project includes low-VMT supporting features:
  - Vehicle parking would include electric vehicle charging stations.
  - The project incentivizes commuting by bike, with bike racks and storage facilities.
- The project includes features that are similar to or better than what exists today for density and parking to support no increase in VMT per industrial employee. The project improves conditions compared to what is currently on the site:
  - Increases density: The site currently serves as a cardboard recycling facility. The existing structures will be demolished, and the site will be vacated by December 2022. With the project, this would increase the developed space to 286,793 square feet.
  - Increases parking: With the project, on-site parking will increase to 67 auto parking spaces.

The average VMT per employee in Alameda County is 18.15, and the project area zone has an average VMT per employee of 18.58. Therefore, the project is in an area that reports slightly above the average VMT per employee. Therefore, VMT reductions would be needed for the project to meet the VMT threshold. The project requires a VMT reduction of 0.43 or 2.3% to achieve the County regional average VMT per employee.

Figure 5: Employment-Industrial Land Use VMT Screening Map



2.2 VMT MITIGATION

The City of Hayward's guidelines recommend mitigating VMT impacts by reducing the number of single-occupant vehicles generated by a site. This can be accomplished by changing the proposed land use or by implementing Transportation Demand Management (TDM) strategies. The guidelines provide recommended mitigation measures for residential, office, retail, and mixed-use developments based on a "pre-approved" list. The city guidelines also refer to using the Alameda CTC VMT Reduction Calculator Tool-Design Document where appropriate. The Alameda CTC VMT reduction calculator tool is based on the San Diego Association of Governments (SANDAG) VMT Reduction Calculator Tool (2019) and research from California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*, published in August 2021. The Alameda CTC VMT Reduction Calculator Tool was not used in this analysis as the tool does not support the analysis of low-density areas. The project TAZ (#748) land density is too low for the tool to apply. This analysis therefore uses the City of Hayward's and CAPCOA approved mitigation measures.

Given that general light industrial are employment projects with home-based work VMT as the metric, the commute-focused mitigation measures provided in **Table 4** were selected from the City of Hayward's "pre-approved" list of mitigation measures and CAPCOA. The City's list and CAPCOA provides maximum VMT reductions based on information that has been made available since the publication of the 2021CAPCOA documentation as well as accounts for City conditions.

Table 4: Applicable Mitigation Measures

Measure	Description	Source
Rideshare Program	A rideshare program includes TDM strategies designed to increase average vehicle occupancy by encouraging carpooling and vanpooling. Carpooling and Vanpooling allows persons to connect with others who live and work nearby, have similar work schedules, and are interested in carpooling and/or vanpooling to and from work. Employers can encourage carpooling by providing ride matching assistance to employees, providing priority parking for carshare vehicles, and providing incentives for carpooling. Vanpooling is another form of ridesharing; it is a flexible form of public transportation that provides groups of generally 5 to 10 people with a cost-effective and convenient rideshare option for commuting. An employer can encourage ridesharing by subsidizing vanpooling for employees. The Metropolitan Transportation Commission (MTC) 511 program offers multiple ways to help share a ride, including long-term and one-time carpools and vanpools. Carpooling and vanpooling can be encouraged through programmatic features, such as a platform or database that matches potential riders (e.g. Zimride), and through incentives, such as payments to individuals who participate in each mode. Vanpool vehicles can be rented through a third-party provider, such as Commute With Enterprise, be owned by an individual or provided by an employer. For the proposed project, it is recommended the following: - Subsidize employees who participate in carpool and vanpool programs by fully covering the fair share cost of the employee enrolled in a carpool or vanpool (up to $75 per month). - Providing priority parking in a prime location near an entrance as an incentive to carpool and vanpool	CAPCOA Measure 3.4.7
Employee Transit Subsidies	Employers can encourage employees to take transit by providing subsidized or discounted daily or monthly public transit passes to employees. Currently, the Bay Area Commuter Benefits Program has multiple options related to employer-provided transit or transit subsidy (see below). Commute.org has a Guaranteed Ride Home program and a commuter shuttle program available to encourage	City of Hayward Measure 1D

Measure	Description	Source
	transit use as well. For the proposed project, it is recommended the following incentives for employees who regularly carpool, vanpool, bike, walk or take transit to work: - cover the monthly cost of the employee's commute (up to $75 per month) or allow employees to exclude their transit or vanpooling expenses from taxable income, up to the maximum of $270 per month allowed by the federal tax code - provide a free and reliable ride home when one of life's unexpected emergencies arise.	
Promotions and Marketing Program	Commute trip reduction marketing programs are part of a traditional TDM program and often focus on advertising non-driving options to individuals. This may include direct outreach, help with trip planning, and development of promotional materials. This strategy can include the deployment of products, such as TransitScreen, that provide real-time transit and other transportation information in common spaces of a development. This strategy's efficacy is affected by the level of investment in the program, the staff involved, and the other measures implemented. For the proposed project, it is recommended the following: - Promote and educate employees so they are aware of the TDM programs and incentives avaialble to them via brochures and printed information on transit, shuttles and bike maps. This shall include information material in employee handbook, new-hire packets, and internal postings in common areas - Monthly drawings for employees who use a commute alternative for 50 percent of their trips, and log them in a company maintained trip diary	CAPCOA Measure 3.4.6

It shall be noted that the Bay Area Commuter Benefits Program is a regulation requiring employers within the jurisdiction (including Hayward) of the Bay Area Air Quality Management District (BAAQMD) to offer commuter benefits. The program requires all employers with 50 or more full-time employees to provide commuter benefits to their employees. The operator of the proposed project may be required to meet BAAQMD's commuter benefits program if more than 49 full-time employees are employed. Employers must select one or more of four commuter benefit options.

- Option 1: Pre-Tax Benefit. The employer allows employees to exclude their transit or vanpooling expenses from taxable income, up to the maximum of $270 per month allowed by the federal tax code.
- Option 2: Employer-provided transit or vanpool subsidy (or transit pass) which covers the monthly cost of the employee's commute (up to $75 per month).
- Option 3: Employer-Provided Transit. The employer provides a free or low-cost transit service for employees, such as a bus, shuttle, or vanpool service.
- Option 4: Alternative Commuter Benefit. The employer provides an alternative commuter benefit that is as effective in reducing single-occupancy commute trips (or motor vehicle emissions) as Options 1-3.

AC Transit bus service is available within an approximately ¼ to ½- mile walking distance from the Project site. Two bus stops are approximately ¼ mile from the project site north on Cabot Road and east on Depot Road near the intersection of Depot Road and Whitesell Street. Both stops currently serve AC Transit Line 86, which currently operates at 35-minute headways during both peak and off-peak times. All AC Transit buses are equipped with bike racks, bikes are allowed inside if the rack is full and there is room inside.[2] Both bus stops would be accessed via sidewalks or the Class III Bicycle Routes on Cabot Boulevard and Depot Road. These two collectors are expected to be upgraded to Class IV Separated Bikeways in the City's BPMP.

For transit planning purposes, a ½ -mile walk distance is considered acceptable as a bus catchment area. AC Transit's guidelines[3] has standards for how long passengers should travel to reach a bus route. For areas like Hayward, AC Transit assumes the catchment area for a bus stop to be ½-mile, therefore the project site is within the catchment area for bus service. Bus service with headways of 45 minutes or less connects to two BART stations (at Hayward and Bay Fair), which is acceptable for this type of industrial area.

Accessing the bus stops will require employees to walk east along Depot Road and either turn north onto Cabot Boulevard or continue east past the Cabot Boulevard/Whitesell Road intersection. Depot Road has a continuous sidewalk on the north side of the road and Cabot Boulevard has sidewalks on both sides of the road. However, the sidewalk on the south side of Depot Road is inconsistent. Crosswalks are provided at the intersection of Depot Road and Cabot Boulevard, which is all-way stop controlled. The project would include two new access driveways, a 5-foot wide paved sidewalk along the project site frontage, and on-site bike racks. However, given that the nearest bus stop is closer to the 1/2-mile catchment threshold, it is recommended that the project implement additional measures to further encourage transit usage, such as implementing a "Guaranteed Ride Home" program as part of the project's transit subsidies. Guaranteed Ride Home is a reimbursement program for registered commuters. It provides registered commuters a sense of comfort knowing they can take care of family emergencies or stay late completing a project while still taking transit and/or alternative modes of commuting. A "Guaranteed Ride Home" program subsidizes rides up to a certain amount for up to a few times per year via taxis or on-demand services such as Lyft and Uber for employees when emergency situations occur, or if transit is temporarily unavailable.

The select measures listed in **Table 4** (Rideshare Program, Employee Transit Subsidies, and Promotions and Marketing) were compared to the VMT reductions necessary for Industrial projects in each of the two areas. A menu of mitigation measures that could be applied at each location are detailed below, along with the assumptions necessary to reduce VMT per employee below the threshold of 18.15 VMT per employee. Note, the CAPCOA and City of Hayward methodologies provide reductions which are sensitive to an area's land use and transportation context (urban, suburban-center, or suburban). For calculation purposes, the city's land use and transportation context were characterized as suburban-center.

Project VMT must be reduced from 18.58 VMT per employee to 18.15 VMT per employee, representing a 2.3% decrease. The following individual TDM measures may be applicable, with the expected VMT per employee reductions. The VMT per employee reductions shown below assume 100% of employees would be eligible to participate:

- Rideshare Program.
- Employee Transit Subsidies, including a "Guaranteed Ride Home" Program
- Promotions and Marketing Program

[2] Bikes on Buses | Alameda-Contra Costa Transit District (actransit.org)

[3] https://www.actransit.org/sites/default/files/2020-09/bp_545_-_service_standards_design-1.pdf

VMT Mitigation Measures

TRAF-1: To achieve the 2.3% VMT per employee reduction, the project applicant and/or operator of the facility shall implement one of the three TDM measures below where 100% of full-time employees shall be eligible to participate:

1. Employee Transit Subsidies (including a "Guaranteed Ride Home" program)
2. Rideshare Program
3. Promotions and Marketing Program

The applicable TDM measures as part of the mitigation measures for the project are:

- Rideshare Program:
    - Subsidize employees who participate in carpool and vanpool programs by fully covering the fair share cost of the employee enrolled in a carpool or vanpool (up to $75 per month)
    - Provide priority parking in a prime location near an entrance as an incentive to carpool and vanpool
- Employee Transit Subsidies:
    - Cover the monthly cost of the employee's commute (up to $75 per month) or allow employees to exclude their transit or vanpooling expenses from taxable income, up to the maximum of $270 per month allowed by the federal tax code
    - Provide a guanrantee ride home program
    - Prior to building occupancy, the operator of the warehouse shall request AC Transit to provide more frequent transit service closer to the project site to ensure that future bus service planning can account for this development and reduce walking and waiting times
- Promotions and Marketing Program:
    - Promote and educate employees so they are aware of the TDM programs and incentives availalble to them via brochures and printed information on transit, shuttles and bike maps. This shall include information material in an employee handbook, new-hire packets, and internal postings in common areas
    - Monthly drawings for employees who use a commute alternative for 50 percent of their trips, and log them in a company maintained trip diary

Detailed VMT calculations can be found in Appendix A.

Mitigation measures that consist of TDM measures could be applied to the project to reduce vehicle trips and VMT per employee below thresholds. With the implementation of any of the measures outlined above, this would contribute to reduce the significant project impact and significant cumulative impact to **less-than-significant with mitigation**.

Section 3

Project Trip Generation and Distribution

3 PROJECT TRIP GENERATION AND DISTRIBUTION

This selection provides the vehicle trip generation and distribution estimates for the proposed project.

3.1 TRIP GENERATION

Project trip generation was estimated for the following three time periods:

- Weekday daily
- Weekday AM peak hour
- Weekday PM peak hour

At this time, the future tenants are unknown, so for the purpose of assessing transportation impacts of the project, trip rates associated with light industrial tenants was selected. Trips were estimated using data provided by the Institute of Transportation Engineers (ITE) and shown in **Error! Reference source not found.**. Trip generation for the project was estimated using average trip rates for General Light Industrial (Code 110). The trip rates were extracted from the most recent data available in the web-based Trip Generation database maintained by ITE. It shall be noted that trip rates derived from the regression curve for the light industrial land use code in the ITE Trip Generation Manual was considered. However, the average trip rates yields more conservative trip generation estimates and it was therefore proposed for the analysis. As shown in **Error! Reference source not found.**, the project is expected to generate 667 weekday daily vehicle trips, 101 weekday AM peak hour vehicle trips, and 89 weekday PM peak hour vehicle trips. The site is currently used as a cardboard recycling facility. Trips from this type of use are not significant, and to be most conservative, no trip credits are being recommended for the existing buildings located at the project site. Given the project trips are less than 100 p.m. peak trips, no Alameda CTC CMP analysis is required.

Table 5: Project Trip Generation Estimate

Trip Generation Rates									
Land Use	ITE Trip Generation Manual Land Use Code	Rate	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
General Light Industrial	110	TSF	4.87	88%	12%	0.74	14%	86%	0.65

Trip Generation Estimate									
Land Use	ITE Trip Generation Manual Edition	Size	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Project	11th	137.04	667	89	12	101	12	77	89

Source: Kittelson & Associates, Inc., 2022; Institute of Transportation Engineers, 2021.
Notes: KSF signifies thousand square feet.

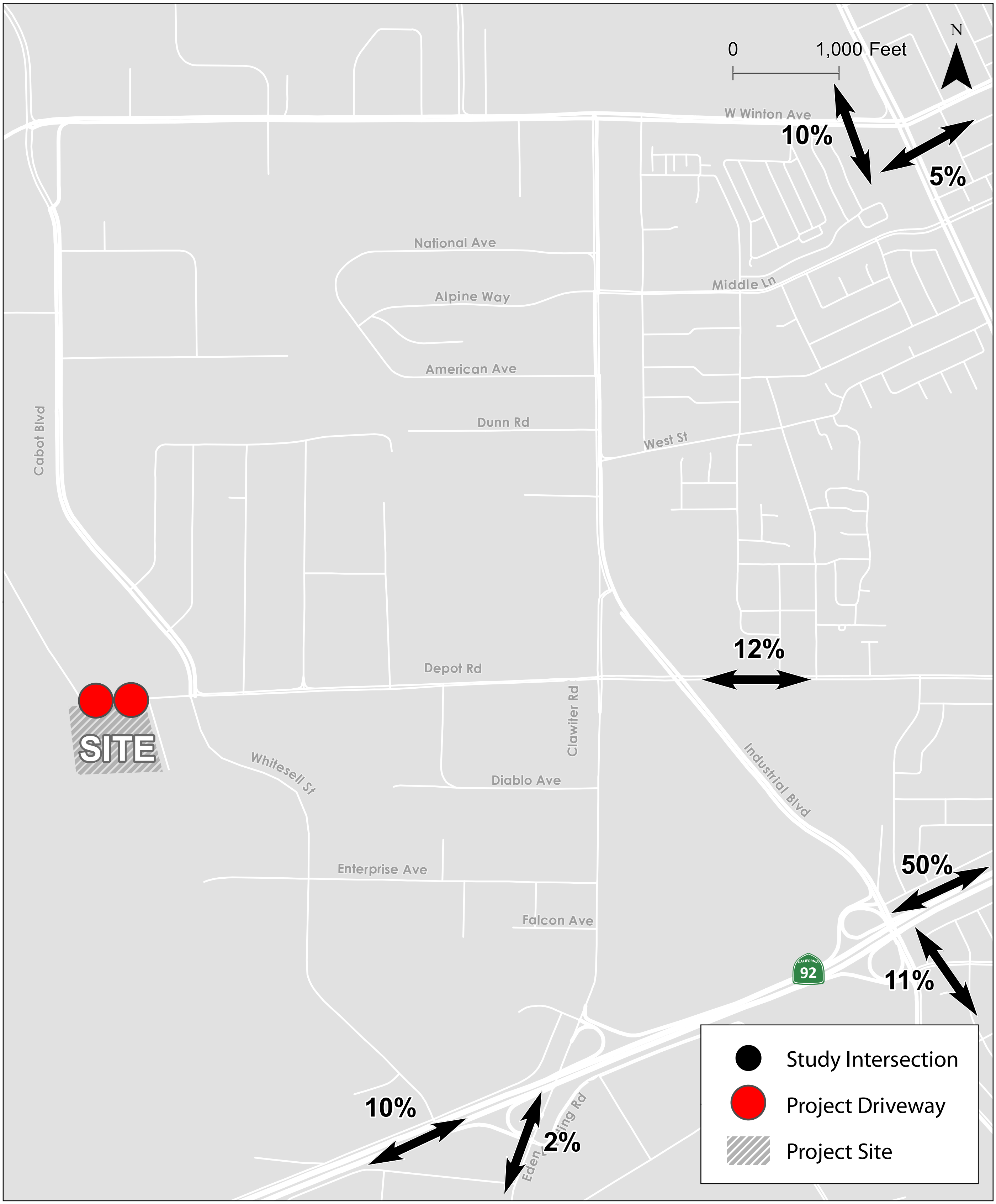
3.2 TRIP DISTRIBUTION

Project trip distribution was developed using the City of Hayward General Plan travel demand model. The project trip distribution is based on the model's distribution of trips in and out of the traffic analysis zone (TAZ) representing the project site, as well as adjustments to reflect local travel patterns and circulation conditions. The project trip distribution and intersection count locations are shown in **Figure 6**.

The trip distribution for the project is as follows:

- 10% to/from the west via SR-92
- 5% to/from the north via Hesperian Boulevard
- 10% to/from the northwest via Whitesell Road/Cabot Boulevard/Winton Avenue
- 50% to/from destinations in the north, east, and south/southeast via SR-92
- 12% to/from the south/southeast via Hesperian Boulevard
- 11% to/from the south/southeast via Industrial Boulevard
- 2% to/from the south via Eden Landing Road and Arden Road

All trip distribution destinations total up to 100%.



Project Trip Distribution
Hayward, California

Figure
6

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\GIS\CEQA\Figure 06 Project Trip Distribution.mxd - mmilacek - 6:01 AM 10/11/2022

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

Section 4

Public Transit, Pedestrian, and Bicycle Assessment

4 PUBLIC TRANSIT, PEDESTRIAN, AND BICYCLE ASSESSMENT

This section discusses potential effects on public transit, pedestrians, and bicyclists. To supplement this analysis, the Alameda County Transportation Commission (ACTC) Development Review Complete Streets Checklist was completed and is included as Appendix B.

4.1 PUBLIC TRANSIT ASSESSMENT

The project is not expected to degrade access to transit facilities. There are two bus stops approximately a ¼ mile distance from the project site north on Cabot Road and east on Depot Road. Both bus stops are served by AC Transit Line 86, which operates at 35-minute headways and can be accessed via sidewalks on Depot Road and Cabot Road. The project would not affect any existing or planned bus stops or sidewalks in the study area. Therefore, implementation of the Project would not conflict with plans, programs, and policies regarding transit facilities, or decrease the performance of such facilities.

4.2 PEDESTRIAN AND BICYCLE ASSESSMENT

The presence of sidewalks on the roadways in the study area are inconsistent. Whitesell Street south of Depot Road has sidewalks on both sides of the road, and the sidewalks on Cabot Road north of Depot Road terminate after approximately ¾ of a mile. However, Depot Road has consistent sidewalks only on the north side of the road. The roadways in the study area mostly traverse light industrial and commercial land uses, and most of the arterials and collectors are designated truck routes. Thus, pedestrian-oriented facilities are not prioritized in the area.

The site plan includes bike racks, consistent with California Green Building Code (CALGreen) requirements for developers to provide bicycle parking for 5% of the vehicular parking spaces added on a site. Four short-term bike racks and four long-term bike racks will be provided at the project site. The bicyclist access points to the project consist of the two driveways along Depot Road. The study area features bike routes, including a bike route along Whitesell Street, Depot Road, and Clawiter Road, as discussed in Section 1.3.4. Depot Road is classified as a Class III Bicycle route, in which bicycles share the right-of-way with vehicular traffic. The City of Hayward BPMP identifies Depot Road as a future separated bikeway.

Potential pedestrian and bicycle-oriented treatments that could be considered as part of design review and conditions of approval could include:

- Ensure that the west and east driveways on Depot Road are designed for pedestrian and bicycle visibility (sidewalks clearly delineated, improved visibility by minimizing bushes and large signs).
- Coordinate with the City of Hayward to install warning signage (such as bikeway signage, and caution signage for exiting vehicles).

Section 5

Findings

5 FINDINGS

The following recommendations were made to be incorporated as part of this Project to address potential impacts to the circulation network:

An assessment of vehicle miles traveled (VMT) determined the Project cannot be screened out of a detailed VMT analysis under the City's SB 743-consistent VMT criteria, since the project is in an area with above average VMT. Therefore, it was determined that the project may be impacted for VMT and would have to have VMT and TDM improvements.

Project VMT must be reduced from 18.58 VMT per employee to 18.15 VMT per employee, representing a 2.3% decrease. To achieve the 2.3% VMT per employee reduction, the project applicant and/or operator of the facility shall implement any of the following TDM measures:

1. Employee Transit Subsidies (including a "Guaranteed Ride Home" program) = 5.2% total VMT per employee reduction
2. Rideshare Program = 8.0% total VMT per employee reduction
3. Promotions and Marketing Program= 4.0% total VMT per employee reduction

To additionally support the use of transit and non-auto travel a 5-foot wide sidewalk will be constructed on the south side of Depot Road along the property boundary.

Section 2 describes each TDM measure in detail, the level of subsidies and incentives, and the project design features and infrastructure that would encourage users to adopt the measures that would reduce VMT. To support the use of non-auto travel, pedestrian and bicycle improvements are described in Section 4.2. The implementation of any of the measures outlined above would contribute to reduce the significant project impact and significant cumulative impact to **less-than-significant with mitigation**.

Appendix A: VMT Calculations

VMT analysis (reduce by 2.3%)

<table>
<tr><th>Mitigtion Measure and Source</th><th>Formula and Variables</th><th>Relevant Tables and Other Info</th><th>Assumptions</th><th>Reduction (100% Employees Eligible)</th></tr>
<tr><td>Rideshare Program (CAPCOA 3.4.7)</td><td>% VMT Reduction = Commute * Employee

Where
Commute = % reduction in commute VMT
Employee = % employees eligible</td><td>A:<table><tr><td></td><td colspan="4">Daily Parking Charge</td></tr><tr><td>Project Location</td><td>$1</td><td>$2</td><td>$3</td><td>$6</td></tr><tr><td>Low-Density Suburb</td><td>0.5%</td><td>1.2%</td><td>1.9%</td><td>2.8%</td></tr><tr><td>Suburban Center</td><td>1.8%</td><td>3.7%</td><td>5.4%</td><td>6.8%</td></tr><tr><td>Urban</td><td>6.9%</td><td>12.5%</td><td>16.8%</td><td>19.7%</td></tr></table></td><td>Suburban Center</td><td>8.0%</td></tr>
<tr><td>Employee Transit Subsidies (SANDAG 1D)</td><td>% change in VMT = % of employees eligible × % change in commute VMT

Where:
% of employees eligible will usually be 100%.
% change in commute VMT differs by place type (low-density suburb, suburban center, or urban) and level of daily transit subsidy ($1 to $4)</td><td>Change in Commute VMT:<table><tr><td></td><td colspan="4">Subsidy Level Per Day</td></tr><tr><td>Place Type</td><td>$1</td><td>$2</td><td>$3</td><td>$4</td></tr><tr><td>Low-Density Suburb</td><td>-0.1%</td><td>-0.2%</td><td>-0.4%</td><td>-0.6%</td></tr><tr><td>Suburban Center</td><td>-1.1%</td><td>-2.4%</td><td>-4.1%</td><td>-5.8%</td></tr><tr><td>Urban</td><td>-2.2%</td><td>-4.7%</td><td>-7.8%</td><td>-10.9%</td></tr></table></td><td>Suburban Center; EZ Pass subsidy of approximately $3.67, interpolated between $3 and $4.</td><td>5.2%</td></tr>
<tr><td>Promotions and Marketing (CAPCOA 3.4.6)</td><td>% Commute VMT Reduction = A * B * C

Where
A = % reduction in commute vehicle trips
B = % employees eligible
C = Adjustment from commute VT to commute VMT</td><td>A: 4%
C: 1.0</td><td>n/a</td><td>4.0%</td></tr>
</table>

Appendix B: ACTC Development Review Complete Streets Checklist

Development Review Complete Streets Checklist

This checklist is designed to assist the applicant and jurisdiction staff identify and assess a range of Complete Streets-related needs in the vicinity of each development. These needs, if addressed, would better serve the multimodal transportation needs of those coming and going from the site and the surrounding area. The checklist is to be completed during the pre-application phase, but can be used as a reference throughout the development and design of the project. Following completion of the checklist, staff will identify and document project modifications for further evaluation and discussion.

Project Name: 3890 & 3898 Depot Road Industrial Project   Project Description / Project Type: Industrial Park
Project Location: 3890 & 3898 Depot Road, Hayward, CA
Project Manager____
Anticipated construction date____

Pre-Application Phase

Project Description

1. What are the proposed land uses (check all that apply)?

   ☐ residential ☐ commercial /mixed use ☒ industrial
   ☐ civic/institutional
   ☐ other ____

2. What are the major trip generators near the project site, if any? (existing and future)

   a) Schools ☐yes ☒no
   b) Major employers ☒yes ☐no
   c) Civic/community destinations ☐yes ☒no
   d) Medium to high-density residential ☐yes ☒no
   e) Senior centers/healthcare facilities ☐yes ☒no
   f) Daily needs (grocery, retail, etc.) ☐yes ☒no
   g) Other ____

3. Is the project site located on the path to/from nearby trip generators?
   ☒yes ☐no
   Explain: Located directly on Depot Road

4. Based on the modal priority maps (available at https://alameda-ctc.maps.arcgis.com/apps/View/index.html?appid=2040175145de4305a5f59c6e82ca16c7), list the modal priorities on adjacent streets (check all that apply):

Adjacent Street 1 Name: Depot Road

Auto	☒ First	☐Second	☒Other
Bicycle	☐ First	☒Second	☐Other
Pedestrian	☐ First	☐Second	☒Other
Transit	☐ First	☐Second	☒Other
Trucks	☐ First	☐Second	☒Other

Work with Transportation and Engineering Staff to fill out questions 5-8.

5. Within the past five years, have there been any fatal or severe injury collisions within ¼ mile of the site? ☐yes ☒no

   If yes, explain: N/A

6. Within the past five years, have there been any collisions within ¼ mile of the site involving pedestrians or bicyclists? ☐yes ☒no

   If yes, explain: N/A

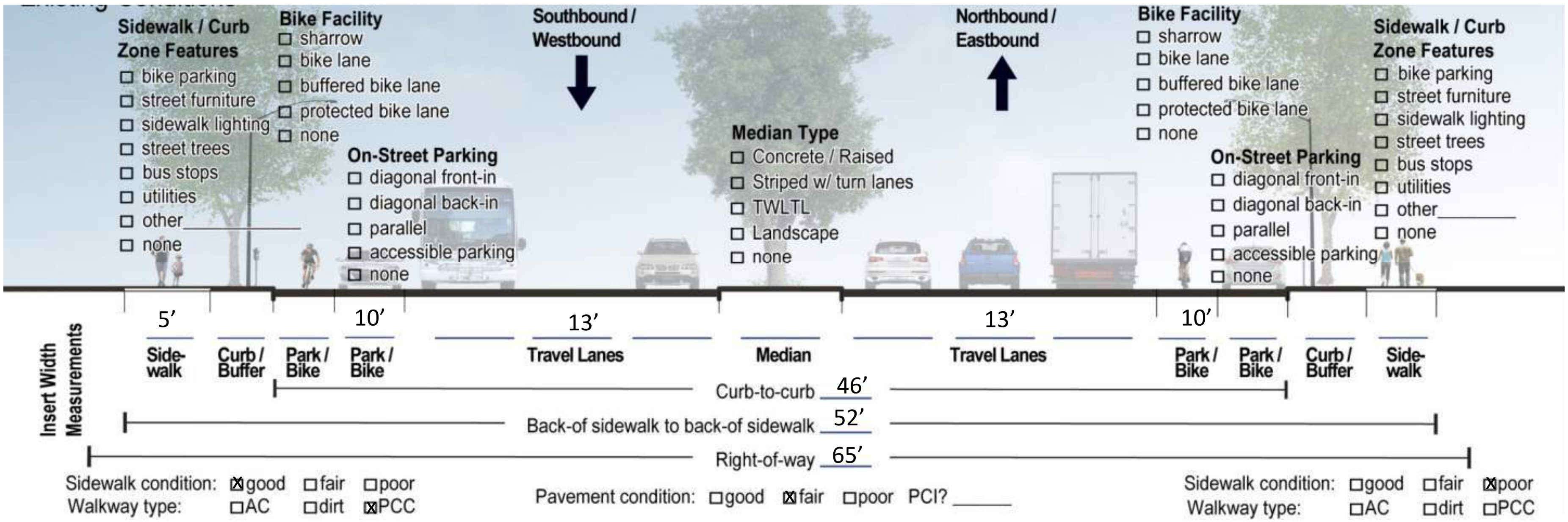
7. Have you observed other opportunities to improve safety performance? (based on field observation) ☒yes ☐no If yes, note:

If yes, explain: Improve and add sidewalks on Depot Road.

Existing Physical Conditions

8. What are the existing right-of-way elements adjacent to the project site? Use cross section graphic for each street adjacent to the site.

Adjacent Street 1: Street name Depot Road



TWLTL = two-way left turn lane | AC = asphalt concrete | PCC = poured cement concrete | PCI = pavement condition index

Plans, Policies, Guidelines, and Standards

9. What are **relevant ongoing or existing plans**?

Plan	Identified Needs (yes or no)				
	Ped	Bike	Transit	Vehicular	Other
Bicycle and Pedestrian Master Plan	☒ yes ☐ no	☒ yes ☐ no	☒ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no
	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no
	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no

List any transportation improvement needs identified in the plan documents listed above:

The Hayward Bicycle and Pedestrian Master Plan (BPMP).

The BPMP includes a map of roadways with the top pedestrian prioritization scores, highlighting roads that are prime candidates for improvements. Within the study area these includes portions of Clawiter Road, Winton Avenue, and Depot Road.

Transportation Evaluation

10. Indicate whether the following elements have been evaluated for existing conditions at the site and surrounding area and list the result for each mode:

Pedestrian

Internal site circulation and pedestrian routes	☒ yes	☐ no
Site access and street frontage	☒ yes	☐ no
Signage and wayfinding	☐ yes	☒ no
Intersections and street crossings	☒ yes	☐ no
Access to/from surrounding area	☒ yes	☐ no
Lighting	☐ yes	☒no
ADA facilities	☒yes	☐ no
Other________________________________	☐ yes	☐ no

List any pedestrian deficiencies identified: Sidewalks are intermittent on the south side of Depot Road.

Bicycle

Parking supply and ease of use	☐ yes	☒ no
Site access	☒ yes	☐ no
Signage and wayfinding	☒ yes	☐ no
Intersections	☐ yes	☒no
Access to/from surrounding area	☒ yes	☐ no
Other________________________________	☐ yes	☐ no

List any bicycle deficiencies identified:

Auto

On-street parking	☒ yes	☐ no
Off-street parking	☐ yes	☒ no
Disabled parking	☐ yes	☒ no
Green infrastructure	☐ yes	☒ no
Driveway placement and ped/bike conflict points	☒ yes	☐ no
Other________________________________	☐ yes	☐ no

List any auto deficiencies identified:

Transit

Bus stop placement	☒ yes	☐ no
Waiting area amenities and stop design parameters	☒ yes	☐ no
Other_______________________________	☐ yes	☐ no

List any transit deficiencies identified:

Trucks and Heavy Vehicles

Curbside loading areas	☐ yes	☒ no
On-site loading areas	☐ yes	☒ no
Turning radii	☐ yes	☒ no
Emergency vehicle access	☐ yes	☒ no
Other_______________________________	☐ yes	☐ no

List any truck/heavy vehicle deficiencies identified:

11. How does the proposed **site design** impact conditions for each mode? If negative or positive, note the impact. (Note: both negative and positive impacts could be found for one mode.)

Mode	Impacts	
Auto	☐ positive ☐ neutral ☒ negative	Potential for intersection delay, including at driveways.
Bicycle	☒positive ☐ neutral ☒ negative	Improve on-site bike facilities. Potential for increased traffic along bike routes at driveways.
Pedestrian	☒ positive ☐ neutral ☒ negative	Improve sidewalk facilities. Potential for increased heavy vehicle-pedestrian conflicts at driveways and on-site.
Transit	☐ positive ☒ neutral ☐ negative	Transit routes run on Depot Road and Cabot Boulevard east of the project site.
Trucks	☐ positive ☐ neutral ☒ negative	Potential for intersection delay, including at driveways.

Other mode?	☐ positive ☐ neutral ☐ negative	

External Agency/Stakeholder Coordination

12. List agencies requiring coordination: N/A

Agency	Has coordination occurred? Note any issues that are outstanding.
	☐ yes ☐ no

Maintenance and Construction Phase Considerations

13. How will access for all modes be maintained during construction (check one box per mode)?

Agency	Auto	Bicycle	Pedestrian	Transit	Trucks
Detour for duration of project	☐	☐	☐	☐	☐
Time-of-day closures only (e.g. nighttime)	☒	☒	☒	☐	☐
Short-term closures (e.g. 24 hour) with detour route	☐	☐	☐	☐	☐
Access maintained with reduced facilities*	☐	☐	☐	☐	☐
Full access maintained (work does not impact mode)	☐	☐	☐	☒	☒
Other	☐	☐	☐	☐	☐

*"Access maintained with reduced facilities" could mean some travel lanes closed for vehicles; could mean bicycle lane is closed, with signage for bicycles to share travel lane; could mean that sidewalk is closed with pedestrian space provided on shoulder; could mean that some transit stops are closed; etc.)

14. Will any transportation facilities or street elements be privately maintained? ☐ yes ☒ no If yes, explain:

15. Will Complete Streets design be applied on privately maintained facilities? ☐ yes ☒no

APPENDIX D

LOCAL TRANSPORTATION ANALYSIS

This page intentionally left blank.

HAYWARD DEPOT ROAD INDUSTRIAL EIR – LOCAL TRANSPORTATION ASSESSMENT

3890 & 3898 DEPOT ROAD

HAYWARD, CALIFORNIA

November 18, 2022

Inside front cover

Page Intentionally blank

Hayward Depot Road Industrial EIR – Local Transportation Assessment

3890 & 3898 Depot Road
Hayward, California

Prepared for:
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Prepared by:
Kittelson & Associates, Inc.
155 Grand Avenue, Suite 505
Oakland, CA 94612
510.839.1742

Project Manager:
Michael Ruiz-Leon
Engineering Associate/Planner

Project Principal:
Damian Stefanakis
Senior Principal Planner

Project Analyst:
McKenna Milacek
Transportation Analyst

Kittelson Project Number 28037
City of Hayward Planning Application 202102725

November 18, 2022

Page Intentionally blank

CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

Executive Summary

EXECUTIVE SUMMARY

This report presents the findings, conclusions, and transportation impact analysis conducted by Kittelson & Associates for the proposed 3890 and 3898 Depot Road Industrial Project (Project) located in Hayward, California. The project is located at 3890 and 3898 Depot Road, north of State Route 92 (SR-92) and west of Whitesell Road. The site currently serves as a cardboard recycling facility, which will be vacated by December 2022. As part of the project, all the existing structures will be demolished. The project is 137,040 square feet (sf) of industrial/warehouse uses consisting of 132,040 sf of warehouse and 5,000 sf of potential office space. The project would include two new full-access driveways on the northern portion of the site along Depot Road, and a 5-foot wide paved sidewalk on the south side of Depot Avenue from the western site boundary to the intersection with Whitesell Street, and bike racks.

SUMMARY OF FINDINGS

The following recommendations outside CEQA requirements were made to be incorporated as part of this Project to improve circulation and address potential deficiencies to the circulation network:

- All study intersections operate within standard with the addition of the project.
- Ensure that the Project driveways on Depot Road are designed for pedestrian visibility safety (e.g., sidewalks clearly delineated, improved visibility by minimizing bushes and large signs).
- Coordinate with the City of Hayward to install warning signage (e.g., bikeway signage and caution signage for exiting vehicles) and continental crosswalks at the Project driveways.

Section 1
Methodologies and Existing Conditions

1 METHODOLOGIES AND EXISTING CONDITIONS

The project is located at 3890 and 3898 Depot Road, north of State Route 92 (SR-92) and west of Whitesell Road, in the City of Hayward, CA. The site consists of 6.58 acres on two parcels (APN 439-0070-013-01 and APN 439-0070-014-00). The proposed project consists of the development of one new warehousing spec building the two lots after vacating and demolishing two existing buildings.

The project is 137,040 square feet (sf) of industrial/warehouse uses consisting of 132,040 sf of warehouse and 5,000 sf of office space. The project would also include a parking lot with 67 automobile parking spaces. Access to the project site would be via two driveways along Depot. Both driveways would be located at the northern portion of the site with access to Depot. The project site and study area are shown in **Figure 1**. The proposed site plan is shown in **Figure 2**.

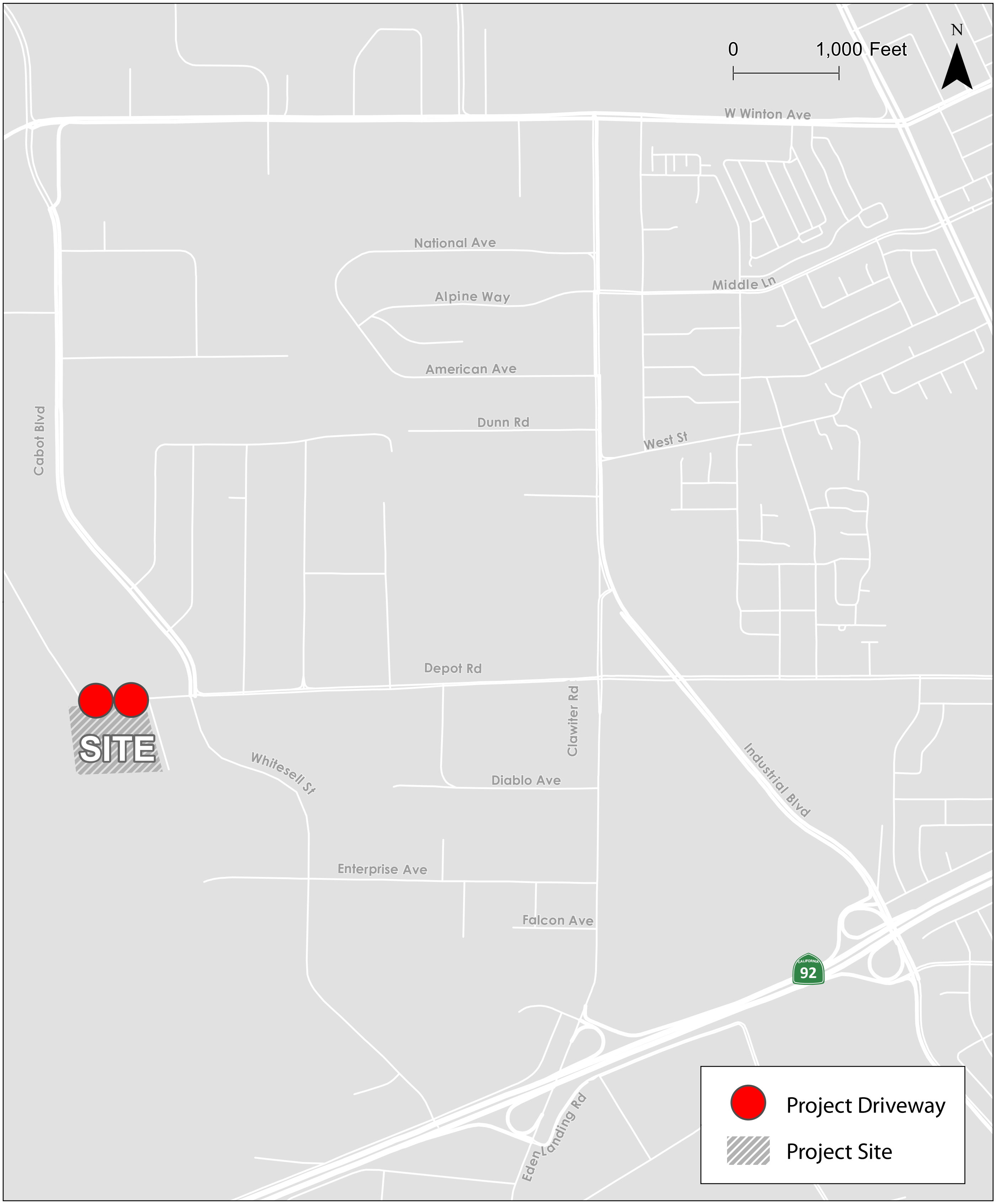
This transportation impact analysis is therefore subject to the regulations and standards currently in place in the City of Hayward. These standards are outlined in the *Hayward 2040 General Plan – Mobility Element* (2014), and the City of Hayward Traffic Study Guidelines, as summarized below.

The analysis methodology used in this report was approved by City Transportation Staff prior to commencement of the study.

1.1 IMPACT CRITERIA AND ANALYSIS STANDARDS

Under Senate Bill (SB) 743, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, level of service (LOS) and other similar vehicle delay or capacity metrics may no longer serve to determine environmental impacts from projects being evaluated for potential impacts under the California Environmental Quality Act (CEQA). The Governor's Office of Planning and Research (OPR) has updated the CEQA Guidelines and provided a final technical advisory in December 2018 which recommends vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts under CEQA. For land use and transportation projects, SB 743-compliant CEQA analysis became mandatory on July 1, 2020.

The City of Hayward has adopted VMT thresholds of significance and screening criteria, which are used in this study for impact analysis purposes. In addition, LOS analysis (consistent with the City's traffic study guidelines and the City's 2040 General Plan polices) is considered part of the non-CEQA analysis conducted to determine any negative project effects on local roadway operations.



Study Area and Project Site
Hayward, California

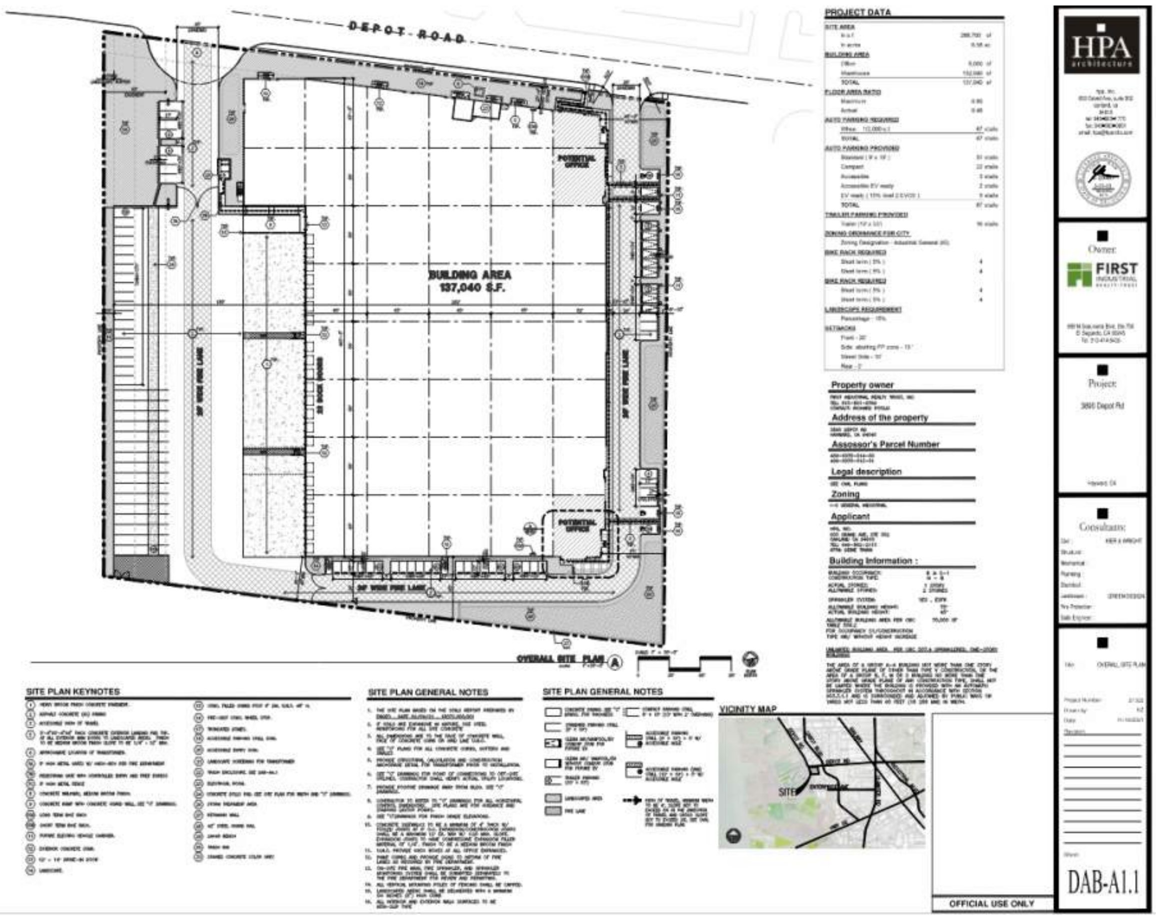
Figure
1

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\GIS\LTA\Figure 01 Study Area and Project Site.mxd - mmilacek - 11:02 AM 10/7/2022

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

Figure 2: Site Plan



Source: HPA Architects, Inc, 11/19/2021

1.1.1 INTERSECTION LEVEL OF SERVICE STANDARDS

Under SB 743, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS is included for non-CEQA purposes to determine if local intersections operate acceptably and if the project would cause any negative effects on local roadway operations. This approach is consistent with the City's adopted thresholds of significance and screening criteria.

Goal 4 Local Circulation-M-4.3 of the City of Hayward's 2040 General Plan requires intersections to maintain a peak-hour level of service (LOS) of E or better for signalized intersections. M-4.3 describes this as follows: The City shall maintain a minimum Level of Service E at signalized intersections during the peak commute periods except when a LOS F may be acceptable due to costs of needed improvements or when there would be other unacceptable consequences, such as right-of-way acquisition or degradation of the pedestrian environment due to increased crossing distances or unacceptable crossing delays.

1.1.2.1 Signalized Intersections

Signalized intersection improvements should be identified if the project would degrade the AM or PM peak hour conditions from an acceptable LOS E or better under the No Project scenario to an unacceptable LOS F under the Plus Project scenario. The exception to this criterion is when LOS F is determined by the City of Hayward as acceptable due to right-of-way constraints or when there would be adverse effects to other modes of travel, such as bicycle, pedestrian, or transit.

In addition, improvements should be identified at an intersection already operating at LOS F under an Existing or No Project scenario if the addition of project traffic results in an increase of 5.0 seconds or more in the intersection's average control delay.

1.1.2.2 Unsignalized Intersections

At unsignalized intersections, the need for improvements is based on LOS and delay, and whether any of the following are met:

- Traffic signal warrant,
- Pedestrian signal warrant, or
- All-way stop warrant

Note that solely triggering a warrant does not trigger the need for an intersection improvement, but the City will at its discretion require or not require a signal be installed, where warranted.

1.1.2.3 Level of Service Definitions

In this report, LOS is based on the Highway Capacity Manual (HCM) 6th edition definitions, included as **Table 1** for ease of reference. The HCM methodology assigns a level of service (LOS) grade to an intersection based on the delay for vehicles at the intersection, ranging from LOS A to LOS F; LOS A signifies very slight delay with no approach phase fully utilized, while LOS F signifies very high delays and congestion, frequent cycle failures, and long queues. For signalized and all-way stop-controlled intersections, the average control delay for all vehicles is assessed; for two-way stop-controlled intersections, the intersection approach with the highest delay is utilized.

Table 1: Level of Service Standards

Level of Service	Delay Per Vehicle (Seconds)	
	Signalized Intersection	Unsignalized Intersection
A	< 10.0	< 10.0
B	> 10.0 to 20.0	> 10.0 to 15.0
C	> 20.0 to 35.0	> 15.0 to 25.0
D	> 35.0 to 55.0	> 25.0 to 35.0
E	> 55.0 to 80.0	> 35.0 to 50.0
F	> 80.0	> 50.0

Source: Highway Capacity Manual, 6th Edition

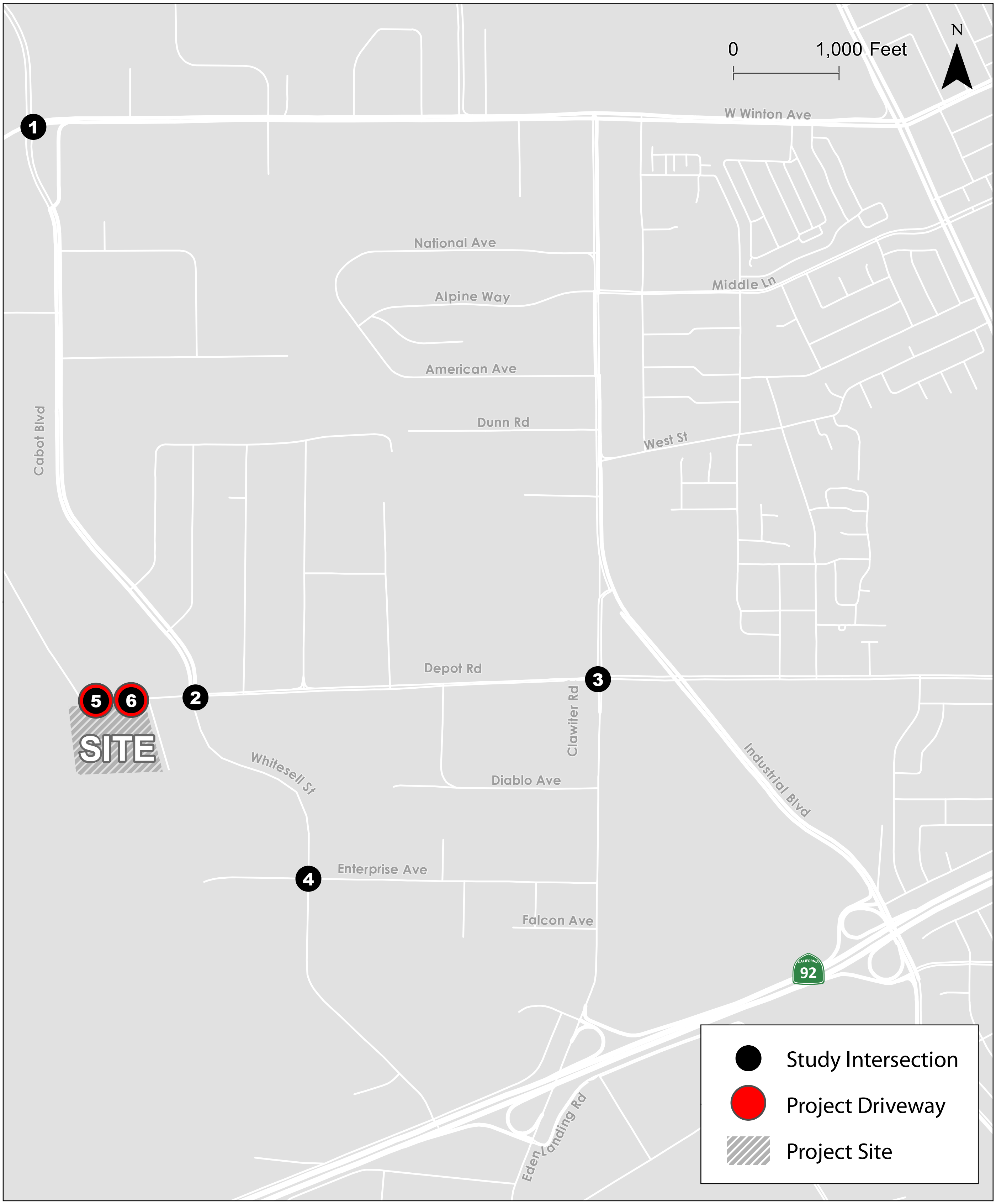
1.1.2.4 Study Intersections

A total of six study intersections (listed in **Table 2** and shown in **Figure 3**) were selected for the purposes of this analysis, including two project driveways. All study intersections are under the City of Hayward's jurisdiction. These study intersections were selected based on discussions with City staff as best representing project traffic distribution.

Table 2: Study Intersections

	Intersection	Traffic Control
1	Cabot Blvd. / Winton Ave.	Signal
2	Whitesell St. / Depot Rd.	AWSC
3	Clawiter Rd. / Depot Rd.	Signal
4	Whitesell St. / Enterprise Ave.	Signal
5	West Project Dwy. / Depot Rd.	TWSC
6	East Project Dwy. / Depot Rd.	TWSC

Note: TWSC signifies a two-way stop-controlled intersection. AWSC signifies an all-way stop-controlled intersection.



Intersection Study Locations
Hayward, California

Figure
3

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\GIS\LTA\Figure 03 Intersection Study Locations.mxd - mmilacek - 11:03 AM 10/7/2022

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

1.2 DEVELOPMENT OF FUTURE TRAVEL DEMAND

Study intersection operations and queuing are evaluated under the Background Year 2025 conditions for non-CEQA local transportation analysis purposes. This evaluation has been conducted using projected peak hour traffic volumes derived from the Hayward General Plan Update version of the Alameda CTC Countywide Model.

The model includes future development throughout the region. Therefore, the traffic forecasts reflect traffic from growth in Hayward as well as traffic from future developments in the region that may use the local roadways. The method compares 2035 model volumes to existing year model volumes to identify the growth increment, and then adds this increment to the existing counts, thus smoothing out any model validation error compared to existing counts. The Background 2025 No Project Volumes were developed by interpolating volumes between existing and Cumulative 2035 volumes to develop an annual compound growth rate. The analysis presented in this report applied a 1.0% compound annual growth rate to 2021 existing traffic volumes in the AM and PM peak hour to estimate 2025 build-out year background traffic volumes. In addition, the background scenario includes recently approved nearby development projects, including traffic from the Gillig and the Berkeley Farms projects. A cumulative scenario was determined not to be necessary in consultation with City staff.

1.3 EXISTING NETWORK

1.3.1 ROADWAYS

The roadway system in the study area consists of arterial, collector, and local roadways that serve local and regional traffic demand. The vehicular facilities in the study area are discussed below

1.3.1.1 Arterial Roadways

Clawiter Road is a north-south facility that is classified as a Minor Arterial north of Depot Road and designated as a truck route by the City of Hayward. Clawiter Road extends from Winton Avenue and ends at the SR 92 interchange, where it connects to Eden Landing Road. North of Industrial Boulevard, it is a four-lane facility with a two-way left-turn lane in the center and street parking on both sides of the road. The inner lanes are 10 feet wide, and the outer lanes are 18 feet wide to accommodate street parking. The speed limit is 35 mph. The curb-to-curb right-of-way is about 72 feet. Clawiter Road provides access to mostly light industrial and commercial land uses. About 1,000 feet north of Depot Road, Clawiter Road becomes a Collector Street. Clawiter Road is designated as a bicycle route.

Winton Avenue is an east-west facility that is classified as a Minor Arterial and truck route. It is a four-lane facility with a two-way left-turn lane in the center. The curb-to-curb right-of-way is approximately 72 feet and widens to about 90 feet at the intersection with Clawiter Road. Travel lanes are typically 11 feet wide and widen to 18 feet when street parking is available. The posted speed limit is 35 mph. Winton Avenue begins at the Hayward Regional Shoreline to the west, passes by the Hayward Executive Airport and I-880, and terminates at the intersection of SR 92. Winton Avenue is a bicycle route west of Clawiter Road and has a buffered bike lane on the south side east of Clawiter Road.

1.3.1.2 Collector Roadways

Depot Road is an east-west Collector that begins to the west at the shoreline and terminates at Hesperian Boulevard, where it becomes Cathy Way. It is a four-lane facility that is a bicycle route. The curb-to-curb right-of-way is 48 feet west of Clawiter Road and expands to approximately 60 feet wide to the east to accommodate turn pockets. East of Industrial Boulevard, Depot Road narrows to 48 feet. Travel lanes are about 12 feet wide. There are sidewalks on both sides of the road, but no on-street parking west of Industrial

Boulevard. East of Whitesell Street, Depot Road has sidewalks on the north side, but intermittently along the south side.

Clawiter Road is a north-south Collector south of Depot Road and designated as a truck route by the City of Hayward. It is a two-lane facility south of Industrial Boulevard. A two-way left-turn lane runs between Enterprise Avenue and the railroad crossing north of the SR 92 interchange. The curb-to-curb right-of-way is 35 to 45 feet and the travel lanes are about 16 feet wide. The posted speed limit is 35 mph north of the SR 92 interchange and 25 mph south of the interchange. Sidewalks are available intermittently and street parking is prohibited. Clawiter Road is designated as a bicycle route.

Cabot Boulevard is a north-south Collector south of Winton Avenue and is not designated as a truck route by the City of Hayward. It is a four-lane facility north of Depot Road and south of Winton Avenue. The curb-to-curb right of way is 70 feet and the travel lanes are about 15 feet wide. The posted speed limit is 35 mph. Sidewalks are available and street parking is prohibited. Cabot Boulevard is designated as a bicycle route.

Enterprise Avenue is an east-west Collector that begins in the west at the project site west of Whitesell Street and extends to the east at a t-intersection on Clawiter Road. Enterprise Avenue is designated as a truck route by the City of Hayward. It is a two-lane facility servicing the mostly industrial areas near the project site. The curb-to-curb right of way is 44 feet with two wide travel lanes for truck use. The posted speed limit is 25 mph. Some sidewalks are available and street parking is permitted. Enterprise Avenue is not designated as a bicycle route.

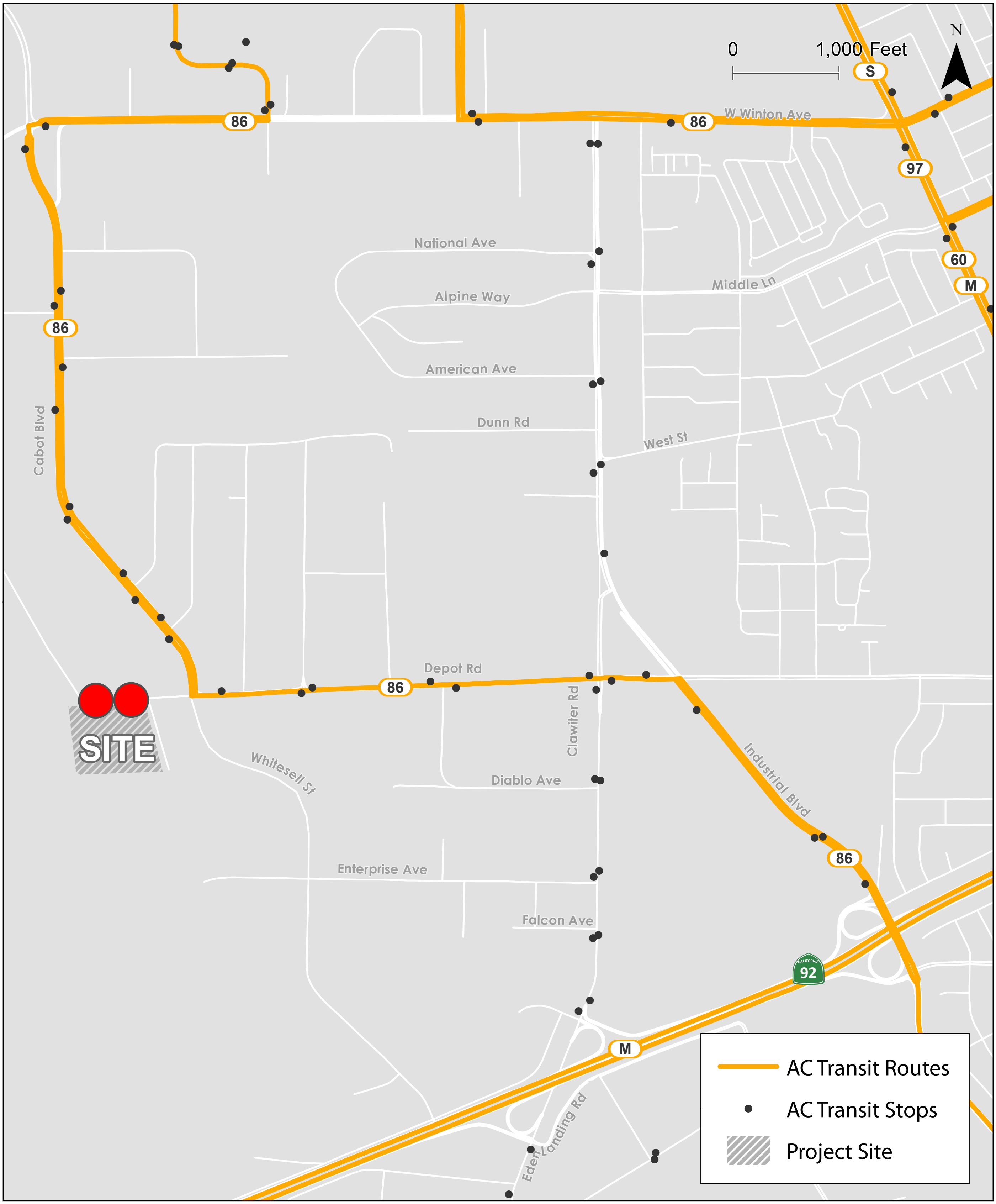
1.3.1.3 Local Roadways

Whitesell Street is a north-south Local roadway that begins south of Depot Road. It is a two-lane facility with a posted speed limit of 25 mph. The curb-to-curb right-of-way at Depot Road is 56 feet. The facility has sidewalks, bicycles, and has prohibited street parking.

1.3.2 TRANSIT SERVICE

The transit system in the study area consists of local bus service. The transit facilities in the study area are discussed below and shown in **Figure 4.**

.



Transit Facilities Withing Study Area
Hayward, California

Figure
4

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\GIS\LTA\Figure 04 Transit Facilities Within Study Area.mxd - mmilacek - 10:19 AM 10/7/2022

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

1.3.2.1 Alameda-Contra Costa Transit District

Alameda-Contra Costa Transit District (AC Transit) provides bus service in the study area. AC Transit bus routes and local bus stops are shown in **Figure 4**. In addition, weekday bus service in the study area is documented in **Table 3**.

Table 3: Existing AC Transit Weekday Service

Route	Beginning and End Points		Peak / Off-Peak Frequency (in Minutes)
	North/West	South/East	
86	Hayward BART	South Hayward BART	35/35

Data Source: AC Transit (2022)

There are two bus stops approximately ¼ mile distance from the project site to the north on Whitesell Street. and to the east on Depot Road. Both bus stops can be accessed via sidewalks on Depot Road and Whitesell St and are currently served by AC Transit Line 86 which operates at 35-minute headways during both peak and off-peak times. Route 86 begins at the Hayward BART station and travels west on Winton Avenue, south on Cabot Boulevard, and east on Depot Road. It then travels south on Industrial Boulevard and east on Tennyson Road before terminating at the South Hayward BART station. Route M, which runs between the Hayward BART and Hillsdale Caltrain stations, travels along SR-92 and Hesperian Boulevard in the study area.

The bus stops near the project site do not provide any benches or shelters. All AC Transit buses are equipped with bike racks at the front of the bus. Bicycles are allowed inside buses between midnight and 5:30 a.m. weekdays and between midnight and 9 a.m. weekends and holidays, if the rack is full and there is room inside[1].

1.3.3 PEDESTRIAN FACILITIES

The study area offers several types of facilities and amenities that support walking. The availability and quality of pedestrian facilities can be analyzed using seven key factors as shown in **Table 4**.

Table 4: Pedestrian Facility Conditions

Factor	Description	Assessment
Sidewalk Availability	Sidewalk availability is core to supporting walkability and safety separating pedestrians from vehicles and other modes. In addition, it is important that sidewalks are present on both sides of the roadway and are available along the entire segment rather than end midblock.	Roadways in the study area have partial sidewalk on one or both sides of the road. Near the project vicinity, sidewalk is provided on the north side of Depot Road and partial sidewalk is provided along the south side of Depot Road. Cabot Boulevard has sidewalk on both sides of the road for approximately ¾ miles north of the project site before terminating on both sides. Sidewalk is provided on both sides of Whitesell Street from Depot Road to Breakwater Avenue. The roadways in the study area mostly traverse light industrial and commercial land uses, and most of the arterials and collectors are designated truck routes. Thus, pedestrian-oriented uses are generally not prioritized in the area.

[1] Bikes on Buses | Alameda-Contra Costa Transit District (actransit.org)

Factor	Description	Assessment
Sidewalk Conditions	Cracked, broken, or otherwise damaged sidewalks can pose a safety hazard and discourage walking.	Sidewalks are consistently available on the north side and intermittently on the south side of Depot Road. The existing sidewalks, in particular on Whitesell Street and Cabot Boulevard, generally appear in good condition based on aerial photography.
Crosswalk Availability	Marked crosswalks can safely accommodate pedestrians that need to cross streets. A lack of marked crosswalks could hinder walkability since pedestrians need to travel greater distances to reach a safe marked crossing point. Drivers may also be less likely to yield to intersections at unmarked crossings.	Most of the intersections on Depot Road and Cabot Boulevard do not feature crosswalks. The intersection of Whitesell Street and Depot Road, which includes crosswalks on all approaches and is all-way stop controlled. The intersection of Depot Road and Clawiter road is signalized with two crosswalks, both adjacent to Depot Road.
Shading	Shading, whether natural or artificial, can encourage walking in areas such as Southern California which are relatively warm with limited rainfall, especially in the summer.	Shading around the study streets is sparsely provided by street trees and buildings. There are relatively long stretches of Depot Road and Whitesell Street that are not shaded. Cabot Road is mostly unshaded.
Flat Grade	Steep hills and ravines can discourage walking, especially for pedestrians with limited mobility.	The study area is generally flat.
Buffer	Buffers which provide separation between pedestrians and moving vehicles can help improve the walking experience, and can include landscaping, parked vehicles, and bulbouts, which serve to both reduce pedestrian crossing distances at intersections and as a traffic calming measure.	Buffers in the form of landscaping are present on Whitesell Road south of Depot Road and provide approximately 3 feet of space between the sidewalk and curb. No buffers exist on the sidewalks on Depot Road or Cabot Boulevard north of the project site.
Amenities	In addition to physical facilities that accommodate walking, useful or interesting amenities along sidewalks create a more interesting walking environment and increase pedestrian comfort. Amenities can include sidewalk-adjacent retail and restaurants, landscaping, and street furniture.	Street furniture generally is not included along the roadways in the study area. As outlined in the transit section above, most bus stops do not provide any amenities other than a bus stop sign. Some, such as the Depot Road & Connecticut Street bus stop, are not located on sidewalks. This particular stop is located on the South side of Depot Road and consists of a bus stop sign on an unpaved curb.

The draft City of Hayward Bicycle & Pedestrian Master Plan (BPMP) includes a map of roadways with the top pedestrian prioritization scores, highlighting roads that are prime candidates for improvements. Within the study area, these include portions of Clawiter Road, Depot Road, and Winton Avenue.

1.3.4 BICYCLE FACILITIES

The study area contains a bicycle facilities network that consists primarily of dedicated street space for bicyclists.

Figure 5 displays the existing designated bicycle facilities in the study area.

Bicycle facilities are categorized into four types, as described below:

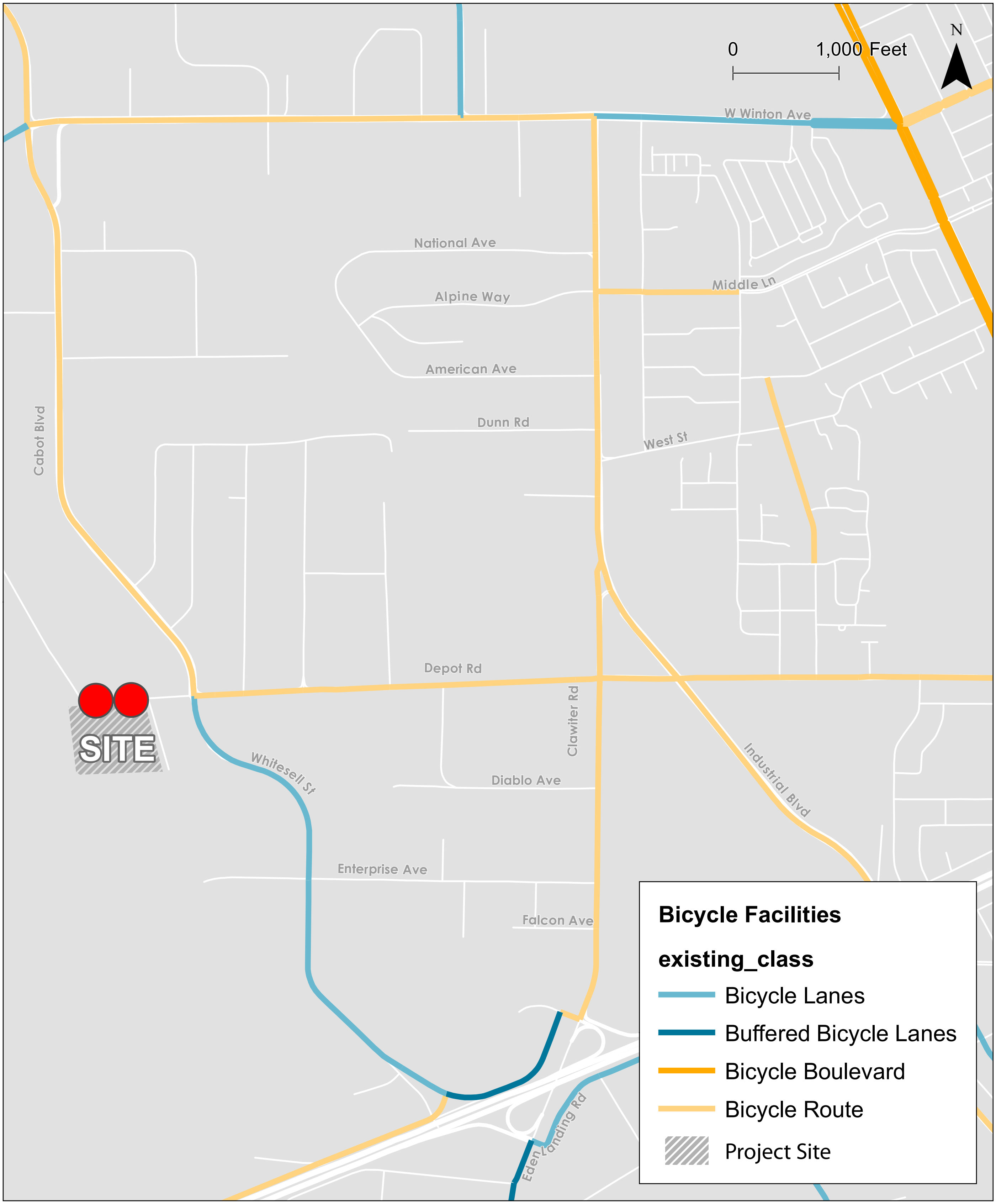
- **Class I Bikeway (Bike Path).** Also known as a shared path or multi-use path, a bike path is a paved right-of-way for bicycle travel that is completely separate from any street or highway.
- **Class II Bikeway (Bike Lane).** A striped and stenciled lane for one-way bicycle travel on a street or highway. This facility could include a buffered space between the bike lane and vehicle lane and the bike lane could be adjacent to on-street parking.
- **Class III Bikeway (Bike Route).** A signed route along a street where the bicyclist shares the right-of-way with motor vehicles. This facility can also be designated using a shared-lane marking (sharrow).
- **Class IV Bikeway (Separated Bike Lane).** A bikeway for the exclusive use of bicycles including a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

As shown in **Figure 5**, the existing bicycle facilities in the study area include:

- Class II bike lane on Whitesell Street south of Depot Road
- Class III bike route on Depot Road
- Class III bike route on Industrial Boulevard
- Class III bike route on Cabot Boulevard north of Depot Road to Winton Road
- Class III bike route on Clawiter Road
- Class III bike route on Winton Avenue west of Clawiter Road

The City of Hayward Bicycle & Pedestrian Master Plan (BPMP) includes a map of roadways with the top bicycle prioritization scores, highlighting roads that are prime candidates for improvements. Within the study area, these include portions of Hesperian Boulevard, Clawiter Road, Winton Avenue, Industrial Boulevard, Depot Road, and Breakwater Avenue (parallel to SR 92). The draft plan includes the following bicycle improvements in the study area:

- Class II bicycle lane on Depot Road east of Industrial Boulevard
- Class IV separated bikeway on Depot Road west of Industrial Boulevard
- Class IV separated bikeway on Clawiter Road
- Class IV separated bikeway on Winton Avenue



H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\GIS\LTA\Figure 05 Existing Bike Network Within Study Area.mxd - mmilacek - 11:00 AM 10/7/2022

Existing Bicycle Network Within Study Area
Hayward, California

Figure
5

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

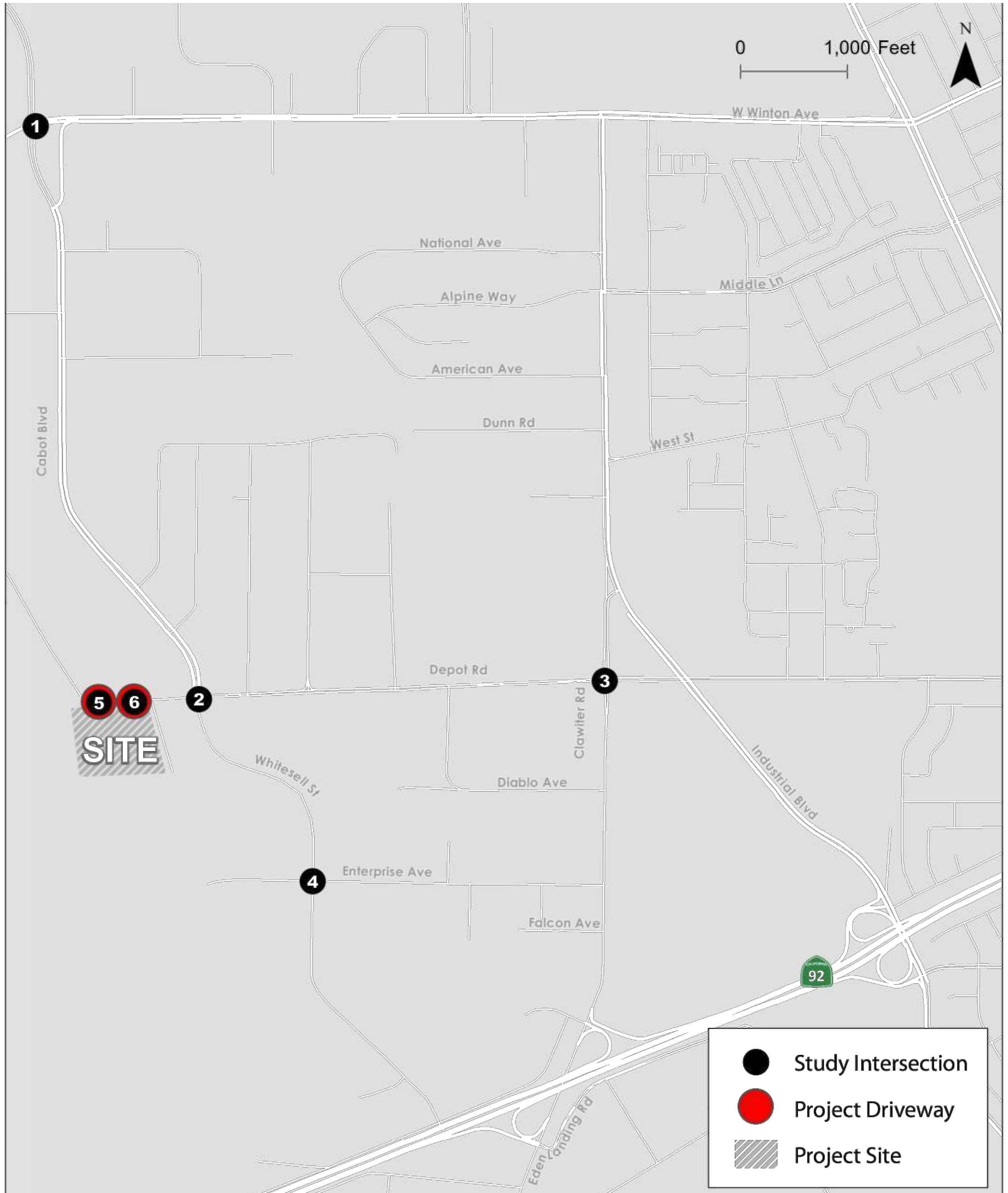
1.4 EXISTING TRAFFIC VOLUMES

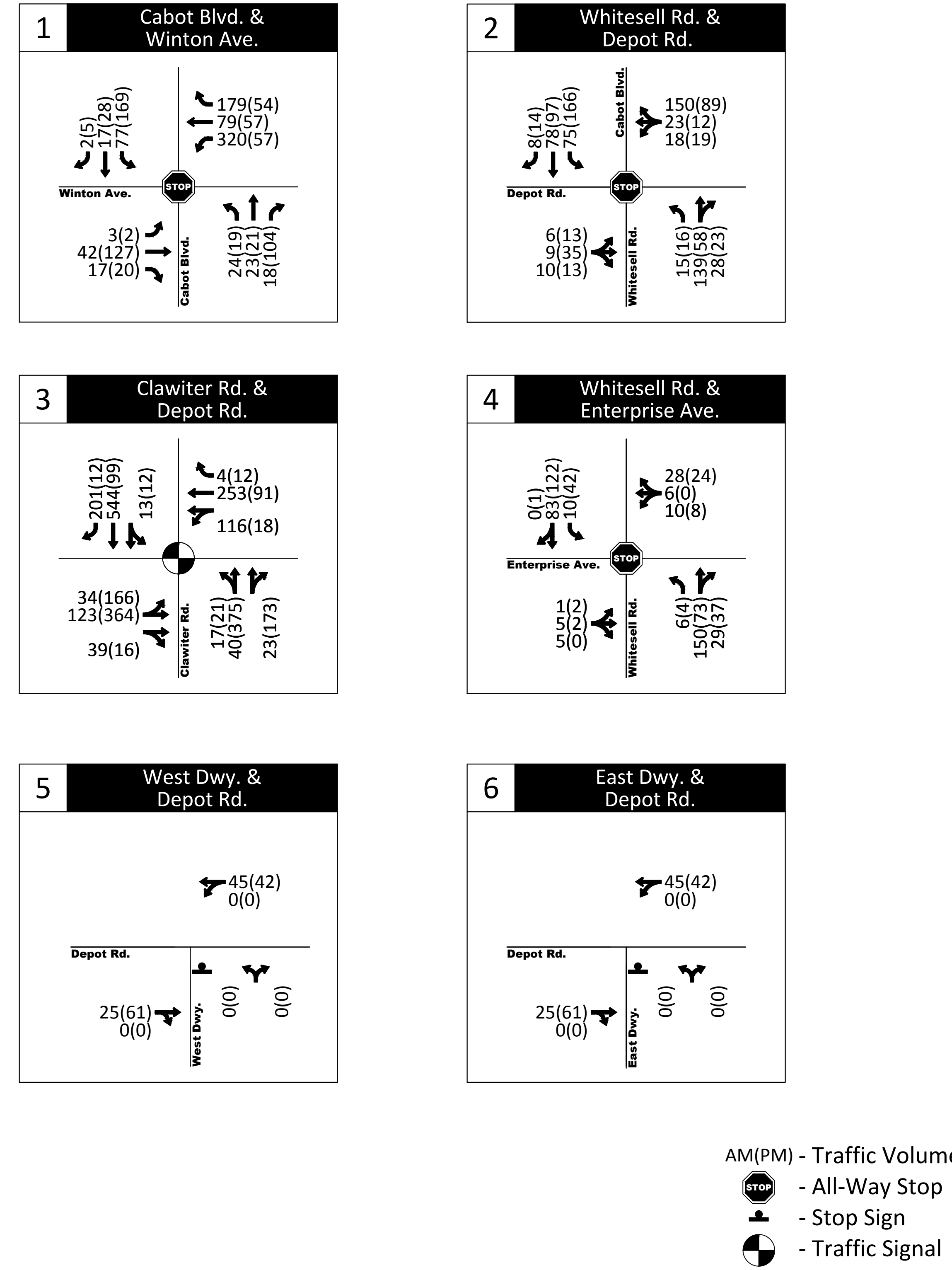
1.4.1 AUTOMOBILE TRAFFIC VOLUMES

Previously in November 2021, Kittelson had collected vehicle turning movement data for a nearby project (Hayward 3636 Enterprise Avenue Industrial Project) during the weekday morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak periods. The counts collected for 3636 Enterprise Avenue encompass the same study area for the current project at 3890 Depot Road and were deemed consistent for use on this study. Because the traffic counts were collected during the COVID-19 pandemic, the counts were anticipated to be lower than normal. As part of the Hayward 3636 Enterprise Avenue Industrial Project, the counts were compared to historic traffic counts and adjusted accordingly. Generally, it was found that peak hour counts were up to 20% lower in the a.m and p.m. peaks in 2021 compared to prior historical pre-Covid counts from 2019. Adjustments for Covid were proposed as part of the Enterprise study, and generally included the following (therefore no new adjustments are being proposed for 3890/3898 Depot Road):

- Historical counts would be used to analyze intersection #3.
- For the remaining intersections, the November 2021 counts would be used with growth applied uniformly (20% to the AM counts and 20% to the PM counts).
- Eastbound and westbound through volumes at the project's eastern and western driveways (which are not used at this time) would be estimated based on adjacent intersections.
- The adjustment methodology was verified and approved by City Transportation staff.

Figure 6 shows the existing automobile peak hour volumes at the study intersections, including the adjusted volumes where applicable. Intersection control (i.e., signalized or stop-controlled) and lane geometries are also shown. Appendix A contains the field-collected count sheets and the COVID-19 adjustment calculations.





Existing Automobile Peak Hour Volumes
Hayward, CA

Figure 6

1.4.2 PEDESTRIAN AND BICYCLE VOLUMES

Pedestrian and bicycle volumes were collected at the study intersections as part of the data collection effort. **Table 5** and **Table 6** present the pedestrian and bicycle volume data for the weekday AM and weekday PM peak hours, respectively. The tables indicate minimal pedestrian and bicycle activity in the study area, indicative of industrial land uses.

Table 5: Pedestrian and Bicycle Volumes (Weekday AM Peak Hour)

#	Intersection	Pedestrian Crossings (by intersection leg)				Northbound Bicycles			Southbound Bicycles			Eastbound Bicycles			Westbound Bicycles		
		N	S	E	W	L	T	R	L	T	R	L	T	R	L	T	R
1	Cabot Blvd. & Winton Ave.	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	2
2	Cabot Blvd. & Depot Rd.	-	-	1	1	-	-	-	-	-	-	-	-	-	1	-	-
3	Clawiter Rd. & Depot Rd.	-	-	-	-	-	-	-	-	2	1	-	-	-	-	2	-
4	Whitesell St. & Enterprise Ave.	-	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-
5	West Dwy. & Depot Rd.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	East Dwy. & Depot Rd.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Data Source: Quality Counts manual turning movement counts (November 2021).

Table 6: Pedestrian and Bicycle Volumes (Weekday PM Peak Hour)

#	Intersection	Pedestrian Crossings (by intersection leg)				Northbound Bicycles			Southbound Bicycles			Eastbound Bicycles			Westbound Bicycles		
		N	S	E	W	L	T	R	L	T	R	L	T	R	L	T	R
1	Cabot Blvd. & Winton Ave.	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-
2	Cabot Blvd. & Depot Rd.	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3	Clawiter Rd. & Depot Rd.	1	-	-	3	-	3	1	-	-	-	-	1	-	-	-	-
4	Whitesell St. & Enterprise Ave.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
5	West Dwy. & Depot Rd.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	East Dwy. & Depot Rd.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Data Source: Quality Counts manual turning movement counts (November 2021).

1.5 EXISTING TRAFFIC OPERATIONS AND PERFORMANCE

1.5.1 TRAFFIC SIGNAL WARRANTS

Traffic signal warrants are performed on unsignalized intersections should they fail to meet the City standard for LOS. Traffic signal warrants are standards that provide guidelines in the determination of the need for a traffic signal. A traffic signal should not be installed if no warrants are met, since the installation of traffic signals may increase delays for the majority of through traffic and may increase the potential for accidents.

As stated in the FHWA/Caltrans 2014 California Manual of Uniform Traffic Control Devices (CA-MUTCD), "An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location. The investigation of the need for a traffic control signal shall include an analysis of the applicable factors contained in the following traffic signal warrants and other factors related to existing operation and safety at the study location:

- Warrant 1, Eight-Hour Vehicular Volume.
- Warrant 2, Four-Hour Vehicular Volume.
- Warrant 3, Peak Hour.
- Warrant 4, Pedestrian Volume.
- Warrant 5, School Crossing.
- Warrant 6, Coordinated Signal System.
- Warrant 7, Crash Experience.
- Warrant 8, Roadway Network.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

This traffic impact analysis did not evaluate the full panoply of warrants for traffic signals, but instead focused on the peak hour warrant. The peak hour warrant is being used in this study as an "indicator" of the likelihood of an existing or future unsignalized intersection warranting a traffic signal. Intersections that fail to exceed the peak hour warrant are considered (for the purposes of this impact analysis) to be unlikely to meet one or more of the other signal warrants (such as the 4-hour or 8-hour warrants). However, this does not mean that a signal is definitely unwarranted. A signal may be warranted by other criteria, some of which cannot be known until the intersection is constructed and operational. This peak hour analysis is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

As discussed in Section 1.1.2.2, the need for improvements at unsignalized intersections is based on LOS and delay, and whether any of the following are met:

- Traffic signal warrant,
- Pedestrian signal warrant, or
- All-way stop warrant

Note that solely triggering a warrant does not trigger the need for an intersection improvement, but the City will at its discretion require or not require a signal be installed, where warranted.

Regardless of intersection control, per the City of Hayward Traffic Study Guidelines , improvements would be required at an intersection already operating at LOS F under an Existing or No Project scenario if the addition of project traffic results in an increase of 5.0 seconds or more in the intersection's average control delay. Unsignalized intersections were evaluated using the Peak Hour Volume Warrant (Warrant No. 3) in the CA-MUTCD. Even if the Peak Hour Volume Warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the daily peak hours of roadway traffic, pedestrian traffic, and collision histories. **Table 7** presents a summary of the traffic signal warrants for the Existing Conditions scenario. Appendix B contains the existing traffic signal warrant worksheets.

As shown in **Table 7**, peak hour traffic signal warrants are not met for any of the study intersections under existing conditions.

Table 7: Traffic Signal Peak Hour Warrants, Existing Conditions

#	Intersection	Traffic Control	Peak Hour	Warrant Met?
1	Cabot Blvd. & Winton Ave.	AWSC	AM	No
			PM	No
2	Whitesell St. & Depot Rd.	AWSC	AM	No
			PM	No
4	Whitesell St. & Enterprise Ave.	AWSC	AM	No
			PM	No

Based on California MUTCD Peak Hour Warrant.
Source: Kittelson & Associates, Inc. 2022

1.5.2 AUTOMOBILE LEVEL OF SERVICE

LOS at the study intersections were evaluated based on the HCM 6th Edition methodology, as implemented in the Synchro 10 software package. LOS analysis was performed for the weekday AM and PM peak hours using COVID-adjusted traffic counts collected in the field. **Table 8** provides a summary of the existing automobile level of service. Appendix B contains the Existing Conditions LOS worksheets at the study intersections.

As shown in **Table 8,** all study intersections operate acceptably (LOS E or better) under existing conditions.

Table 8: Automobile Level of Service, Existing Conditions

#	Intersection	Traffic Control	Weekday AM		Weekday PM	
			Delay (Sec)	LOS	Delay (Sec)	LOS
1	Cabot Blvd. / Winton Ave.	AWSC	13.1	B	11.2	B
2	Whitesell Rd. / Depot Rd.	AWSC	10.9	A	10.7	B
3	Clawiter Rd. / Depot Rd.	Signal	24.2	C	27.5	C
4	Whitesell Rd. / Enterprise Ave.	AWSC	9.4	A	8.9	A
5	West Dwy. / Depot Rd.	TWSC	-	-	-	-
6	East Dwy. / Depot Rd.	TWSC	-	-	-	-

Source: Kittelson & Associates, Inc. 2022
Intersections 5 and 6 are future driveways implemented with the project.
***Bold** signifies unacceptable operations.*

1.5.3 QUEUE STORAGE

The 95th percentile queues at the study intersections were reviewed to identify locations where these may exceed the available storage, for informational purposes. The 95th percentile queue lengths represent queues that have only a 5% probability of exceeding the available storage lengths. This measure is typically used in traffic engineering as a conservative measure of queuing and since it only has a 5% probability of being exceeded, the average driver would likely experience shorter queue lengths than what is being reported.

For through movements and turning movements without a dedicated lane, the available storage is assumed to be the distance from the stop bar to the departure point of the nearest upstream stop-controlled or signalized intersection. For turning movements with an exclusive turn lane, the length of the turn bay is assumed to be the available storage.

Table 9 details the movements which were found to queue beyond their available storage capacity at the 95th percentile demand level under Existing Conditions. A detailed summary of the intersection turn lane queue storage and intersection queues are included in Appendix D.

Table 9: Queue Lengths in Excess of Capacity, Existing Conditions

#	Intersection	Movement	Peak Hour	Description
3	Clawiter Rd. & Depot Rd.	EBT/R	AM/PM	Queues on this movement spill back beyond the length of its shared through/right lane. Additional storage is provided in the shared left/through lane.

Source: Kittelson & Associates, Inc. 2022
Note: Appendix D includes all intersection queue storage and 95th percentile queues.

Section 2

Project Trip Generation and Distribution

2 PROJECT TRIP GENERATION AND DISTRIBUTION

This selection provides the vehicle trip generation and distribution estimates for the proposed project.

2.1 TRIP GENERATION

Project trip generation was estimated for the following three time periods:

- Weekday daily
- Weekday AM peak hour
- Weekday PM peak hour

At this time, the future tenants are unknown, so for the purpose of assessing transportation impacts of the project, trip rates associated with light industrial tenants was selected. Trips were estimated using data provided by the Institute of Transportation Engineers (ITE) and shown in **Table 10**. Trip generation for the project was estimated using average trip rates for Light Industrial (Code 110). The trip rates were extracted from the most recent data available in the web-based Trip Generation database maintained by ITE. It shall be noted that trip rates derived from the regression curve for the light industrial land use code in the ITE Trip Generation Manual was considered. However, the average trip rates yield more conservative trip generation estimates and it was therefore proposed for the analysis. As shown in **Table 10**, the project is expected to generate 667 weekday daily vehicle trips, 101 weekday AM peak hour vehicle trips, and 89 weekday PM peak hour vehicle trips. The site is currently used as a cardboard recycling facility. Trips from this type of use are not significant, and to be most conservative, no trip credits are being recommended for the existing buildings located at the project site. Given the project trips are less than 100 p.m. peak trips, no Alameda CTC CMP analysis is required.

Table 10: Project Trip Generation Estimate

Trip Generation Rates									
Land Use	ITE Trip Generation Manual Land Use Code	Rate	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
General Light Industrial	110	TSF	4.87	88%	12%	0.74	14%	86%	0.65

Trip Generation Estimate									
Land Use	ITE Trip Generation Manual Edition	Size	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Project	11th	137.04 TSF	667	89	12	101	12	77	89

Source: Kittelson & Associates, Inc., 2022; Institute of Transportation Engineers, 2021.
Notes: KSF signifies thousand square feet.

2.2 TRIP DISTRIBUTION

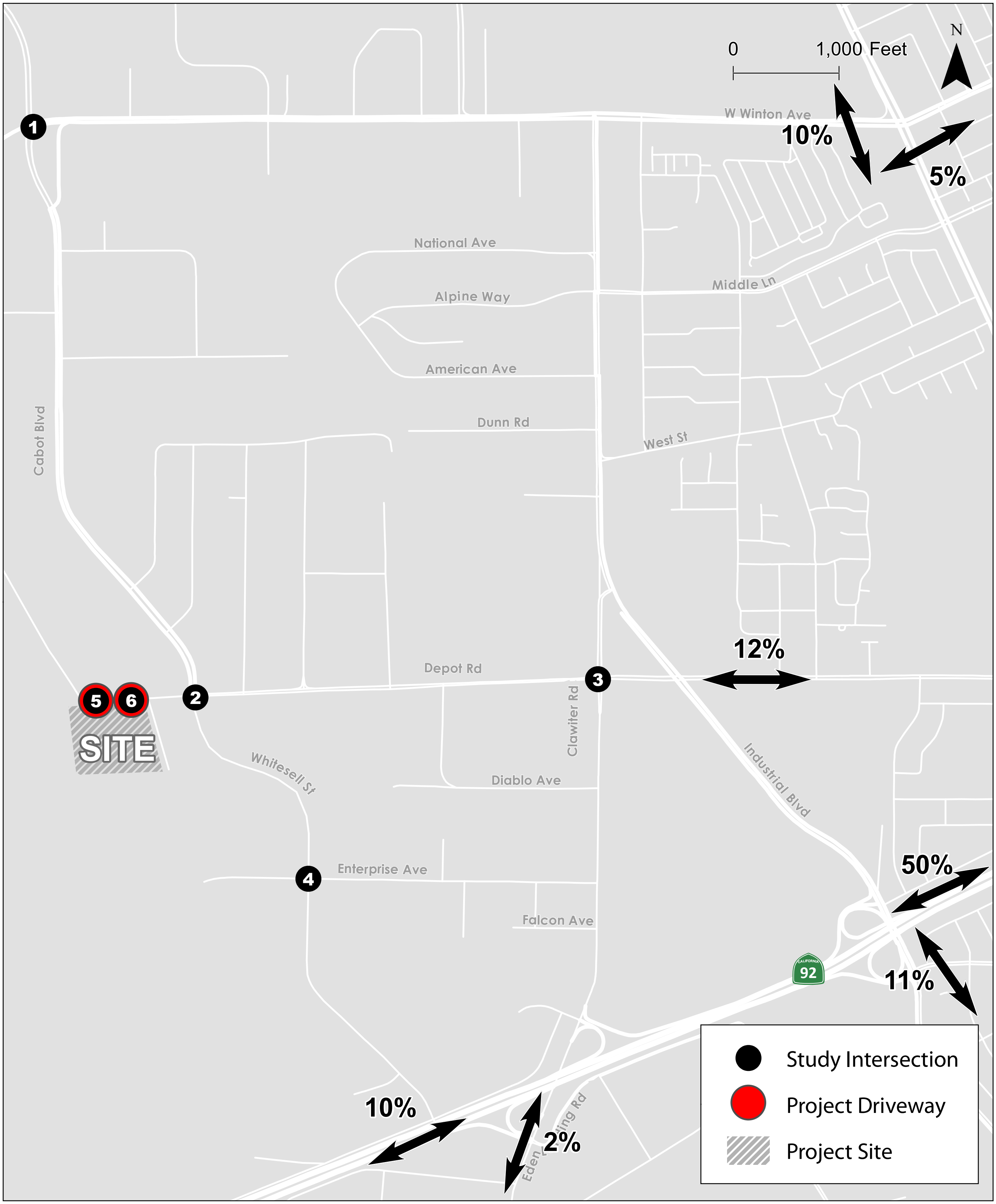
Project trip distribution was developed using the City of Hayward General Plan travel demand model. The project trip distribution is based on the model's distribution of trips in and out of the traffic analysis zone (TAZ) representing the project site, as well as adjustments to reflect local travel patterns and circulation conditions. The project trip distribution and intersection count locations are shown in **Figure 7**.

The trip distribution for the project is as follows:

- 10% to/from the west via SR-92
- 5% to/from the north via Hesperian Boulevard
- 10% to/from the northwest via Whitesell Road/Cabot Boulevard/Winton Avenue
- 50% to/from destinations in the north, east, and south/southeast via SR-92
- 12% to/from the south/southeast via Hesperian Boulevard
- 11% to/from the south/southeast via Industrial Boulevard
- 2% to/from the south via Eden Landing Road and Arden Road

All trip distribution destinations total up to 100%.

Figure 8 presents the weekday AM and PM project-only turning movements that were derived from the trip generation and trip distribution discussed in this section. These project-only volumes will be used in the Existing Plus Project and Background 2025 Plus Project analyses.



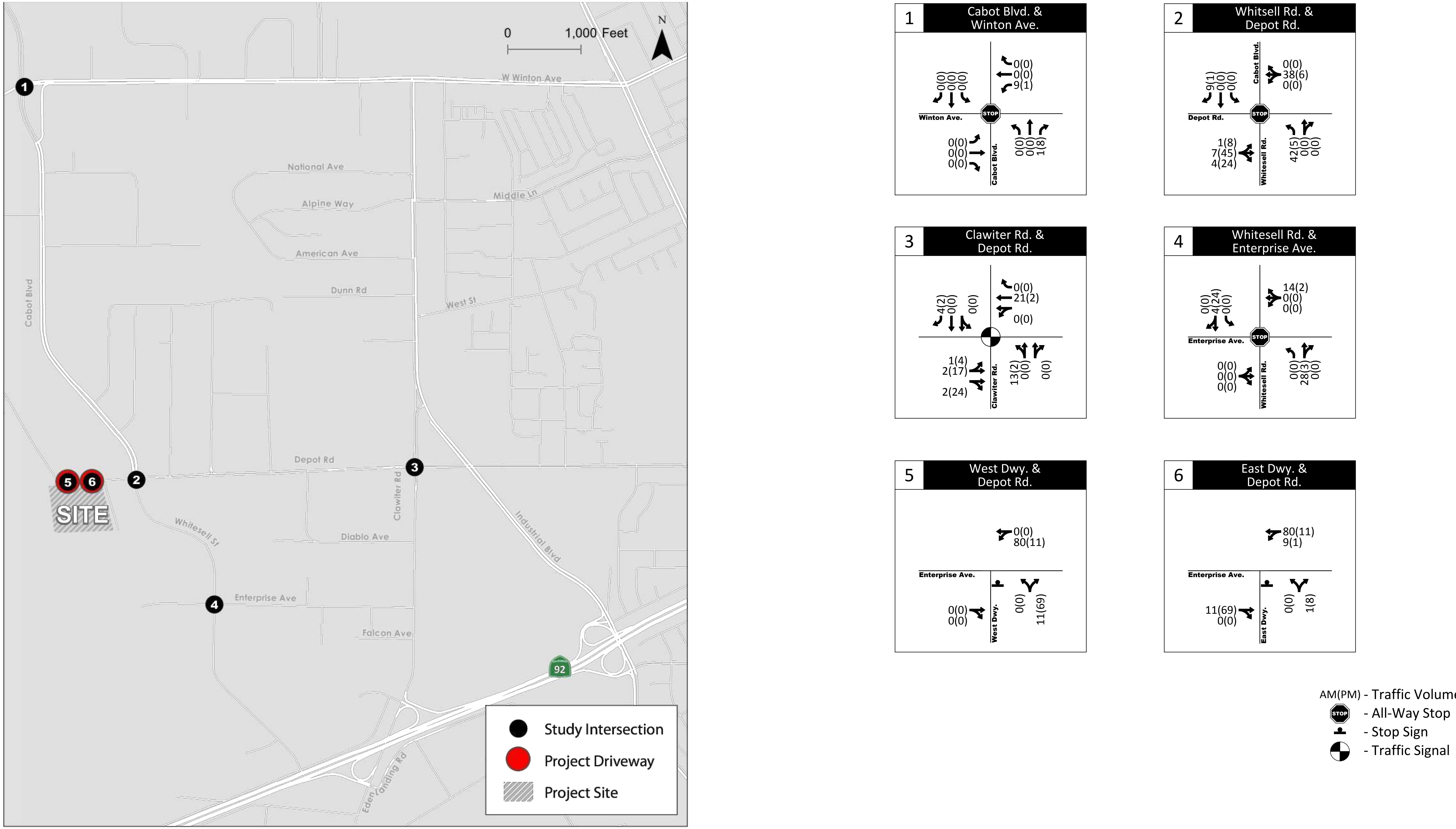
Project Trip Distribution
Hayward, California

Figure
7

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\GIS\LTA\Figure 07 Project Trip Distribution.mxd - mmilacek - 10:06 AM 10/7/2022

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



Project-Only Trips
Hayward, CA

Figure
8

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\report\figs\28037 Volume Figures.dwg Oct 18, 2022 - 8:14am - mruiz-leon Layout Tab: PO

KITTELSON & ASSOCIATES

Section 3

Existing Plus Project Traffic Conditions

3 EXISTING PLUS PROJECT TRAFFIC CONDITIONS

This chapter discusses the results of the Existing Plus Project traffic operations analysis, which was conducted for non-CEQA local transportation analysis (LTA) purposes.

3.1 EXISTING PLUS PROJECT AUTOMOBILE LEVEL OF SERVICE

The automobile turning movement counts for the Existing Plus Project scenario were developed from the sum of the Existing Conditions turning movement counts and the Project Only turning movements displayed in **Figure 8**. **Figure 9** presents the Existing Plus Project turning movements.

Table 11 presents the Existing Conditions and Existing Plus Project delays and LOS for the study intersections. The table also compares the change in delay between the two scenarios. Appendix C contains the Existing Plus Project LOS worksheets.

Table 11: Automobile Level of Service, Existing Plus Project Conditions

#	Intersection	Traffic Control	Existing				Existing Plus Project				Weekday AM	Weekday PM
			Weekday AM		Weekday PM		Weekday AM		Weekday PM			
			Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay Increase (Sec)	Delay Increase (Sec)
1	Cabot Blvd. / Winton Ave.	AWSC	13.1	B	11.2	B	13.5	B	11.3	B	0.4	0.1
2	Whitesell Rd. / Depot Rd.	AWSC	10.9	A	10.7	B	11.8	B	11.7	B	0.9	1.0
3	Clawiter Rd. / Depot Rd.	Signal	24.2	C	28.2	C	24.7	C	28.8	C	0.5	0.6
4	Whitesell Rd. / Enterprise Ave.	AWSC	9.4	A	8.9	A	9.8	A	9.1	A	0.4	0.2
5	West Dwy. / Depot Rd.	TWSC	-	-	-	-	4.6	A	5.0	A	-	-
6	East Dwy. / Depot Rd.	TWSC	-	-	-	-	0.4	A	1.2	A	-	-

Source: Kittelson & Associates, Inc. 2022
***Bold** signifies unacceptable operations.*

As shown in the table, all study intersections are expected to operate acceptably (LOS E or better) under Existing Plus Project.

Existing Plus Project Turning Movement Forecasts
Hayward, CA

Figure 9

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\report\figs\28037 Volume Figures.dwg Oct 18, 2022 - 8:14am - mruiz-leon Layout Tab: exPP

KITTELSON & ASSOCIATES

3.2 EXISTING PLUS PROJECT QUEUE STORAGE SERVICE

The 95th percentile queues at the study intersections were reviewed to identify locations where these may exceed the available storage. **Table 12** details the movements which were found to queue beyond their available storage capacity at the 95th percentile demand level under Existing Plus Project conditions.

Appendix D contains intersection queue spreadsheets for all study intersections.

Table 12: Queue Lengths in Excess of Capacity, Existing Plus Project Conditions

#	Intersection	Movement	Peak Hour	Description
3	Clawiter Rd. & Depot Rd.	EBT/R	AM/PM	Queues on this movement spill back beyond the length of its shared through/right lane. However, a shared left/through lane is also available.

Source: Kittelson & Associates, Inc. 2022
Note: Appendix D includes all intersection queue storage and 95th percentile queues.

Section 4

Background Traffic Conditions

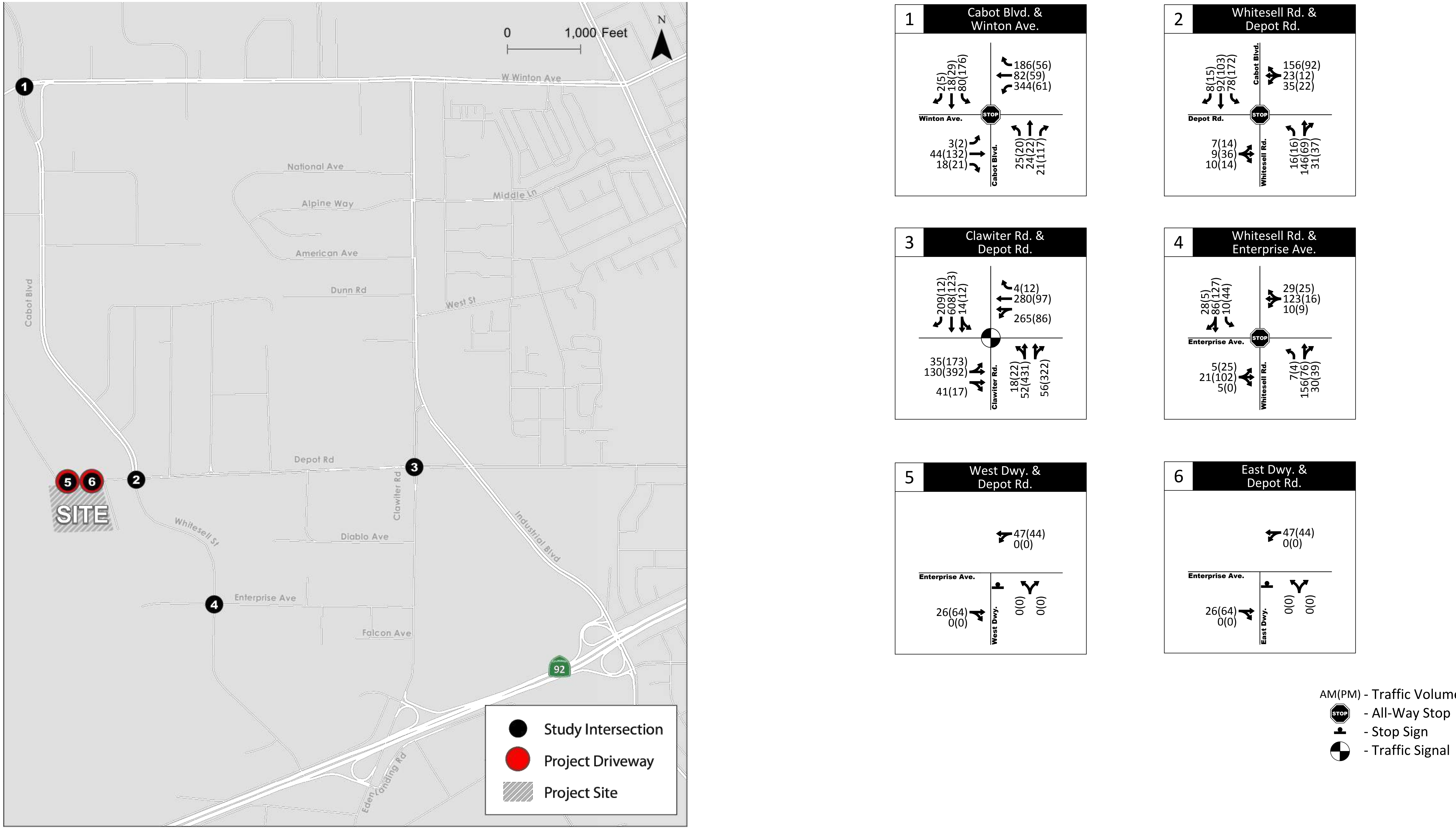
4 BACKGROUND TRAFFIC CONDITIONS

The potential operational effects on the transportation system were evaluated under the Background Year 2025 Condition for non-CEQA local transportation analysis purposes. The year 2025 was selected for the background condition as it matches the anticipated opening year for the project and when all tenants are occupied. The operational deficiencies to the intersections were evaluated using projected peak hour traffic volumes derived from the Hayward General Plan Update version of the Alameda CTC Countywide Model. In addition, the background scenario includes recently approved nearby development projects, including traffic from the Enterprise, Gillig, and the Berkeley Farms projects.

4.1 BACKGROUND DEMAND

Figure 10 presents the Background 2025 volumes derived from the travel demand model and the incremental adjustment process described in Section 1.2.

The automobile turning movement counts for the Background Plus Project scenario were developed from the sum of the Background 2025 No Project volumes and the Project Only turning movements described in Section 2 (and displayed in **Figure 8**). **Figure 11** presents the Background Plus Project volumes.

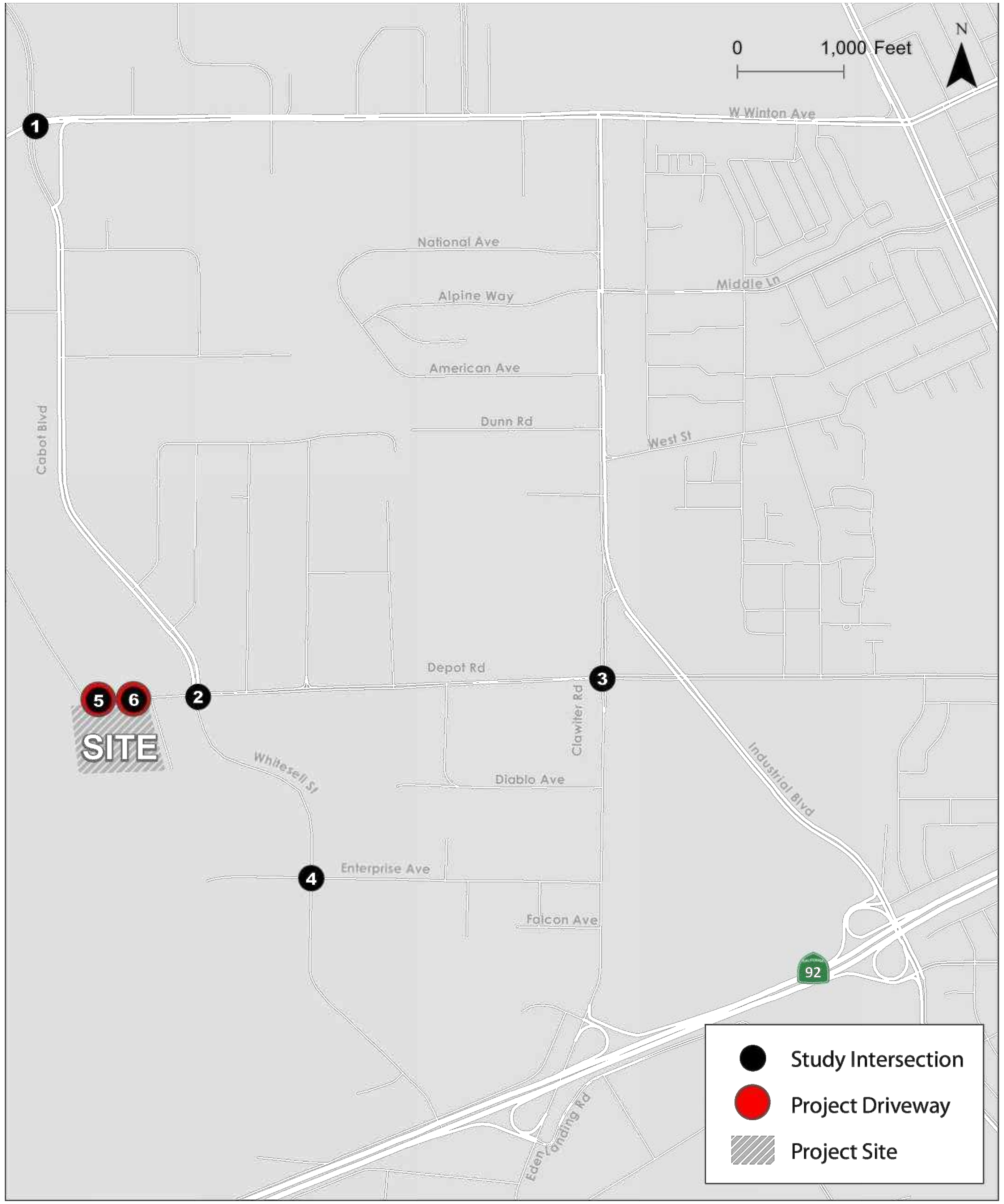


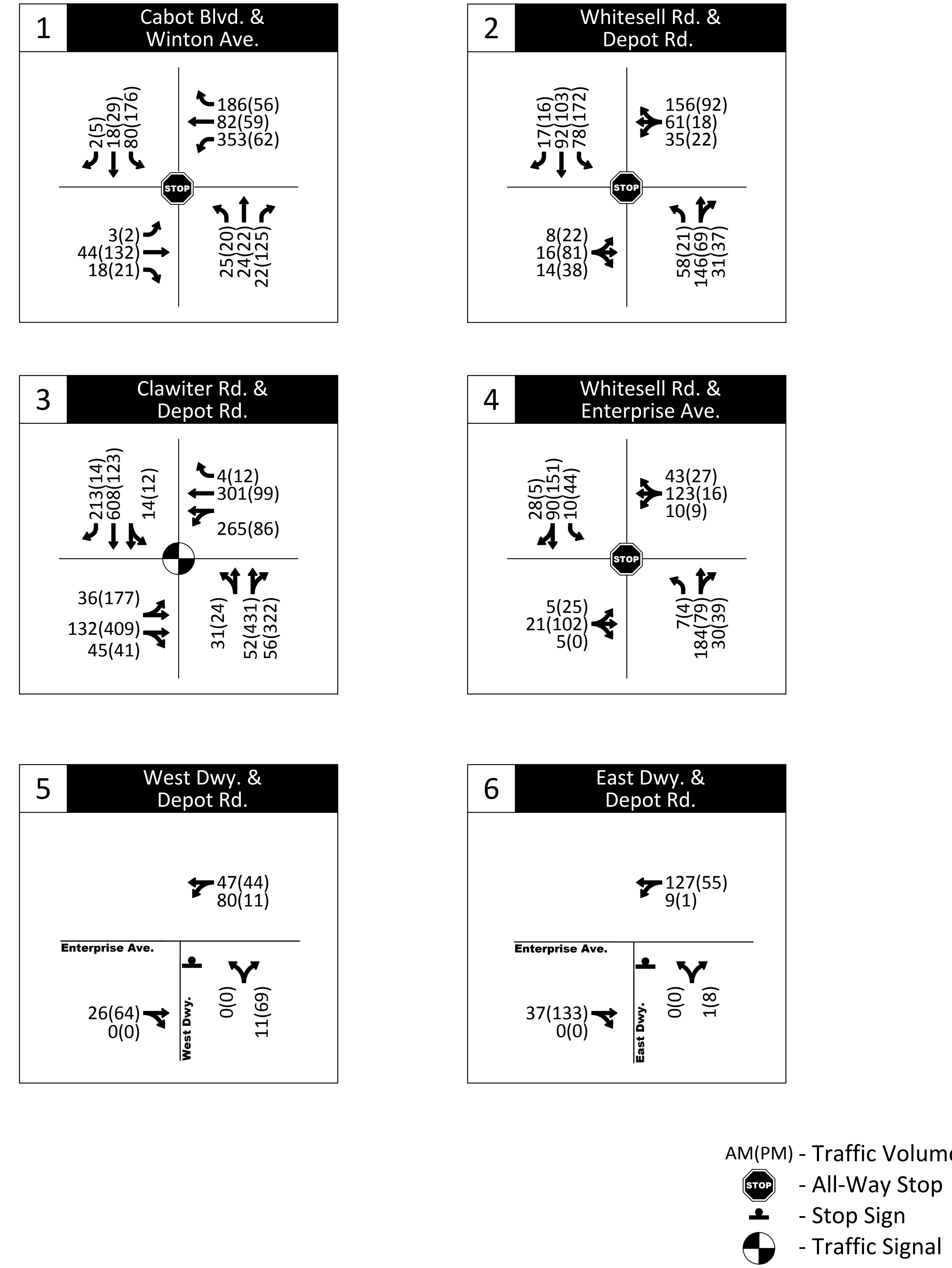
Background 2025 Turning Movement Forecasts
Hayward, CA

Figure 10

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\report\figs\28037 Volume Figures.dwg Oct 18, 2022 - 8:14am - mruiz-leon Layout Tab: BG

KITTELSON & ASSOCIATES





Background 2025 Plus Project Turning Movement Forecasts
Hayward, CA

Figure 11

4.2 BACKGROUND 2025 PLUS PROJECT AUTOMOBILE LEVEL OF SERVICE

Table 13 presents the Background 2025 and Background 2025 Plus Project delays and LOS for the study intersections. The table also compares the change in delay between the two scenarios. Appendix E and Appendix F contain the LOS worksheets for these scenarios.

Table 13: Automobile Level of Service, Year 2025 Background Plus Project Conditions

#	Intersection	Traffic Control	2025 Background				2025 Background Plus Project				Weekday AM	Weekday PM
			Weekday AM		Weekday PM		Weekday AM		Weekday PM			
			Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay Increase (Sec)	Delay Increase (Sec)
1	Cabot Blvd. / Winton Ave.	AWSC	14.2	B	11.5	B	14.6	B	11.6	B	0.4	0.1
2	Whitesell Rd. / Depot Rd.	AWSC	11.7	B	11.2	B	12.6	B	12.2	B	0.9	1.0
3	Clawiter Rd. / Depot Rd.	Signal	26.7	C	28.8	C	27.2	C	30.1	C	0.5	1.3
4	Whitesell Rd. / Enterprise Ave.	AWSC	10.8	B	10.6	B	11.5	B	10.8	B	0.7	0.2
5	West Dwy. / Depot Rd.	TWSC	-	-	-	-	4.5	A	4.9	A	-	-
5	East Dwy. / Depot Rd.	TWSC	-	-	-	-	0.5	A	0.4	A	-	-

Source: Kittelson & Associates, Inc. 2022
***Bold** signifies unacceptable operations.*

As shown in the table, all study intersections are expected to operate acceptably (LOS E or better) under Background Plus Project conditions.

4.3 BACKGROUND 2025 PLUS PROJECT QUEUE STORAGE

The 95th percentile queues at the study intersections were reviewed to identify locations where these may exceed the available storage. **Table 14** details the movements which were found to queue beyond their available storage capacity at the 95th percentile demand level under Background and Background Plus Project conditions.

Appendix D contains intersection queue spreadsheets for all study intersections.

Table 14: Queue Lengths in Excess of Capacity, Background Plus Project Conditions

#	Intersection	Movement	Peak Hour	Description
3	Clawiter Rd. & Depot Rd.	EBT/R	PM	Queues on this movement spill back beyond the length of its shared through/right lane. However, a shared left/through lane is also available.
		NBT/R	PM	Queues on this movement spill back beyond the length of its shared through/right lane. However, a shared left/through lane is also available.

Source: Kittelson & Associates, Inc. 2022
Note: Appendix D includes all intersection queue storage and 95th percentile queues.

Section 5

Public Transit, Pedestrian, and Bicycle Assessment

5 PUBLIC TRANSIT, PEDESTRIAN, AND BICYCLE ASSESSMENT

This section discusses potential effects on public transit, pedestrians, and bicyclists. To supplement this analysis, the Alameda County Transportation Commission (ACTC) Development Review Complete Streets Checklist was completed and is included as Appendix G.

5.1 PUBLIC TRANSIT ASSESSMENT

The project is not expected to degrade access to transit facilities. There are two bus stops approximately a ¼ mile distance from the project site north on Cabot Road and east on Depot Road. Both bus stops are served by AC Transit Line 86, which operates at 35-minute headways and can be accessed via sidewalks on Depot Road and Cabot Road. The project would not affect any existing or planned bus stops or sidewalks in the study area. Therefore, implementation of the Project would not conflict with plans, programs, and policies regarding transit facilities, or decrease the performance of such facilities.

5.2 PEDESTRIAN AND BICYCLE ASSESSMENT

The presence of sidewalks on the roadways in the study area are inconsistent. Whitesell Street south of Depot Road has sidewalks on both sides of the road, and the sidewalks on Cabot Road north of Depot Road terminate after approximately ¾ of a mile. Depot Road has consistent sidewalks only on the north side of the road. The roadways in the study area mostly traverse light industrial and commercial land uses, and most of the arterials and collectors are designated truck routes. Thus, pedestrian-oriented facilities are not prioritized in the area. The project would construct a paved 5-foot wide sidewalk on the south side of Depot Avenue along the property boundary.

The site plan includes bike racks, consistent with California Green Building Code (CALGreen) requirements for developers to provide bicycle parking for 5% of the vehicular parking spaces added on a site. Four short-term bike racks and four long-term bike racks will be provided at the project site. The bicyclist access points to the project consist of the two driveways along Depot Road. The study area features bike routes, including a bike route along Whitesell Street, Depot Road, and Clawiter Road, as discussed in Section 1.3.4. Depot Road is classified as a Class III Bicycle route, in which bicycles share the right-of-way with vehicular traffic. The City of Hayward BPMP identifies Depot Road as a future separated bikeway.

Potential pedestrian and bicycle-oriented treatments that could be considered as part of design review and conditions of approval could include:

- Ensure that the west and east driveways on Depot Road are designed for pedestrian and bicycle visibility (sidewalks clearly delineated, improved visibility by minimizing bushes and large signs).
- Coordinate with the City of Hayward to install warning signage (such as bikeway signage, and caution signage for exiting vehicles).

Section 6

Traffic Calming

6 TRAFFIC CALMING

The City of Hayward has expressed concerns regarding the potential for vehicles to divert to or pass-through residential streets to local arterial and regional roads in the study area. Generally, pass-through vehicle concerns can be addressed with traffic calming measures to slow vehicles down to safer speeds.

Examples of traffic calming measures can include:

- Narrowing roadways
    - Adding on-street parking
    - Installing a bike lane
    - Adding curb extensions and bulbouts
    - Adding bollards and planters
    - Removing lanes
- Vertical deflection such as speed bumps, humps, or tables
- Horizontal deflection
    - Lateral shift with a median island and curb extensions
    - Lateral shift with a chicane and curb extensions
- Enforcement and education
    - Speed cameras
    - Vehicle activated speed signs
- Lowering speed limits

As discussed in Section 2.2, project trips are expected to remain along arterial roads, collector roads, and SR-92. In addition, land uses around the project site generally consist of industrial and commercial. Given the lack of residential uses and streets near the project, and the lack of cut-through opportunities in the study area, traffic calming techniques have not been deemed necessary.

Section 7

Circulation and Access

7 CIRCULATION AND ACCESS

This section provides an overview of site access and on-site circulation. AutoTurn truck turning templates are provided as Figures I-1 through I-5 in Appendix H.

7.1 PARKING

The City of Hayward Off-Street Parking Regulations require one parking space for every 250 square feet in an office building, and 1 space per 2,000 square feet for an industrial use. In total, the project will need 69 parking spaces. The project would provide 67 standard parking stalls. A credit for the two remaining parking spaces was requested by providing 8 bicycle spaces.

7.2 TRUCK ACCESS

An analysis of the project driveways and internal site was conducted using AutoCAD AutoTurn to assess circulation and site access for trucks and emergency vehicles. Specifically, AutoTurn templates were prepared for a 31.17-foot-long fire truck and a standard eighteen-wheel semitrailer. The findings are detailed below:

Fire Truck: As shown in Appendix H, a standard fire truck can navigate the project driveways and the drive aisles.

Semitrailer: As shown in Appendix H, a standard eighteen-wheel semitrailer can navigate the project driveways, drive aisles, and loading/unloading docks.

7.3 PASSENGER VEHICLES

AutoTurn templates were not prepared for passenger vehicles, since the fire truck and semitrailer templates represent the largest vehicles expected to enter and exit the site. Given the results of the truck turning templates, it is expected that the driveways and drive aisles are sufficient to accommodate passenger vehicles. In addition, the exiting vehicle queues at the project driveways are not expected to exceed the available storage nor conflict with internal site intersections; therefore, no conflict is expected between exiting queuing vehicles, parking spaces, and internal drive aisle intersections. In addition, a single outbound lane at the driveways (to be shared by outbound left and right turns) is sufficient.

7.4 PEDESTRIAN AND BICYCLISTS

As discussed in Section 5.2, the bicyclist access points to the project consist of the two driveways along Depot Road. Recommended pedestrian- and bicyclist-oriented improvements for the project driveways and project site are provided in Section 5.2.

Section 8

Summary of Findings

8 FINDINGS

The following recommendations outside CEQA requirements were made to be incorporated as part of this Project to improve circulation and address potential deficiencies to the circulation network:

- All intersections within the study area operate within standard with the addition of the project.
- Ensure that the Project driveways on Depot Road are designed for pedestrian visibility safety (e.g., sidewalks clearly delineated, improved visibility by minimizing bushes and large signs).
- Coordinate with the City of Hayward to install warning signage (e.g., bikeway signage and caution signage for exiting vehicles) and continental crosswalks at the Project driveways.

Page intentionally blank

Appendix A: Traffic Counts and COVID-19 Adjustment Calculations

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Cabot Blvd -- W Winton Ave

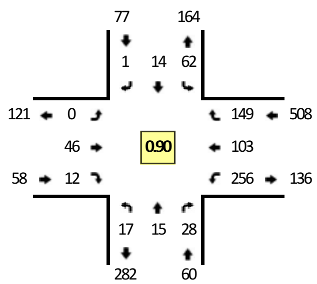
QC JOB #: 15606401

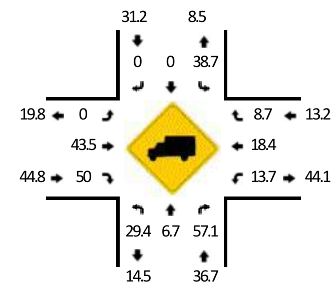
CITY/STATE: Hayward, CA

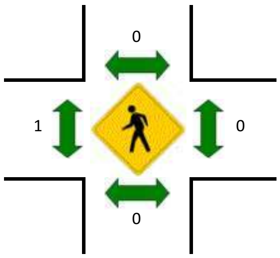
DATE: Thu, Nov 18 2021

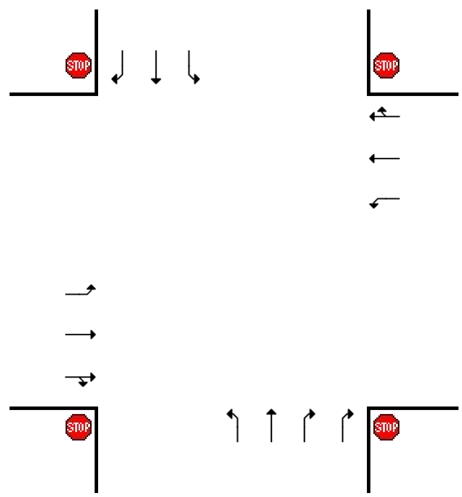
Peak-Hour: 7:50 AM -- 8:50 AM

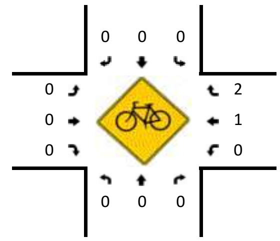
Peak 15-Min: 7:50 AM -- 8:05 AM

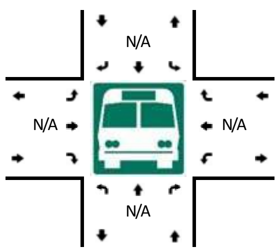


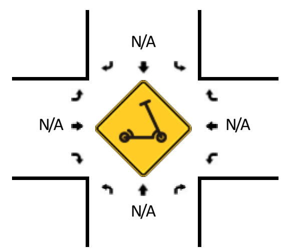












5-Min Count Period Beginning At	Cabot Blvd (Northbound)				Cabot Blvd (Southbound)				W Winton Ave (Eastbound)				W Winton Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	2	3	0	2	2	0	0	0	6	0	0	20	5	10	0	51	
7:05 AM	2	0	2	0	3	0	0	0	0	5	0	0	23	8	21	0	64	
7:10 AM	0	3	1	0	2	0	0	0	0	3	0	0	21	5	6	0	41	
7:15 AM	1	4	2	0	6	1	0	0	0	4	0	0	14	6	7	0	45	
7:20 AM	1	0	2	0	1	1	0	0	0	3	0	0	19	5	11	0	43	
7:25 AM	2	0	4	0	3	0	0	0	0	0	0	0	18	10	11	0	48	
7:30 AM	0	1	2	0	8	2	0	0	0	4	1	0	19	3	10	0	50	
7:35 AM	0	0	3	0	8	1	0	0	0	4	1	0	15	8	8	0	48	
7:40 AM	0	0	0	0	5	0	0	0	0	3	2	0	22	6	6	0	44	
7:45 AM	1	2	4	0	3	0	0	0	0	3	3	0	22	3	8	0	49	
7:50 AM	2	1	0	0	4	0	0	0	0	4	0	0	33	11	15	0	70	
7:55 AM	2	1	3	0	4	0	0	0	0	3	1	0	19	9	21	0	63	616
8:00 AM	0	0	1	0	8	0	0	0	0	5	1	0	23	9	15	0	62	627
8:05 AM	2	3	5	0	3	1	0	0	0	4	1	0	24	13	12	0	68	631
8:10 AM	1	2	3	0	5	3	0	0	0	3	1	0	16	7	17	0	58	648
8:15 AM	1	2	4	0	5	2	0	0	0	5	0	0	20	7	7	0	53	656
8:20 AM	1	1	2	0	5	2	0	0	0	3	2	0	21	7	12	0	56	669
8:25 AM	5	0	0	0	6	1	0	0	0	6	0	0	24	13	11	0	66	687
8:30 AM	0	1	2	0	8	0	0	0	0	4	1	0	20	3	12	0	51	688
8:35 AM	0	0	2	0	4	3	1	0	0	4	3	0	16	8	9	0	50	690
8:40 AM	2	3	2	0	5	0	0	0	0	2	0	0	20	10	10	0	54	700
8:45 AM	1	1	4	0	5	2	0	0	0	3	2	0	20	6	8	0	52	703
8:50 AM	3	0	0	0	1	0	0	0	0	5	0	0	18	6	7	0	40	673
8:55 AM	2	2	5	0	2	1	0	0	0	4	1	0	17	9	5	0	48	658

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	8	16	0	64	0	0	0	0	48	8	0	300	116	204	0	780
Heavy Trucks	0	4	4		28	0	0		0	20	4		28	12	4		104
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	4	8		12
Scooters																	

Comments:

Report generated on 12/9/2021 1:27 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

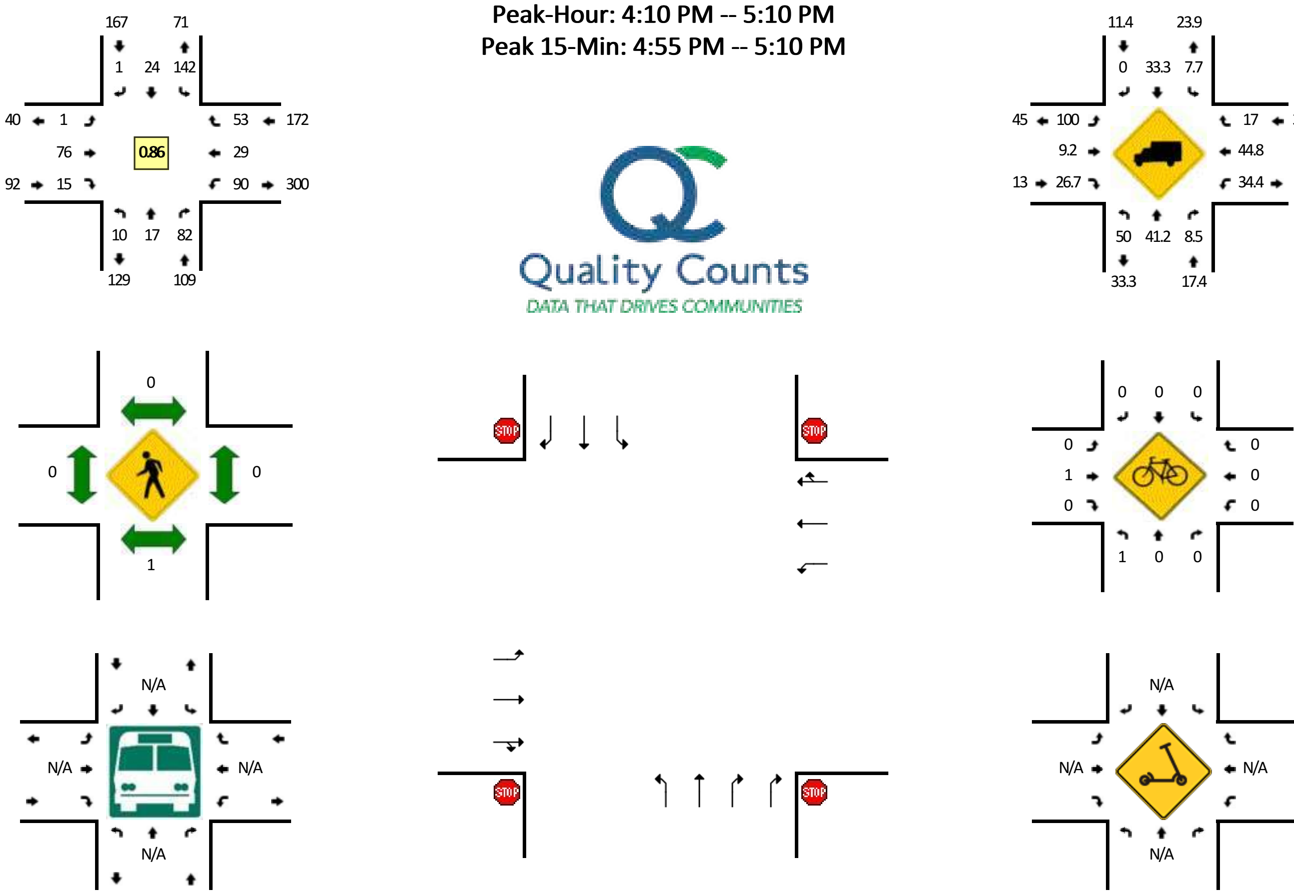
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

LOCATION: Cabot Blvd -- W Winton Ave — **QC JOB #:** 15606402

CITY/STATE: Hayward, CA — **DATE:** Thu, Nov 18 2021

Peak-Hour: 4:10 PM -- 5:10 PM

Peak 15-Min: 4:55 PM -- 5:10 PM



5-Min Count Period Beginning At	Cabot Blvd (Northbound) Left	Thru	Right	U	Cabot Blvd (Southbound) Left	Thru	Right	U	W Winton Ave (Eastbound) Left	Thru	Right	U	W Winton Ave (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	1	2	4	0	13	5	0	0	0	11	1	0	8	2	3	0	50	
4:05 PM	0	2	3	0	11	3	1	0	1	10	1	0	7	2	6	0	47	
4:10 PM	2	1	3	0	7	2	0	0	0	8	0	0	15	2	10	0	50	
4:15 PM	0	1	9	0	9	1	0	0	0	7	1	0	10	2	10	0	50	
4:20 PM	1	4	7	0	4	1	0	0	0	4	3	0	7	0	4	0	35	
4:25 PM	1	0	4	0	10	3	0	0	0	5	0	0	11	2	5	0	41	
4:30 PM	0	3	10	0	15	4	0	0	0	5	1	0	5	1	6	0	50	
4:35 PM	1	2	3	0	15	2	0	0	0	8	2	0	7	3	2	0	45	
4:40 PM	0	0	5	0	15	7	0	0	1	7	1	0	5	4	3	0	48	
4:45 PM	1	0	5	0	6	0	0	0	0	3	0	0	5	3	5	0	28	
4:50 PM	1	1	6	0	11	1	0	0	0	5	2	0	4	3	2	0	36	
4:55 PM	1	2	7	0	18	0	0	0	0	11	2	0	7	2	1	0	51	531
5:00 PM	0	2	14	0	17	1	1	0	0	6	1	0	9	4	3	0	58	539
5:05 PM	2	1	9	0	15	2	0	0	0	7	2	0	5	3	2	0	48	540
5:10 PM	0	1	3	0	13	2	0	0	0	6	3	0	5	5	3	0	41	531
5:15 PM	1	2	7	0	5	1	0	0	0	5	1	0	5	4	0	0	31	512
5:20 PM	0	1	6	0	11	2	0	0	0	1	0	0	1	2	1	0	25	502
5:25 PM	0	0	8	0	4	2	0	0	0	2	0	0	4	1	4	0	25	486
5:30 PM	0	0	11	0	5	0	0	0	0	5	0	0	2	3	1	0	27	463
5:35 PM	0	1	4	0	8	1	0	0	0	9	0	0	4	2	6	0	35	453
5:40 PM	0	0	5	0	2	1	0	0	0	4	1	0	3	2	5	0	23	428
5:45 PM	1	0	2	0	8	1	1	0	0	5	0	0	5	0	1	0	24	424
5:50 PM	0	1	5	0	7	1	0	0	0	6	0	0	3	2	0	0	25	413
5:55 PM	1	0	2	0	9	1	0	0	0	3	1	0	2	1	3	0	23	385

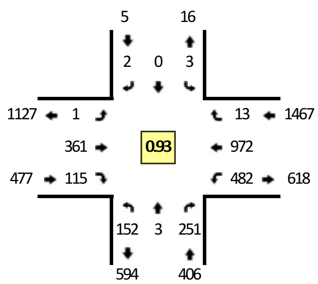
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	12	20	120	0	200	12	4	0	0	96	20	0	84	36	24	0	628
Heavy Trucks	8	8	4		16	4	0		0	8	8		32	16	4		108
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	4	0	0		0	0	0		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 12/9/2021 1:27 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

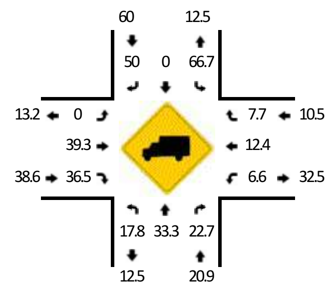
LOCATION: Tuskegee Airmen Dr/Clawiter Rd -- W Winton Ave | **QC JOB #:** 15606403

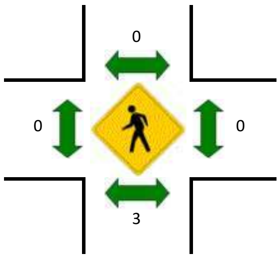
CITY/STATE: Hayward, CA | **DATE:** Thu, Nov 18 2021

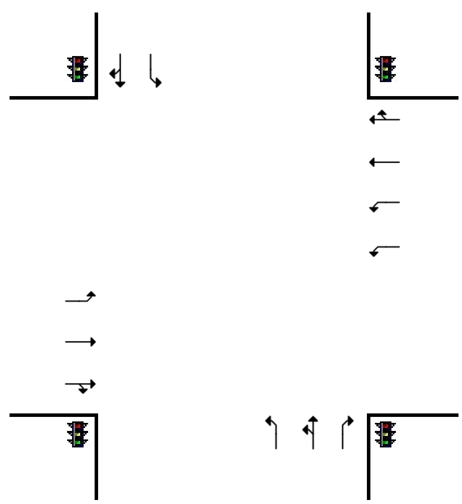


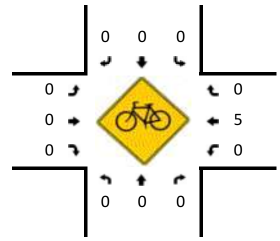
Peak-Hour: 7:50 AM -- 8:50 AM

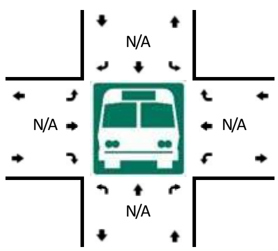
Peak 15-Min: 7:50 AM -- 8:05 AM

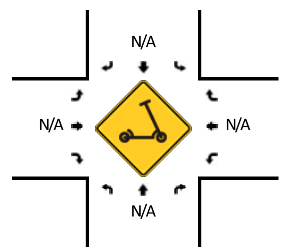












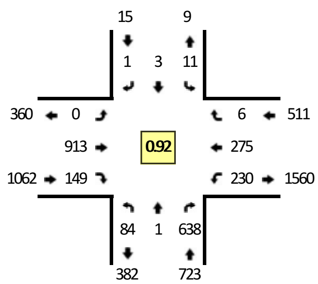
5-Min Count Period Beginning At	Tuskegee Airmen Dr/Clawiter Rd (Northbound)				Tuskegee Airmen Dr/Clawiter Rd (Southbound)				W Winton Ave (Eastbound)				W Winton Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	0	16	0	2	0	0	0	0	35	9	0	34	88	2	0	189	
7:05 AM	8	1	18	0	1	0	0	0	0	34	7	0	45	66	0	0	180	
7:10 AM	8	0	17	0	0	0	0	0	0	25	3	0	47	85	0	0	185	
7:15 AM	14	0	20	0	0	0	0	0	0	24	5	0	33	62	0	0	158	
7:20 AM	11	0	18	0	0	0	0	0	0	30	10	0	36	71	0	1	177	
7:25 AM	10	0	17	0	0	0	0	0	0	13	6	0	50	83	1	0	180	
7:30 AM	7	0	15	0	0	0	0	0	0	34	9	0	34	69	1	0	169	
7:35 AM	11	0	14	0	0	0	0	0	0	26	5	1	40	68	0	0	165	
7:40 AM	7	0	9	0	0	0	0	0	0	29	5	0	48	72	0	0	170	
7:45 AM	14	0	11	0	0	0	0	0	0	30	6	0	49	79	0	0	189	
7:50 AM	13	0	19	0	0	0	0	0	0	17	8	0	57	92	0	0	206	
7:55 AM	19	0	23	0	0	0	0	0	0	35	6	0	57	100	0	1	241	2209
8:00 AM	15	1	17	0	0	0	1	0	0	24	8	0	24	94	1	0	185	2205
8:05 AM	16	0	17	0	0	0	0	0	0	31	8	0	47	84	1	0	204	2229
8:10 AM	15	0	28	0	1	0	0	0	0	22	11	0	41	74	2	0	194	2238
8:15 AM	10	0	22	0	0	0	0	0	0	40	14	0	44	75	0	0	205	2285
8:20 AM	10	1	22	0	0	0	0	0	0	33	7	0	33	90	0	0	196	2304
8:25 AM	14	0	28	0	2	0	1	0	0	34	10	1	40	78	1	1	210	2334
8:30 AM	10	0	18	0	0	0	0	0	0	36	9	0	31	80	1	1	186	2351
8:35 AM	10	0	21	0	0	0	0	0	0	31	13	0	23	62	1	0	161	2347
8:40 AM	9	1	21	0	0	0	0	0	0	34	8	0	37	62	3	0	175	2352
8:45 AM	11	0	15	0	0	0	0	0	0	24	13	0	45	81	3	0	192	2355
8:50 AM	9	0	17	0	0	0	0	0	0	28	9	0	31	64	2	0	160	2309
8:55 AM	7	0	18	0	0	0	0	0	0	30	6	0	34	52	0	0	147	2215

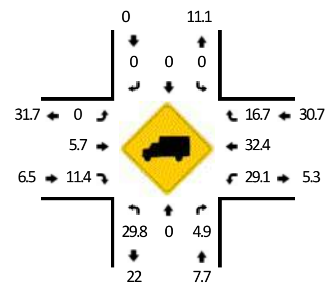
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	188	4	236	0	0	0	4	0	0	304	88	0	552	1144	4	4	2528
Heavy Trucks	24	0	60		0	0	0		0	124	24		20	100	0		352
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	8	0		8
Scooters																	

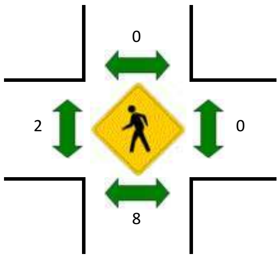
Comments:

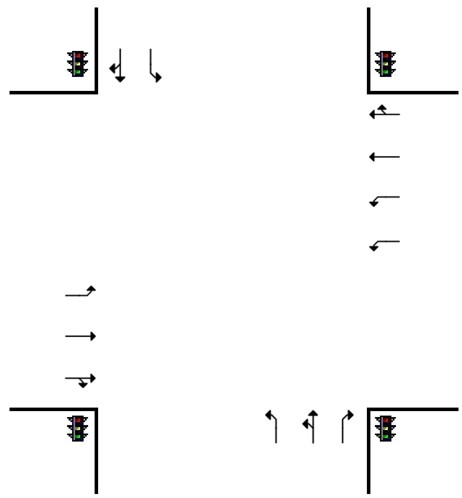
LOCATION: Tuskegee Airmen Dr/Clawiter Rd -- W Winton Ave
QC JOB #: 15606404
CITY/STATE: Hayward, CA
DATE: Thu, Nov 18 2021

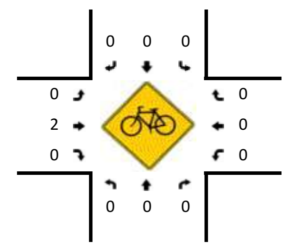
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:05 PM -- 4:20 PM

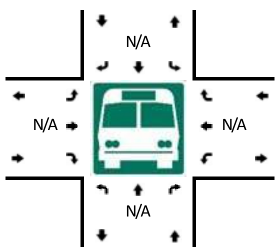


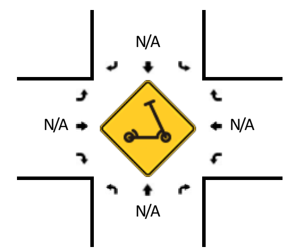












5-Min Count Period Beginning At	Tuskegee Airmen Dr/Clawiter Rd (Northbound)				Tuskegee Airmen Dr/Clawiter Rd (Southbound)				W Winton Ave (Eastbound)				W Winton Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	0	65	0	0	2	0	0	0	70	17	0	20	24	0	0	207	
4:05 PM	4	0	42	0	0	0	0	0	0	101	14	0	16	33	2	0	212	
4:10 PM	9	0	64	0	1	0	0	0	0	71	13	0	19	30	0	0	207	
4:15 PM	3	1	59	0	1	0	0	1	0	77	12	0	30	26	0	0	210	
4:20 PM	10	0	62	0	0	0	0	1	0	66	7	0	22	21	0	0	189	
4:25 PM	7	0	55	0	0	0	0	0	0	48	7	0	11	22	0	0	150	
4:30 PM	5	0	44	0	1	0	1	0	0	80	13	0	18	15	2	0	179	
4:35 PM	10	0	54	0	1	0	0	0	0	96	16	0	16	27	2	0	222	
4:40 PM	12	0	40	0	3	0	0	0	0	78	17	0	13	19	0	0	182	
4:45 PM	3	0	53	0	0	1	0	0	0	84	13	0	23	18	0	0	195	
4:50 PM	7	0	50	0	1	0	0	0	0	71	13	0	23	17	0	0	182	
4:55 PM	5	0	50	0	1	0	0	0	0	71	7	0	19	23	0	0	176	2311
5:00 PM	4	0	43	0	0	0	0	0	0	72	17	0	21	26	0	0	183	2287
5:05 PM	5	0	42	0	0	0	0	0	0	108	19	0	23	21	0	0	218	2293
5:10 PM	6	0	44	0	0	0	0	0	0	93	26	0	8	17	0	0	194	2280
5:15 PM	6	0	37	0	0	0	0	0	0	97	22	0	13	16	0	0	191	2261
5:20 PM	8	1	50	0	1	0	0	0	0	85	21	0	8	14	0	0	188	2260
5:25 PM	2	0	58	0	3	1	0	0	0	48	8	0	19	16	0	0	155	2265
5:30 PM	7	0	39	0	0	0	0	0	0	49	13	0	10	14	0	0	132	2218
5:35 PM	4	0	44	0	0	0	0	0	0	76	6	0	18	15	1	0	164	2160
5:40 PM	8	0	49	0	0	0	0	0	0	91	19	0	15	15	0	0	197	2175
5:45 PM	7	0	47	0	0	0	0	0	0	67	8	0	10	14	0	0	153	2133
5:50 PM	3	0	51	0	0	0	0	0	0	62	8	0	8	12	0	0	144	2095
5:55 PM	4	0	64	0	1	0	0	0	0	36	5	0	14	14	0	0	138	2057

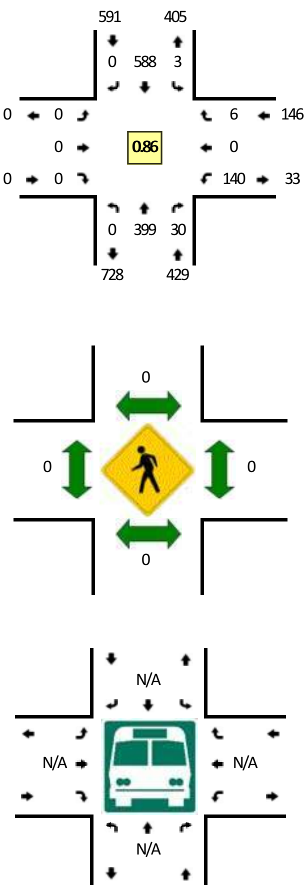
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	4	660	0	8	0	0	4	0	996	156	0	260	356	8	0	2516
Heavy Trucks	24	0	36		0	0	0		0	32	20		88	120	4		324
Buses																	
Pedestrians		8				0				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

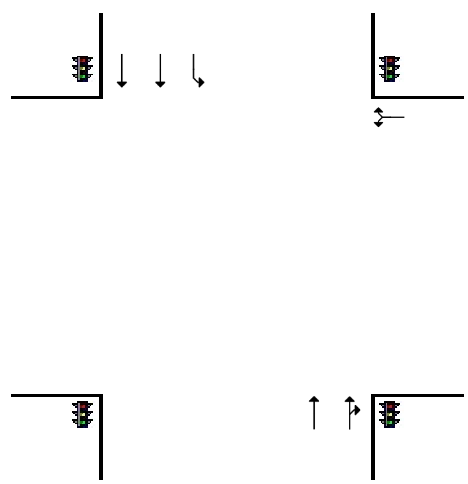
Comments:

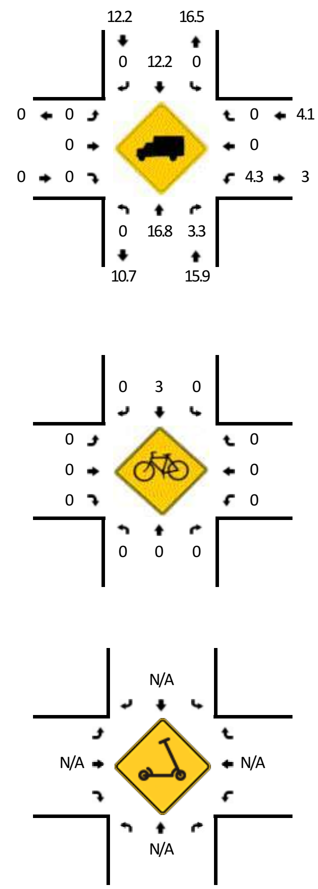
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd -- West St | **QC JOB #:** 15606405
CITY/STATE: Hayward, CA | **DATE:** Thu, Nov 18 2021

Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:55 AM -- 8:10 AM







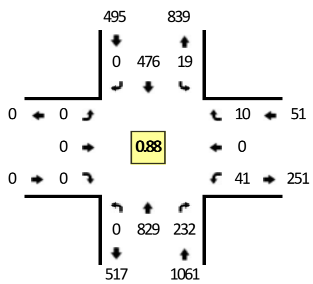
5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				West St (Eastbound)				West St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	18	2	0	0	36	0	0	0	0	0	0	10	0	0	0	66	
7:05 AM	0	34	3	0	1	63	0	0	0	0	0	0	7	0	0	0	108	
7:10 AM	0	16	3	0	0	32	0	0	0	0	0	0	10	0	1	0	62	
7:15 AM	0	21	3	0	0	44	0	0	0	0	0	0	8	0	0	0	76	
7:20 AM	0	30	2	0	0	57	0	0	0	0	0	0	12	0	1	0	102	
7:25 AM	0	26	2	0	0	61	0	0	0	0	0	0	14	0	0	0	103	
7:30 AM	0	24	2	0	0	46	0	0	0	0	0	0	12	0	0	0	84	
7:35 AM	0	26	2	0	0	44	0	0	0	0	0	0	13	0	2	0	87	
7:40 AM	0	26	3	0	0	39	0	0	0	0	0	0	16	0	1	0	85	
7:45 AM	0	24	2	0	0	48	0	0	0	0	0	0	11	0	0	0	85	
7:50 AM	0	35	1	0	1	54	0	0	0	0	0	0	8	0	0	0	99	
7:55 AM	0	47	5	0	0	49	0	0	0	0	0	0	11	0	0	0	112	1069
8:00 AM	0	39	1	0	0	43	0	0	0	0	0	0	14	0	1	0	98	1101
8:05 AM	0	52	2	0	1	57	0	0	0	0	0	0	14	0	1	0	127	1120
8:10 AM	0	29	4	0	1	43	0	0	0	0	0	0	9	0	0	0	86	1144
8:15 AM	0	41	4	0	0	47	0	0	0	0	0	0	6	0	0	0	98	1166
8:20 AM	0	37	5	0	0	34	0	0	0	0	0	0	13	0	2	0	91	1155
8:25 AM	0	42	5	0	0	41	0	0	0	0	0	0	7	0	2	0	97	1149
8:30 AM	0	32	1	0	0	33	0	0	0	0	0	0	3	0	0	0	69	1134
8:35 AM	0	24	2	0	1	31	0	0	0	0	0	0	9	0	1	0	68	1115
8:40 AM	0	23	5	0	1	49	0	0	0	0	0	0	5	0	1	0	84	1114
8:45 AM	0	29	6	0	1	33	0	0	0	0	0	0	6	0	1	0	76	1105
8:50 AM	0	34	3	0	0	38	0	0	0	0	0	0	5	0	1	0	81	1087
8:55 AM	0	31	1	0	0	36	0	0	0	0	0	0	8	0	0	0	76	1051

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	552	32	0	4	596	0	0	0	0	0	0	156	0	8	0	1348
Heavy Trucks	0	112	0		0	72	0		0	0	0		4	0	0		188
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

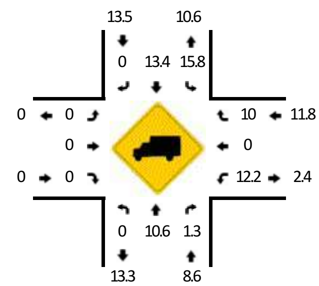
Comments:

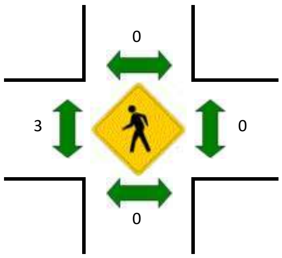
Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

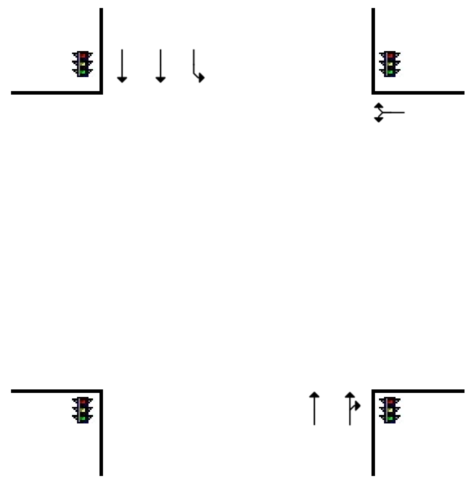
LOCATION: Clawiter Rd -- West St **QC JOB #:** 15606406
CITY/STATE: Hayward, CA **DATE:** Thu, Nov 18 2021

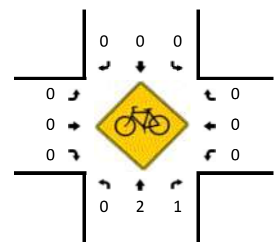


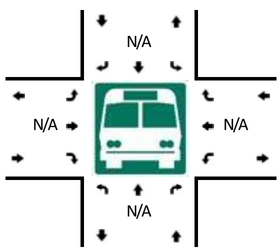
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

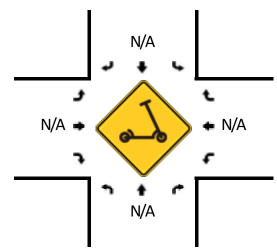












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				West St (Eastbound)				West St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	81	18	0	1	52	0	0	0	0	0	0	4	0	0	0	156	
4:05 PM	0	87	22	0	2	50	0	0	0	0	0	0	2	0	1	0	164	
4:10 PM	0	74	18	0	2	40	0	0	0	0	0	0	4	0	0	0	138	
4:15 PM	0	77	19	0	3	40	0	0	0	0	0	0	4	0	2	0	145	
4:20 PM	0	62	18	0	1	31	0	0	0	0	0	0	2	0	0	0	114	
4:25 PM	0	74	24	0	1	30	0	0	0	0	0	0	2	0	2	0	133	
4:30 PM	0	61	18	0	1	41	0	0	0	0	0	0	4	0	2	0	127	
4:35 PM	0	78	26	0	1	42	0	0	0	0	0	0	3	0	2	0	152	
4:40 PM	0	72	18	0	3	40	0	0	0	0	0	0	8	0	0	0	141	
4:45 PM	0	44	10	0	1	37	0	0	0	0	0	0	2	0	0	0	94	
4:50 PM	0	69	21	0	2	39	0	0	0	0	0	0	2	0	1	0	134	
4:55 PM	0	50	20	0	1	34	0	0	0	0	0	0	4	0	0	0	109	1607
5:00 PM	0	50	18	0	0	38	0	0	0	0	0	0	4	0	1	0	111	1562
5:05 PM	0	89	24	0	1	54	0	0	0	0	0	0	1	0	1	0	170	1568
5:10 PM	0	67	14	0	2	41	0	0	0	0	0	0	1	0	0	0	125	1555
5:15 PM	0	52	23	0	0	41	0	0	0	0	0	0	4	0	0	0	120	1530
5:20 PM	0	61	17	0	0	39	0	0	0	0	0	0	2	0	1	0	120	1536
5:25 PM	0	54	20	0	1	24	0	0	0	0	0	0	2	0	0	0	101	1504
5:30 PM	0	58	20	0	2	23	0	0	0	0	0	0	3	0	1	0	107	1484
5:35 PM	0	68	27	0	0	28	0	0	0	0	0	0	2	0	1	0	126	1458
5:40 PM	0	72	19	0	1	29	0	0	0	0	0	0	2	0	1	0	124	1441
5:45 PM	0	56	9	0	2	23	0	0	0	0	0	0	2	0	0	0	92	1439
5:50 PM	0	62	7	0	0	21	0	0	0	0	0	0	4	0	0	0	94	1399
5:55 PM	0	70	15	0	0	27	0	0	0	0	0	0	3	0	0	0	115	1405

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	968	232	0	20	568	0	0	0	0	0	0	40	0	4	0	1832
Heavy Trucks	0	84	0		0	68	0		0	0	0		8	0	0		160
Buses																	
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

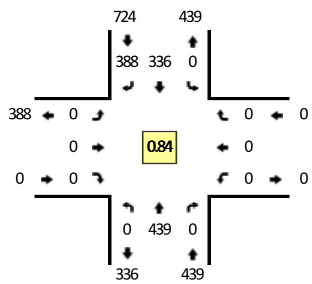
Comments:

Report generated on 12/9/2021 1:27 PM SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

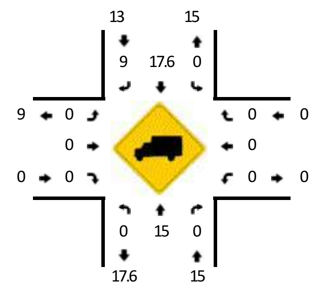
LOCATION: Clawiter Rd/Industrial Blvd (east) -- Clawiter Rd — **QC JOB #:** 15606407

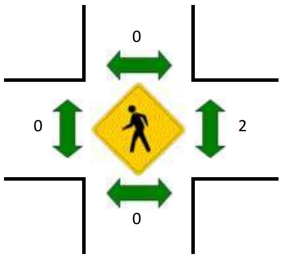
CITY/STATE: Hayward, CA — **DATE:** Thu, Nov 18 2021

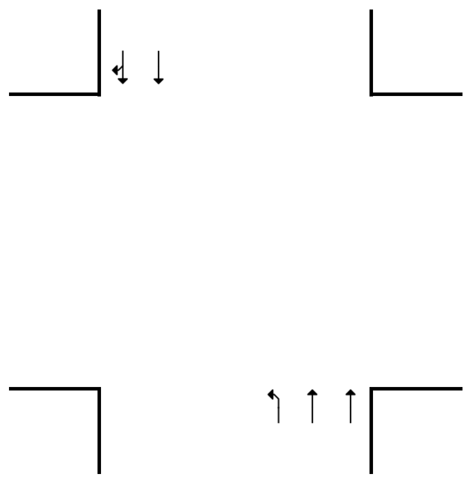


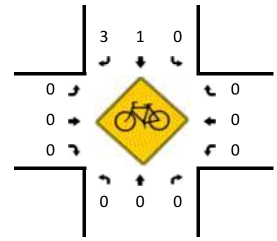
Peak-Hour: 7:20 AM -- 8:20 AM

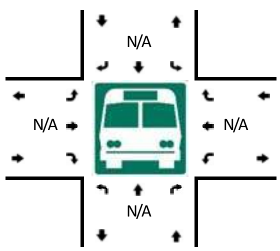
Peak 15-Min: 7:55 AM -- 8:10 AM

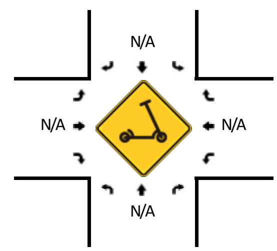












5-Min Count Period Beginning At	Clawiter Rd/Industrial Blvd (east) (Northbound)				Clawiter Rd/Industrial Blvd (east) (Southbound)				Clawiter Rd (Eastbound)				Clawiter Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	26	0	0	0	14	29	0	0	0	0	0	0	0	0	0	69	
7:05 AM	0	41	0	0	0	24	41	0	0	0	0	0	0	0	0	0	106	
7:10 AM	0	19	0	0	0	20	23	0	0	0	0	0	0	0	0	0	62	
7:15 AM	0	21	0	0	0	14	34	0	0	0	0	0	0	0	0	0	69	
7:20 AM	0	31	0	0	0	39	30	0	0	0	0	0	0	0	0	0	100	
7:25 AM	0	28	0	0	0	24	39	0	0	0	0	0	0	0	0	0	91	
7:30 AM	0	26	0	0	0	28	31	0	0	0	0	0	0	0	0	0	85	
7:35 AM	0	31	0	0	0	23	33	0	0	0	0	0	0	0	0	0	87	
7:40 AM	0	28	0	0	0	21	34	0	0	0	0	0	0	0	0	0	83	
7:45 AM	0	33	0	0	0	27	30	0	0	0	0	0	0	0	0	0	90	
7:50 AM	0	36	0	0	0	28	40	0	0	0	0	0	0	0	0	0	104	
7:55 AM	0	56	0	0	0	30	32	0	0	0	0	0	0	0	0	0	118	1064
8:00 AM	0	37	0	0	0	32	30	0	0	0	0	0	0	0	0	0	99	1094
8:05 AM	0	59	0	0	0	33	37	0	0	0	0	0	0	0	0	0	129	1117
8:10 AM	0	34	0	0	0	23	24	0	0	0	0	0	0	0	0	0	81	1136
8:15 AM	0	40	0	0	0	28	28	0	0	0	0	0	0	0	0	0	96	1163
8:20 AM	0	41	0	0	0	26	22	0	0	0	0	0	0	0	0	0	89	1152
8:25 AM	0	51	0	0	0	18	31	0	0	0	0	0	0	0	0	0	100	1161
8:30 AM	0	38	0	0	0	21	17	0	0	0	0	0	0	0	0	0	76	1152
8:35 AM	0	25	0	0	0	17	25	0	0	0	0	0	0	0	0	0	67	1132
8:40 AM	0	25	0	0	0	24	31	0	0	0	0	0	0	0	0	0	80	1129
8:45 AM	0	39	0	0	0	21	15	0	0	0	0	0	0	0	0	0	75	1114
8:50 AM	0	36	0	0	0	15	22	0	0	0	0	0	0	0	0	0	73	1083
8:55 AM	0	37	0	0	0	11	32	0	0	0	0	0	0	0	0	0	80	1045

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	608	0	0	0	380	396	0	0	0	0	0	0	0	0	0	1384
Heavy Trucks	0	112	0		0	64	40		0	0	0		0	0	0		216
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

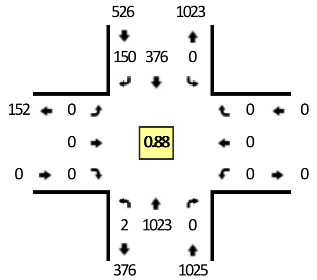
Comments:

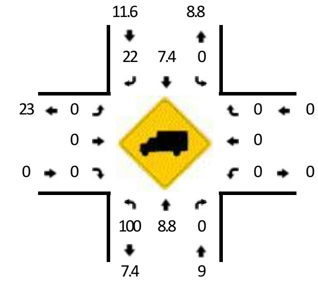
Report generated on 12/9/2021 1:27 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

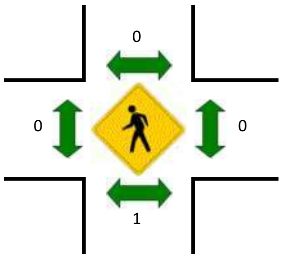
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

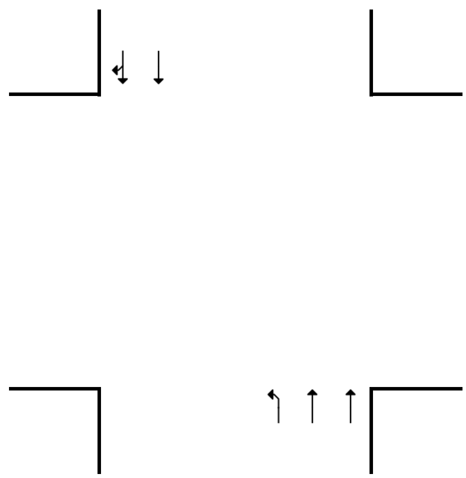
LOCATION: Clawiter Rd/Industrial Blvd (east) -- Clawiter Rd | **QC JOB #:** 15606408
CITY/STATE: Hayward, CA | **DATE:** Thu, Nov 18 2021

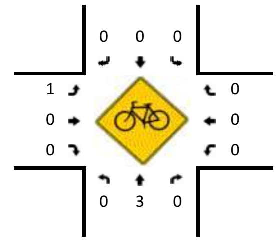
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

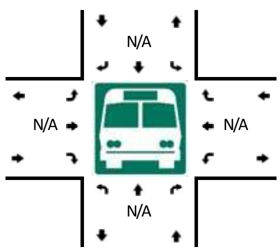


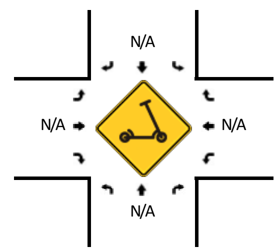












5-Min Count Period Beginning At	Clawiter Rd/Industrial Blvd (east) (Northbound)				Clawiter Rd/Industrial Blvd (east) (Southbound)				Clawiter Rd (Eastbound)				Clawiter Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	92	0	0	0	38	18	0	0	0	0	0	0	0	0	0	148	
4:05 PM	0	105	0	0	0	42	12	0	0	0	0	0	0	0	0	0	159	
4:10 PM	1	88	0	0	0	31	15	0	0	0	0	0	0	0	0	0	135	
4:15 PM	0	99	0	0	0	31	15	0	0	0	0	0	0	0	0	0	145	
4:20 PM	1	76	0	0	0	24	11	0	0	0	0	0	0	0	0	0	112	
4:25 PM	0	91	0	0	0	23	7	0	0	0	0	0	0	0	0	0	121	
4:30 PM	0	69	0	0	0	37	11	0	0	0	0	0	0	0	0	0	117	
4:35 PM	0	108	0	0	0	38	12	0	0	0	0	0	0	0	0	0	158	
4:40 PM	0	80	0	0	0	28	15	0	0	0	0	0	0	0	0	0	123	
4:45 PM	0	78	0	0	0	32	11	0	0	0	0	0	0	0	0	0	121	
4:50 PM	0	75	0	0	0	32	10	0	0	0	0	0	0	0	0	0	117	
4:55 PM	0	62	0	0	0	20	13	0	0	0	0	0	0	0	0	0	95	1551
5:00 PM	0	66	0	0	0	27	14	0	0	0	0	0	0	0	0	0	107	1510
5:05 PM	0	108	0	0	0	44	13	0	0	0	0	0	0	0	0	0	165	1516
5:10 PM	0	86	0	0	0	32	13	0	0	0	0	0	0	0	0	0	131	1512
5:15 PM	0	69	0	0	0	32	10	0	0	0	0	0	0	0	0	0	111	1478
5:20 PM	0	80	0	0	0	33	15	0	0	0	0	0	0	0	0	0	128	1494
5:25 PM	0	63	0	0	0	18	8	0	0	0	0	0	0	0	0	0	89	1462
5:30 PM	0	80	0	0	0	18	10	0	0	0	0	0	0	0	0	0	108	1453
5:35 PM	0	94	0	0	0	20	7	0	0	0	0	0	0	0	0	0	121	1416
5:40 PM	0	84	0	0	0	18	10	0	0	0	0	0	0	0	0	0	112	1405
5:45 PM	0	56	0	0	0	17	10	0	0	0	0	0	0	0	0	0	83	1367
5:50 PM	0	71	0	0	0	21	7	0	0	0	0	0	0	0	0	0	99	1349
5:55 PM	0	90	0	0	0	22	7	0	0	0	0	0	0	0	0	0	119	1373

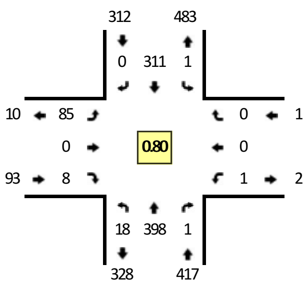
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	1140	0	0	0	444	180	0	0	0	0	0	0	0	0	0	1768
Heavy Trucks	4	84	0		0	32	40		0	0	0		0	0	0		160
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

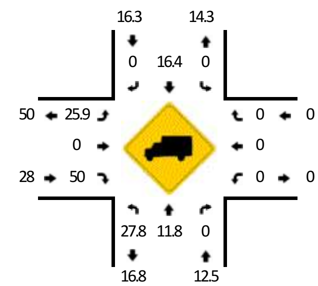
Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

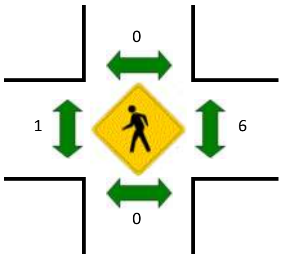
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

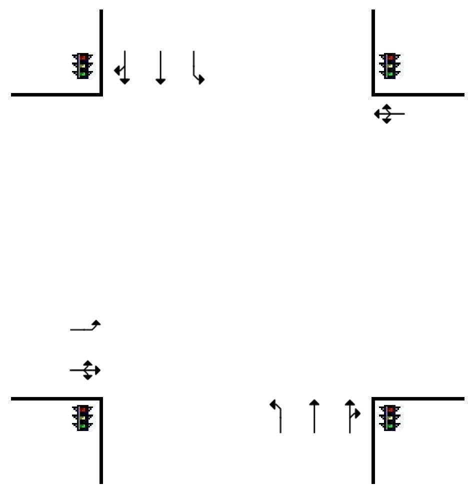
LOCATION: Clawiter Rd/Industrial Blvd (west) -- Clawiter Rd — **QC JOB #:** 15606409
CITY/STATE: Hayward, CA — **DATE:** Thu, Nov 18 2021

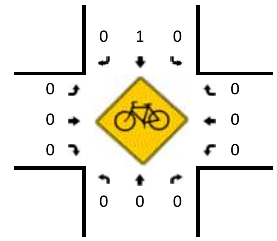


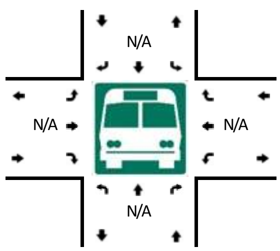
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

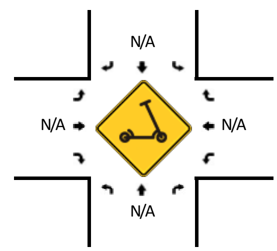












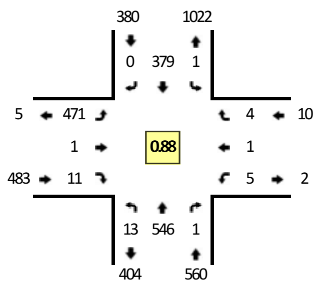
5-Min Count Period Beginning At	Clawiter Rd/Industrial Blvd (west) (Northbound)				Clawiter Rd/Industrial Blvd (west) (Southbound)				Clawiter Rd (Eastbound)				Clawiter Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	20	1	0	0	14	0	0	7	0	0	0	0	0	0	0	42	
7:05 AM	1	32	0	0	0	24	0	0	9	0	0	0	0	0	0	0	66	
7:10 AM	1	13	0	0	0	20	0	0	7	0	0	0	1	0	0	0	42	
7:15 AM	0	18	0	1	0	14	0	0	4	0	1	0	0	0	0	0	38	
7:20 AM	0	24	0	0	0	38	0	0	6	0	1	0	0	0	0	0	69	
7:25 AM	1	25	1	0	0	25	0	0	2	0	0	0	0	0	0	0	54	
7:30 AM	0	13	0	0	0	28	0	0	12	0	0	0	0	0	0	0	53	
7:35 AM	0	25	0	0	0	23	0	0	8	0	2	0	0	0	0	0	58	
7:40 AM	1	21	0	0	0	21	0	0	5	0	0	0	0	0	0	0	48	
7:45 AM	1	31	0	0	0	27	0	0	2	0	2	0	0	0	0	0	63	
7:50 AM	0	33	0	0	0	25	0	0	2	0	0	0	0	0	0	0	60	
7:55 AM	0	53	0	1	1	32	0	0	5	0	0	0	0	0	0	0	92	685
8:00 AM	3	35	1	0	0	32	0	0	6	0	1	0	0	0	0	0	78	721
8:05 AM	1	46	0	1	0	32	0	0	7	0	1	0	0	0	0	0	88	743
8:10 AM	0	28	0	3	0	21	0	0	10	0	1	0	0	0	0	0	63	764
8:15 AM	1	26	0	1	0	33	0	0	10	0	1	0	0	0	0	0	72	798
8:20 AM	1	35	0	1	0	26	0	0	6	0	0	0	0	0	0	0	69	798
8:25 AM	1	41	0	0	0	18	0	0	11	0	0	0	1	0	0	0	72	816
8:30 AM	1	24	0	1	0	21	0	0	13	0	0	0	0	0	0	0	60	823
8:35 AM	0	19	1	0	1	16	0	0	6	0	0	0	0	0	0	0	43	808
8:40 AM	0	18	1	0	0	25	0	0	7	1	0	0	1	0	0	0	53	813
8:45 AM	1	34	1	0	1	20	0	0	4	0	1	0	0	0	1	0	63	813
8:50 AM	0	28	0	0	0	14	0	0	7	0	1	0	1	0	0	0	51	804
8:55 AM	1	29	1	0	0	12	0	0	8	1	0	0	1	0	0	0	53	765

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	536	4	8	4	384	0	0	72	0	8	0	0	0	0	0	1032
Heavy Trucks	12	88	0		0	60	0		24	0	8		0	0	0		192
Buses																	
Pedestrians		0				0				4				4			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

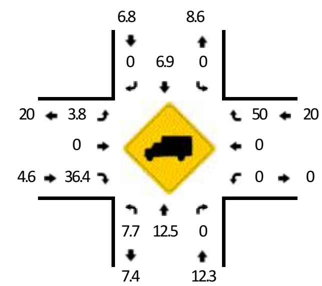
Comments:

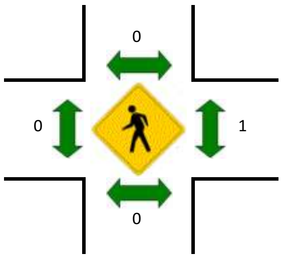
Type of peak hour being reported: Intersection Peak Method for determining peak hour: Total Entering Volume

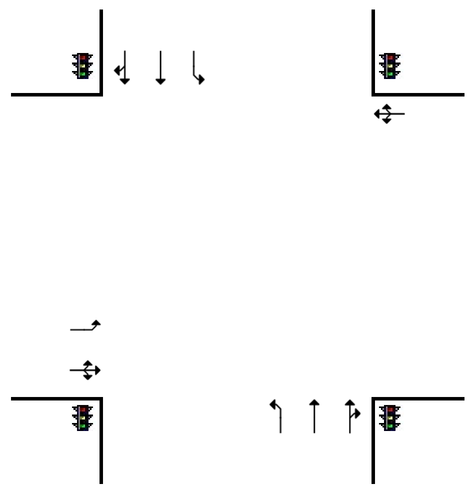
LOCATION: Clawiter Rd/Industrial Blvd (west) -- Clawiter Rd **QC JOB #:** 15606410
CITY/STATE: Hayward, CA **DATE:** Thu, Nov 18 2021

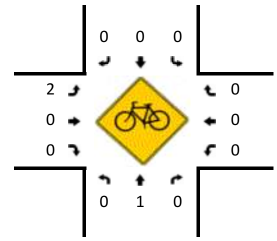


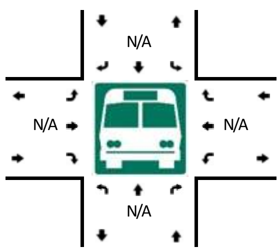
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

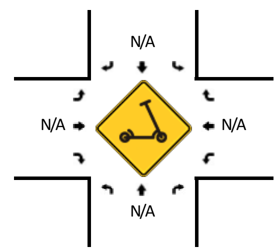












5-Min Count Period Beginning At	Clawiter Rd/Industrial Blvd (west) (Northbound)				Clawiter Rd/Industrial Blvd (west) (Southbound)				Clawiter Rd (Eastbound)				Clawiter Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	66	0	1	0	42	0	0	23	0	1	0	1	0	0	0	134	
4:05 PM	0	54	0	0	0	43	0	0	48	0	0	0	0	0	1	0	146	
4:10 PM	0	42	0	0	0	31	0	0	48	0	3	0	0	0	2	0	126	
4:15 PM	0	43	0	1	0	31	0	0	54	0	0	0	0	0	0	0	129	
4:20 PM	2	41	0	0	0	18	0	1	36	0	1	0	2	0	1	0	102	
4:25 PM	0	59	0	0	0	25	0	0	36	0	1	0	1	0	0	0	122	
4:30 PM	0	37	0	1	0	38	0	0	31	0	4	0	0	1	0	0	112	
4:35 PM	1	54	0	1	0	40	0	0	46	1	0	0	1	0	0	0	144	
4:40 PM	0	34	0	3	0	28	0	0	47	0	1	0	0	0	0	0	113	
4:45 PM	0	46	0	1	0	32	0	0	32	0	0	0	0	0	0	0	111	
4:50 PM	1	35	1	0	0	31	0	0	40	0	0	0	0	0	0	0	108	
4:55 PM	0	35	0	1	0	20	0	0	30	0	0	0	0	0	0	0	86	1433
5:00 PM	1	40	0	0	0	27	0	0	29	0	0	0	1	0	0	0	98	1397
5:05 PM	0	49	0	0	0	43	0	0	54	0	0	0	0	0	0	0	146	1397
5:10 PM	1	40	0	1	0	31	0	0	45	0	0	0	1	1	0	0	120	1391
5:15 PM	0	32	0	0	0	31	0	0	36	0	1	0	1	0	0	0	101	1363
5:20 PM	0	27	0	0	0	28	0	0	56	0	0	0	0	1	0	0	112	1373
5:25 PM	0	29	0	1	0	22	0	0	33	0	0	0	0	0	0	0	85	1336
5:30 PM	0	44	0	1	0	17	0	0	35	0	0	0	2	0	0	0	99	1323
5:35 PM	0	41	1	0	0	22	0	0	55	0	0	0	1	0	1	0	121	1300
5:40 PM	1	37	0	1	0	19	0	0	42	0	0	0	0	0	0	0	100	1287
5:45 PM	0	31	0	0	0	15	0	0	25	0	1	0	1	0	0	0	73	1249
5:50 PM	1	31	0	2	0	20	0	0	42	0	0	0	0	0	0	0	96	1237
5:55 PM	0	47	0	0	0	20	0	0	41	0	1	0	1	0	1	0	111	1262

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	648	0	4	0	464	0	0	476	0	16	0	4	0	12	0	1624
Heavy Trucks	0	64	0		0	28	0		20	0	4		0	0	8		124
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

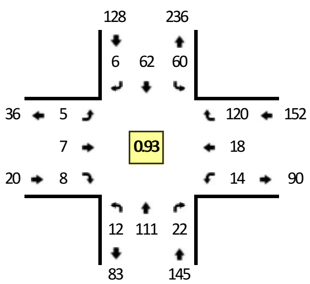
Comments:

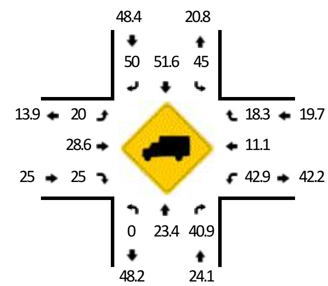
Report generated on 12/9/2021 1:27 PM SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

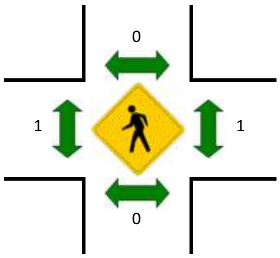
LOCATION: Cabot Blvd/Whitesell St -- Depot Rd | **QC JOB #:** 15606411
CITY/STATE: Hayward, CA | **DATE:** Thu, Nov 18 2021

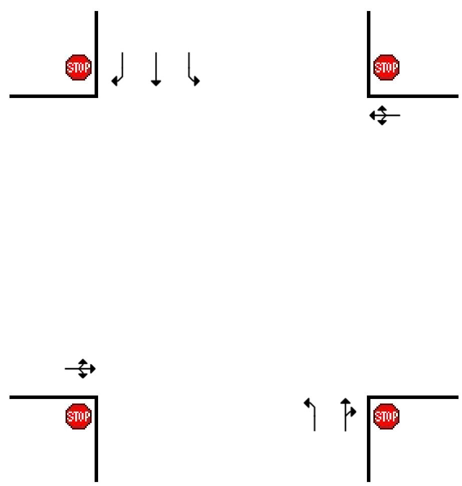
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

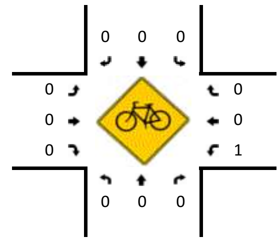


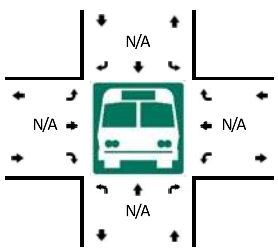


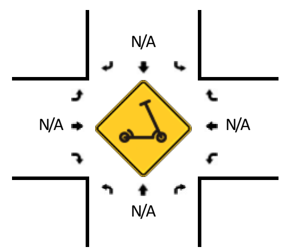
Quality Counts
DATA THAT DRIVES COMMUNITIES











5-Min Count Period Beginning At	Cabot Blvd/Whitesell St (Northbound)				Cabot Blvd/Whitesell St (Southbound)				Depot Rd (Eastbound)				Depot Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	6	1	0	2	5	0	0	0	2	2	0	0	0	8	0	26	
7:05 AM	2	11	2	0	2	2	0	0	0	0	0	0	1	1	10	0	31	
7:10 AM	0	13	2	0	4	2	1	0	0	0	3	0	1	0	8	0	34	
7:15 AM	1	2	5	0	4	8	0	0	0	0	2	0	1	2	10	0	35	
7:20 AM	1	4	3	0	4	8	1	0	0	1	1	0	0	0	15	0	38	
7:25 AM	0	10	1	0	8	7	0	0	0	1	0	0	0	0	8	0	35	
7:30 AM	1	12	0	0	4	4	0	0	0	0	0	0	1	1	8	0	31	
7:35 AM	1	8	1	0	6	5	0	0	1	0	0	0	0	4	7	0	33	
7:40 AM	2	11	1	0	4	4	0	0	0	1	2	0	1	0	6	0	32	
7:45 AM	5	9	1	0	4	5	1	0	0	0	0	0	1	3	3	0	32	
7:50 AM	0	8	1	0	5	5	1	0	0	1	0	0	0	1	13	0	35	
7:55 AM	3	12	5	0	4	5	1	0	2	1	0	0	0	0	11	1	45	407
8:00 AM	0	10	2	0	1	3	0	0	0	0	0	0	2	2	12	0	32	413
8:05 AM	1	8	0	0	3	5	1	0	1	0	1	0	0	3	10	0	33	415
8:10 AM	2	7	3	0	1	6	1	0	0	1	2	0	1	1	9	0	34	415
8:15 AM	1	11	2	0	6	6	2	0	0	0	0	0	1	1	12	0	42	422
8:20 AM	0	12	0	0	8	6	0	0	0	1	0	0	1	1	13	0	42	426
8:25 AM	1	7	2	0	8	3	0	0	0	0	1	0	0	2	12	0	36	427
8:30 AM	0	9	2	0	4	4	0	0	0	1	1	0	2	2	12	0	37	433
8:35 AM	3	9	2	0	6	7	0	0	0	2	1	0	1	1	6	0	38	438
8:40 AM	0	7	2	0	5	3	0	0	1	0	0	0	1	2	8	0	29	435
8:45 AM	0	7	1	0	8	5	1	0	0	1	1	0	2	0	10	0	36	439
8:50 AM	1	12	1	0	6	9	0	0	1	0	1	0	2	3	5	0	41	445
8:55 AM	1	15	0	0	4	2	0	0	0	0	1	0	0	1	5	0	29	429

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	120	16	0	88	60	8	0	0	4	4	0	8	16	148	0	480
Heavy Trucks	0	16	8		44	44	8		0	0	4		8	0	32		164
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

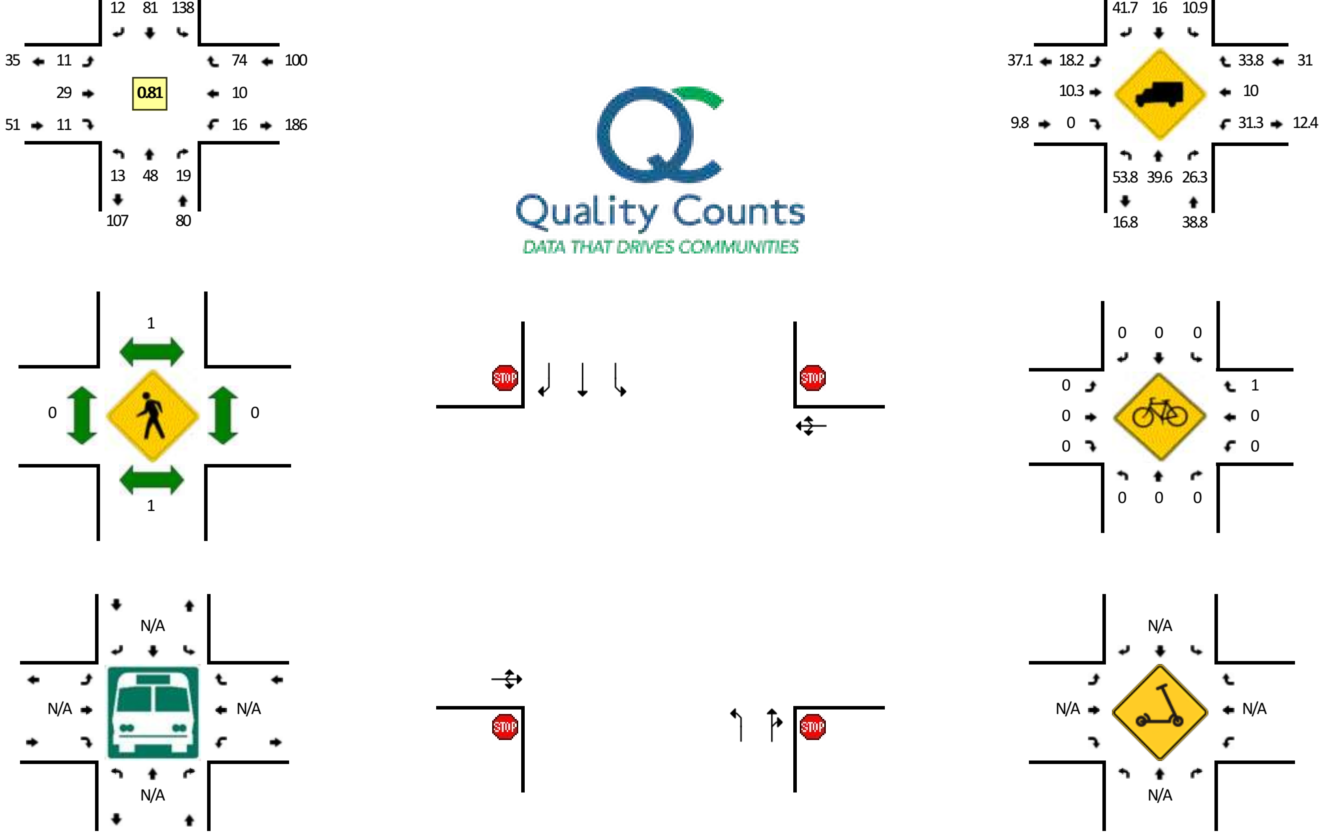
Comments:

Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Cabot Blvd/Whitesell St -- Depot Rd | **QC JOB #:** 15606412
CITY/STATE: Hayward, CA | **DATE:** Thu, Nov 18 2021

Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:05 PM -- 4:20 PM



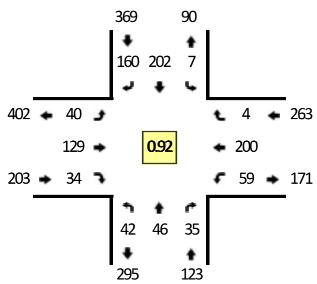
5-Min Count Period Beginning At	Cabot Blvd/Whitesell St (Northbound)				Cabot Blvd/Whitesell St (Southbound)				Depot Rd (Eastbound)				Depot Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	6	0	0	12	7	0	0	1	7	2	0	0	1	3	0	41	
4:05 PM	0	5	4	0	14	5	0	0	1	7	2	0	0	4	11	0	53	
4:10 PM	3	8	2	0	10	3	1	0	4	3	4	0	2	1	9	0	50	
4:15 PM	1	2	2	0	13	8	1	0	0	1	1	0	1	0	10	0	40	
4:20 PM	0	4	1	0	5	4	4	0	0	2	0	0	0	1	4	0	25	
4:25 PM	0	6	3	0	13	7	0	0	0	1	0	0	0	1	5	0	36	
4:30 PM	0	3	2	0	17	7	0	0	1	3	0	0	1	1	11	0	46	
4:35 PM	1	3	1	0	15	10	1	0	0	3	1	0	2	0	4	0	41	
4:40 PM	2	2	0	0	10	6	1	0	2	3	1	0	1	1	4	0	33	
4:45 PM	1	2	2	0	8	8	1	0	1	1	1	0	1	0	6	0	32	
4:50 PM	3	1	0	0	12	10	0	0	1	0	0	0	3	0	3	0	33	
4:55 PM	1	8	1	0	6	4	0	1	0	0	0	0	2	0	4	0	27	457
5:00 PM	1	4	1	0	14	9	3	0	1	5	1	0	2	1	3	1	46	462
5:05 PM	1	8	0	0	11	4	2	0	2	1	0	0	0	1	6	0	36	445
5:10 PM	0	1	0	0	12	15	0	0	2	3	1	0	0	0	2	0	36	431
5:15 PM	0	5	4	0	10	10	1	0	0	3	2	0	0	0	4	0	39	430
5:20 PM	0	3	1	0	5	5	1	0	1	3	3	0	1	1	2	0	26	431
5:25 PM	0	3	0	0	6	6	0	0	2	3	1	0	0	0	2	0	23	418
5:30 PM	0	4	0	0	15	8	0	0	0	2	0	0	0	0	4	0	33	405
5:35 PM	0	3	0	0	8	11	0	0	2	0	1	0	0	1	3	0	29	393
5:40 PM	0	4	0	0	7	4	0	0	2	0	0	0	0	1	4	0	22	382
5:45 PM	0	1	0	0	6	6	0	0	0	0	1	0	1	0	1	0	16	366
5:50 PM	2	1	0	0	2	3	1	0	0	1	1	0	0	0	0	0	11	344
5:55 PM	0	5	0	0	5	3	0	0	0	0	1	0	0	0	0	0	14	331

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	60	32	0	148	64	8	0	20	44	28	0	12	20	120	0	572
Heavy Trucks	12	12	4		20	16	4		8	0	0		4	4	36		120
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

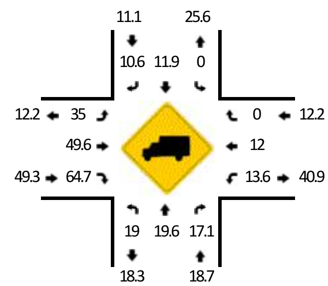
Comments:

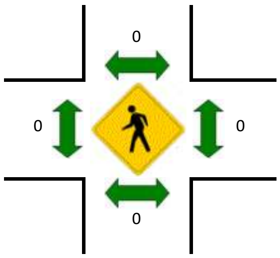
Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

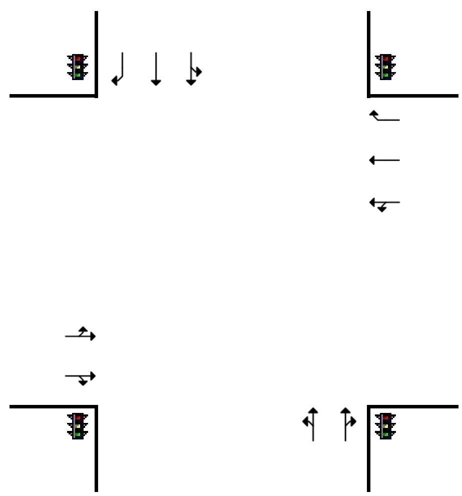
LOCATION: Clawiter Rd -- Depot Rd | **QC JOB #:** 15606413
CITY/STATE: Hayward, CA | **DATE:** Thu, Nov 18 2021

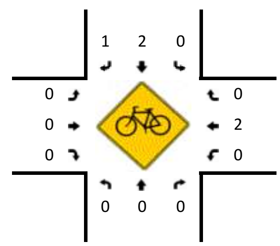


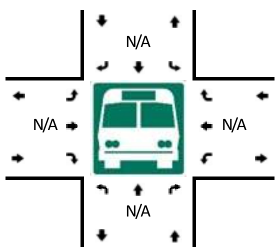
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

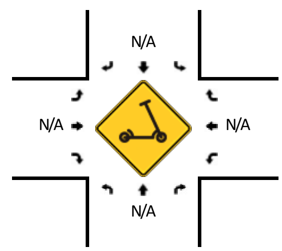












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Depot Rd (Eastbound)				Depot Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	1	1	0	0	10	19	0	2	9	0	0	4	17	0	0	65	
7:05 AM	5	4	3	0	1	20	15	0	5	10	1	0	4	11	2	0	81	
7:10 AM	0	4	2	0	0	17	8	0	3	6	2	0	2	15	1	0	60	
7:15 AM	5	3	0	0	1	22	11	0	3	10	3	0	6	10	1	0	75	
7:20 AM	1	2	0	0	0	23	6	0	1	16	5	0	2	17	3	0	76	
7:25 AM	5	3	2	0	1	23	12	0	1	6	4	0	2	13	0	0	72	
7:30 AM	2	5	3	0	0	21	14	0	3	12	3	0	1	14	0	0	78	
7:35 AM	3	6	1	0	2	16	13	0	3	13	4	0	3	6	0	0	70	
7:40 AM	6	3	0	0	0	19	17	0	3	5	3	0	2	19	2	0	79	
7:45 AM	2	2	0	0	1	14	14	0	1	10	6	0	6	15	1	0	72	
7:50 AM	5	2	4	0	0	18	20	0	1	12	1	0	5	19	0	0	87	
7:55 AM	3	1	3	0	0	15	15	0	3	11	3	0	7	24	0	0	85	900
8:00 AM	4	3	3	0	1	21	8	0	4	17	2	0	9	16	0	0	88	923
8:05 AM	4	5	2	0	2	21	15	0	5	10	5	0	5	14	0	0	88	930
8:10 AM	3	4	7	0	0	14	9	0	2	5	1	0	2	16	1	0	64	934
8:15 AM	3	4	3	0	0	17	10	0	6	13	3	0	6	14	0	0	79	938
8:20 AM	5	3	6	0	1	12	10	0	5	10	3	0	9	21	0	0	85	947
8:25 AM	2	8	3	0	0	14	15	0	4	11	0	0	4	22	0	0	83	958
8:30 AM	5	5	2	0	2	10	9	0	4	12	5	0	2	9	0	0	65	945
8:35 AM	1	5	6	0	0	16	10	0	2	5	4	0	2	13	2	0	66	941
8:40 AM	3	4	5	0	0	12	11	0	4	8	2	0	6	18	1	0	74	936
8:45 AM	6	3	1	0	0	14	10	0	2	11	2	0	2	15	2	0	68	932
8:50 AM	5	4	2	0	2	17	4	0	0	8	5	0	1	12	0	0	60	905
8:55 AM	1	6	0	0	0	17	13	0	3	10	3	0	1	12	0	1	67	887

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	36	32	0	12	228	152	0	48	152	40	0	84	216	0	0	1044
Heavy Trucks	12	4	4		0	16	24		20	80	20		8	28	0		216
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4
Scooters																	

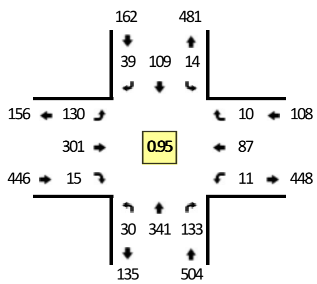
Comments:

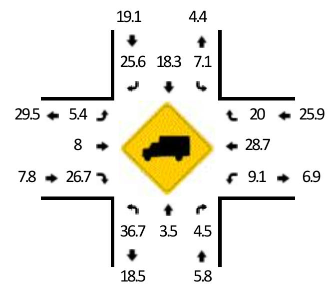
Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

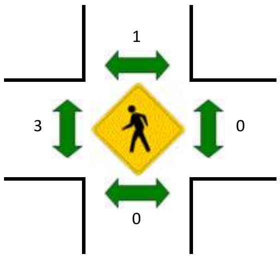
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

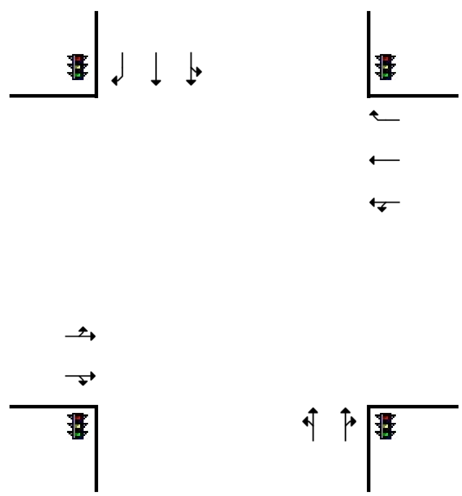
LOCATION: Clawiter Rd -- Depot Rd | **QC JOB #:** 15606414
CITY/STATE: Hayward, CA | **DATE:** Thu, Nov 18 2021

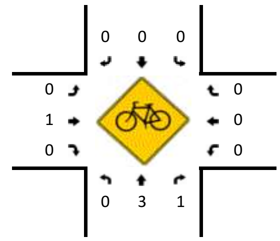
Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

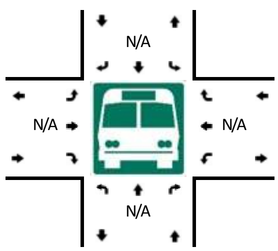


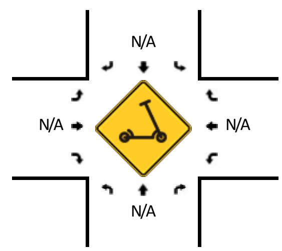












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Depot Rd (Eastbound)				Depot Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	22	12	0	0	13	4	0	11	31	2	0	2	10	2	0	112	
4:05 PM	1	47	14	0	1	6	4	0	9	29	1	0	2	9	2	0	125	
4:10 PM	2	26	13	0	2	16	3	0	12	34	2	0	1	10	1	0	122	
4:15 PM	2	34	6	0	2	10	3	0	10	29	0	0	3	7	2	0	108	
4:20 PM	2	26	14	0	0	9	4	0	10	14	0	0	1	6	0	0	86	
4:25 PM	3	25	9	0	1	4	1	0	8	25	0	0	2	7	3	0	88	
4:30 PM	4	27	8	0	2	8	2	0	18	29	5	0	0	13	0	0	116	
4:35 PM	1	27	14	0	0	8	5	0	18	32	1	0	1	3	0	0	110	
4:40 PM	3	32	14	0	0	10	2	0	6	18	1	0	1	9	0	0	96	
4:45 PM	2	27	16	0	3	9	2	0	9	17	2	0	0	6	2	0	95	
4:50 PM	3	29	6	0	1	9	3	0	7	26	2	0	0	6	0	0	92	
4:55 PM	3	22	8	0	1	8	7	0	3	11	0	0	0	5	1	0	69	1219
5:00 PM	1	25	13	0	1	9	5	0	12	33	2	0	2	6	1	0	110	1217
5:05 PM	4	41	12	0	1	9	2	0	17	33	0	0	0	9	0	0	128	1220
5:10 PM	3	26	6	0	1	9	6	0	9	24	1	0	0	3	1	0	89	1187
5:15 PM	6	24	7	0	0	8	4	0	17	24	2	0	1	5	0	0	98	1177
5:20 PM	0	35	12	0	1	10	5	0	16	15	2	0	1	4	0	0	101	1192
5:25 PM	3	21	2	0	0	9	2	0	7	13	2	0	0	2	0	0	61	1165
5:30 PM	1	33	15	0	0	7	2	0	12	25	3	0	0	7	0	0	105	1154
5:35 PM	2	33	13	0	0	5	0	0	15	19	2	0	0	6	0	0	95	1139
5:40 PM	5	35	10	0	0	11	1	0	7	9	0	0	0	7	0	0	85	1128
5:45 PM	0	25	4	0	0	11	1	0	6	17	0	0	2	0	0	0	66	1099
5:50 PM	2	27	6	0	0	5	1	0	8	14	1	0	0	1	0	0	65	1072
5:55 PM	1	33	2	0	1	5	1	0	11	16	1	0	0	2	0	0	73	1076

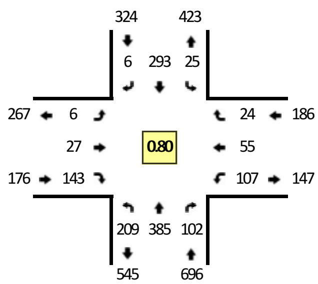
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	344	144	0	8	104	36	0	168	316	28	0	8	100	0	0	1288
Heavy Trucks	8	4	12		0	8	16		12	36	8		0	36	0		140
Buses																	
Pedestrians		0				0				4				0			4
Bicycles	0	4	0		0	0	0		0	4	0		0	0	0		8
Scooters																	

Comments:

Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

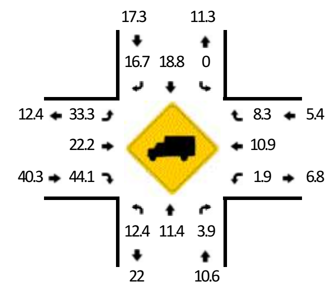
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

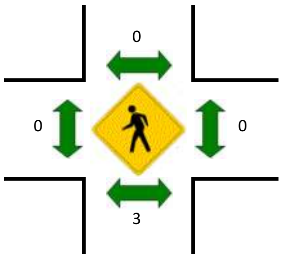
LOCATION: Industrial Blvd -- Depot Rd | **QC JOB #:** 15606415
CITY/STATE: Hayward, CA | **DATE:** Thu, Nov 18 2021

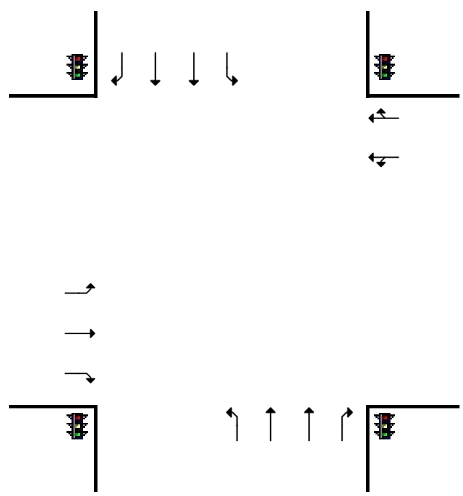


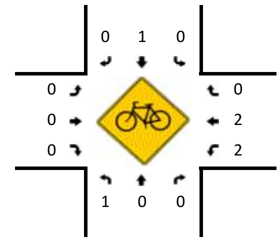
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

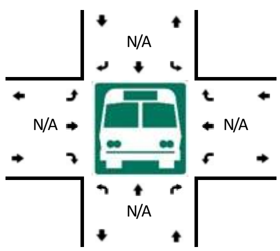
Quality Counts
DATA THAT DRIVES COMMUNITIES

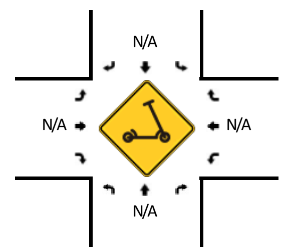












5-Min Count Period Beginning At	Industrial Blvd (Northbound)				Industrial Blvd (Southbound)				Depot Rd (Eastbound)				Depot Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	15	22	3	0	1	14	0	0	0	1	7	0	2	5	3	0	73	
7:05 AM	16	31	4	0	2	22	0	0	1	3	7	0	5	5	1	0	97	
7:10 AM	10	15	3	0	0	19	2	0	0	0	12	0	5	4	1	0	71	
7:15 AM	15	17	2	0	0	15	1	0	1	2	8	0	7	6	2	0	76	
7:20 AM	16	22	2	0	1	37	0	0	0	1	13	0	5	3	2	0	102	
7:25 AM	12	27	4	0	2	23	1	0	1	1	9	0	12	5	1	0	98	
7:30 AM	8	14	3	1	1	22	2	0	0	2	10	0	9	6	0	0	78	
7:35 AM	6	26	5	0	1	21	2	1	0	1	9	0	6	5	0	0	83	
7:40 AM	22	21	5	0	4	16	1	0	1	3	9	0	3	2	4	0	91	
7:45 AM	16	28	8	0	1	26	0	0	1	0	10	0	9	6	1	0	106	
7:50 AM	24	40	7	1	4	22	0	4	0	1	13	0	6	4	3	0	129	
7:55 AM	20	41	19	0	2	28	0	0	0	2	14	0	8	7	3	1	145	1149
8:00 AM	27	36	8	0	2	28	1	0	1	2	15	0	14	3	2	0	139	1215
8:05 AM	15	40	17	1	0	32	0	1	1	0	13	0	15	7	4	0	146	1264
8:10 AM	12	32	8	0	0	23	0	0	0	3	12	0	10	3	0	0	103	1296
8:15 AM	16	37	7	0	2	25	0	0	1	5	12	0	15	4	0	0	124	1344
8:20 AM	20	22	9	0	0	32	1	0	1	3	12	0	10	8	2	0	120	1362
8:25 AM	18	39	5	1	0	21	1	1	0	3	12	0	4	6	4	0	115	1379
8:30 AM	10	23	4	0	1	19	0	1	0	4	12	0	6	0	1	0	81	1382
8:35 AM	10	20	3	0	1	14	1	1	1	1	9	0	7	7	1	0	76	1375
8:40 AM	20	18	1	0	0	23	0	0	1	4	7	0	4	6	0	0	84	1368
8:45 AM	16	35	7	0	2	18	1	0	0	1	12	0	3	2	4	0	101	1363
8:50 AM	14	25	3	0	2	19	0	1	0	0	9	0	4	3	4	0	84	1318
8:55 AM	9	29	6	0	1	12	0	0	0	4	9	0	5	5	0	0	80	1253

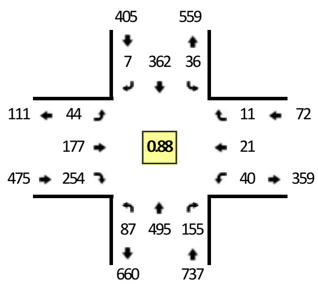
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	248	468	176	4	16	352	4	4	8	16	168	0	148	68	36	4	1720
Heavy Trucks	32	80	8		0	60	0		8	0	80		4	4	0		276
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4
Scooters																	

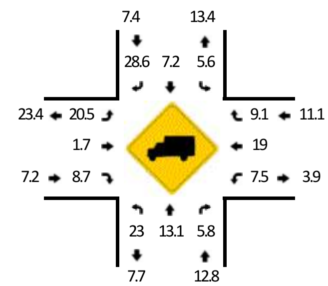
Comments:

Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

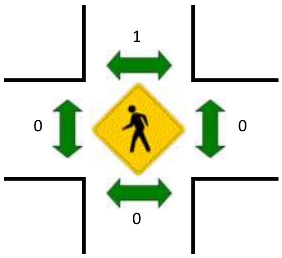
LOCATION: Industrial Blvd -- Depot Rd | **QC JOB #:** 15606416
CITY/STATE: Hayward, CA | **DATE:** Thu, Nov 18 2021

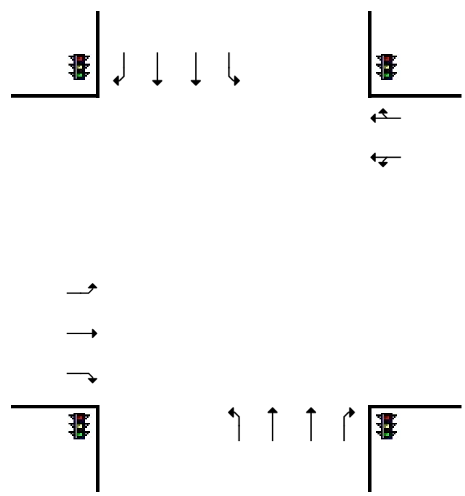
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

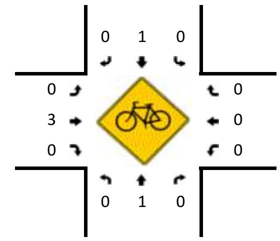


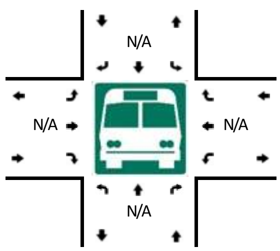


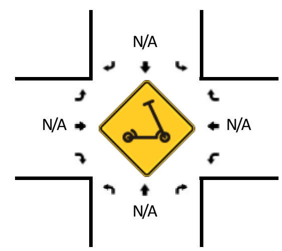
Quality Counts
DATA THAT DRIVES COMMUNITIES











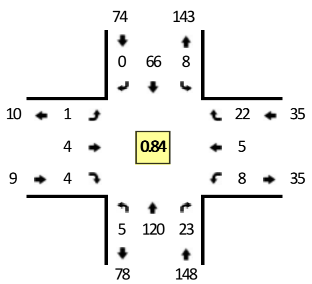
5-Min Count Period Beginning At	Industrial Blvd (Northbound)				Industrial Blvd (Southbound)				Depot Rd (Eastbound)				Depot Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	57	7	0	2	38	0	1	3	21	21	0	6	1	3	0	168	
4:05 PM	12	49	7	0	1	37	1	0	6	14	26	0	5	1	1	0	160	
4:10 PM	10	40	15	0	4	33	2	0	6	10	25	0	6	0	0	0	151	
4:15 PM	8	39	11	0	4	23	2	0	3	12	22	0	5	1	1	0	131	
4:20 PM	8	41	14	1	1	25	0	2	2	11	21	0	2	3	1	0	132	
4:25 PM	7	49	12	0	2	24	1	0	5	19	21	0	3	2	1	0	146	
4:30 PM	10	38	15	0	6	36	0	2	5	18	19	0	4	2	0	0	155	
4:35 PM	1	41	16	0	1	41	0	0	3	19	24	0	1	0	0	0	147	
4:40 PM	9	34	10	0	0	28	0	0	1	13	19	0	1	1	0	0	116	
4:45 PM	0	42	20	0	2	25	0	2	3	11	26	0	2	7	1	0	141	
4:50 PM	5	31	16	0	2	29	1	2	2	16	17	0	3	2	2	0	128	
4:55 PM	5	34	12	3	2	23	0	0	5	13	13	0	2	1	1	0	114	1689
5:00 PM	7	44	13	1	0	29	0	1	1	17	24	0	3	0	1	0	141	1662
5:05 PM	9	36	15	0	6	27	0	0	5	26	24	0	3	1	0	0	152	1654
5:10 PM	1	41	18	1	3	34	0	0	0	7	19	0	4	0	2	0	130	1633
5:15 PM	5	29	11	0	2	38	0	1	5	17	14	0	3	1	1	0	127	1629
5:20 PM	5	20	11	0	5	28	0	1	5	14	13	0	4	1	0	0	107	1604
5:25 PM	5	25	7	0	1	19	0	0	1	9	12	0	1	0	0	0	80	1538
5:30 PM	2	42	11	0	2	19	0	0	3	12	22	0	7	1	1	0	122	1505
5:35 PM	7	40	19	0	2	25	0	0	5	4	23	0	0	0	1	0	126	1484
5:40 PM	7	30	14	0	1	20	0	1	1	8	13	0	1	0	0	0	96	1464
5:45 PM	1	29	9	0	1	17	0	0	4	10	11	0	4	1	1	0	88	1411
5:50 PM	1	29	15	0	4	20	0	0	2	7	15	0	1	0	0	0	94	1377
5:55 PM	1	42	19	0	1	17	1	1	2	4	9	0	1	3	2	0	103	1366

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	120	584	116	0	28	432	12	4	60	180	288	0	68	8	16	0	1916
Heavy Trucks	32	68	12		0	28	0		12	4	20		12	0	4		192
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

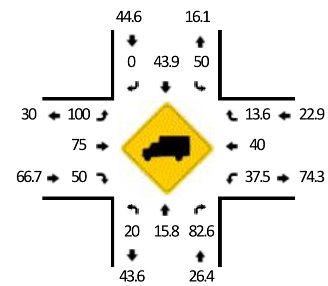
Comments:

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

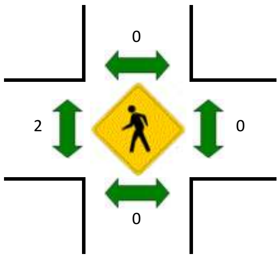
LOCATION: Whitesell St -- Enterprise Ave | **QC JOB #:** 15606417
CITY/STATE: Hayward, CA | **DATE:** Thu, Dec 2 2021

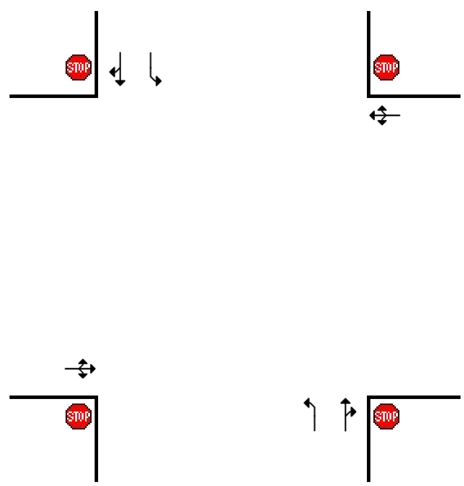


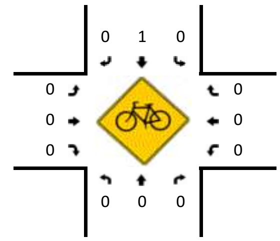
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

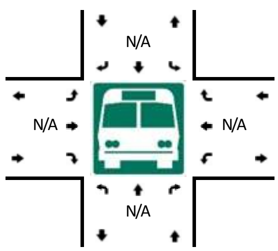


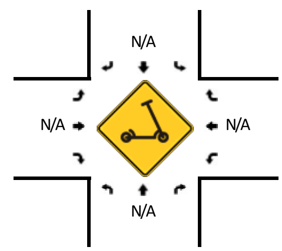
Quality Counts
DATA THAT DRIVES COMMUNITIES











5-Min Count Period Beginning At	Whitesell St (Northbound)				Whitesell St (Southbound)				Enterprise Ave (Eastbound)				Enterprise Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	8	0	0	1	8	0	0	0	0	1	0	0	0	1	0	19	
7:05 AM	0	8	0	0	0	4	0	0	0	0	1	0	0	1	2	0	16	
7:10 AM	1	9	0	0	1	3	0	0	0	0	0	0	1	0	3	0	18	
7:15 AM	0	9	0	0	1	9	0	0	0	0	0	0	1	0	0	0	20	
7:20 AM	0	17	0	0	0	9	0	0	0	0	0	0	1	1	2	0	30	
7:25 AM	0	6	1	0	0	5	0	0	0	0	0	0	0	0	2	0	14	
7:30 AM	1	7	0	0	0	8	0	0	1	0	0	0	0	1	0	0	18	
7:35 AM	0	13	0	0	0	18	0	0	0	0	0	0	1	0	0	0	32	
7:40 AM	1	10	0	0	0	5	0	0	2	0	0	0	1	1	1	0	21	
7:45 AM	0	11	1	0	0	6	0	0	0	0	0	0	0	1	1	0	20	
7:50 AM	0	11	0	0	1	2	0	0	0	0	0	0	0	1	0	0	15	
7:55 AM	0	14	0	0	1	8	0	0	0	0	0	0	0	0	2	0	25	248
8:00 AM	0	11	1	0	1	7	0	0	1	0	0	0	0	0	0	0	21	250
8:05 AM	0	10	0	0	0	7	0	0	0	0	0	0	1	3	1	0	22	256
8:10 AM	1	6	0	0	1	6	0	0	0	0	0	0	0	0	2	0	16	254
8:15 AM	1	11	2	0	1	2	0	0	0	1	0	0	0	0	2	0	20	254
8:20 AM	1	6	1	0	2	11	0	0	0	0	1	0	0	0	2	0	24	248
8:25 AM	0	10	3	0	0	5	0	0	0	0	0	0	1	0	1	0	20	254
8:30 AM	2	12	3	0	0	6	0	0	0	0	1	0	0	0	1	0	25	261
8:35 AM	0	5	2	0	1	3	0	0	0	0	1	0	1	1	3	0	17	246
8:40 AM	0	9	4	0	0	4	0	0	0	0	0	0	0	0	5	0	22	247
8:45 AM	0	11	3	0	0	6	0	0	0	2	1	0	3	0	2	0	28	255
8:50 AM	0	12	2	0	0	7	0	0	0	0	0	0	1	0	1	0	23	263
8:55 AM	0	17	2	0	2	2	0	0	0	1	0	0	1	1	2	0	28	266

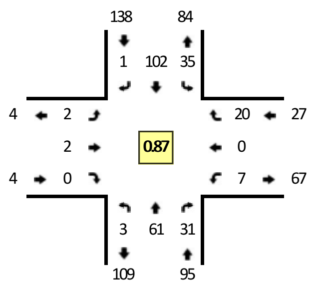
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	160	28	0	8	60	0	0	0	12	4	0	20	4	20	0	316
Heavy Trucks	0	32	20		4	28	0		0	8	4		4	0	4		104
Buses																	
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

Comments:

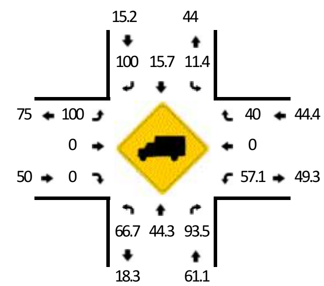
Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

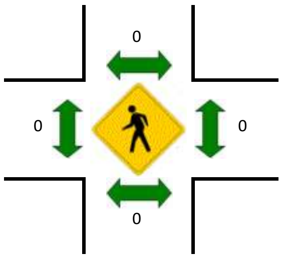
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

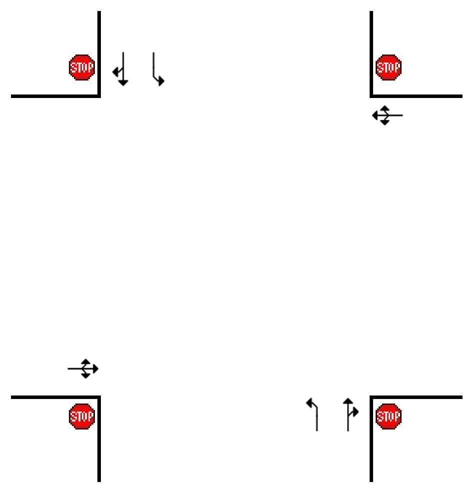
LOCATION: Whitesell St -- Enterprise Ave | **QC JOB #:** 15606418
CITY/STATE: Hayward, CA | **DATE:** Thu, Dec 2 2021

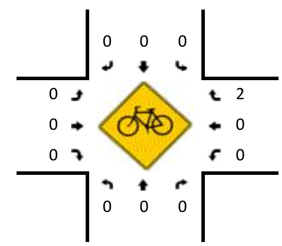


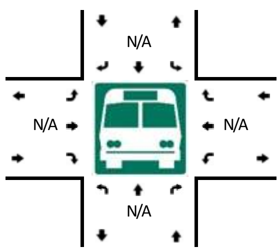
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

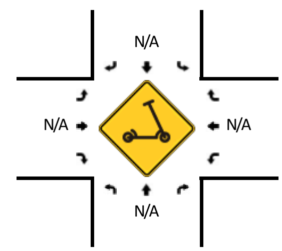












5-Min Count Period Beginning At	Whitesell St (Northbound)				Whitesell St (Southbound)				Enterprise Ave (Eastbound)				Enterprise Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	4	1	0	4	12	0	0	0	0	0	0	0	0	3	0	24	
4:05 PM	0	7	6	0	0	10	0	0	1	0	0	0	1	0	1	0	26	
4:10 PM	0	5	5	0	4	8	0	0	0	0	0	0	0	0	4	0	26	
4:15 PM	1	6	3	0	2	4	0	0	0	0	0	0	1	0	3	0	20	
4:20 PM	1	6	5	0	3	8	0	0	0	0	0	0	0	0	0	0	23	
4:25 PM	0	5	2	0	3	7	0	1	0	0	0	0	1	0	3	0	22	
4:30 PM	0	6	4	0	3	8	0	0	0	1	0	0	2	0	1	0	25	
4:35 PM	1	6	1	0	2	9	1	0	0	0	0	0	0	0	3	0	23	
4:40 PM	0	2	2	0	5	9	0	0	0	0	0	0	1	0	0	0	19	
4:45 PM	0	4	0	0	1	16	0	0	0	0	0	0	0	0	1	0	22	
4:50 PM	0	6	2	0	3	8	0	0	1	1	0	0	1	0	0	0	22	
4:55 PM	0	4	0	0	4	3	0	0	0	0	0	0	0	0	1	0	12	264
5:00 PM	0	2	0	0	2	9	0	0	0	0	0	0	1	0	1	0	15	255
5:05 PM	0	5	0	0	1	10	0	0	0	2	1	0	0	0	0	0	19	248
5:10 PM	0	6	0	0	0	4	0	0	0	1	0	0	0	0	0	0	11	233
5:15 PM	0	1	0	0	4	7	0	0	0	0	1	0	0	0	1	0	14	227
5:20 PM	0	4	0	0	0	7	0	0	0	0	0	0	1	0	0	0	12	216
5:25 PM	0	1	1	0	1	6	0	0	0	0	0	0	0	0	0	0	9	203
5:30 PM	0	6	0	0	2	5	0	0	0	1	0	0	0	1	0	0	15	193
5:35 PM	0	2	0	0	1	7	0	0	1	0	0	0	0	0	1	0	12	182
5:40 PM	0	2	0	0	1	10	0	0	0	0	1	0	0	0	0	0	14	177
5:45 PM	0	2	1	0	1	7	0	0	0	1	0	0	0	0	1	0	13	168
5:50 PM	0	1	0	0	2	6	1	0	0	0	0	0	0	1	2	0	13	159
5:55 PM	0	1	0	0	0	6	0	0	0	0	2	0	0	0	2	0	11	158

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	64	48	0	32	120	0	0	4	0	0	0	4	0	32	0	304
Heavy Trucks	0	40	48		0	24	0		4	0	0		4	0	12		132
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

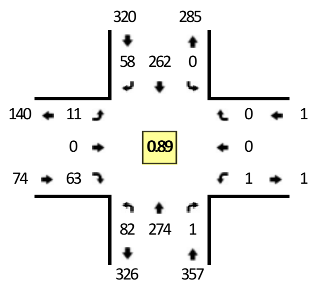
Comments:

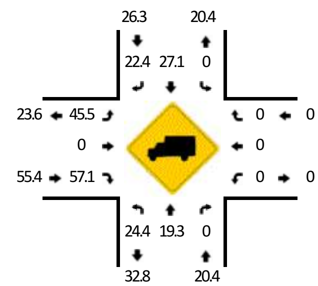
Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

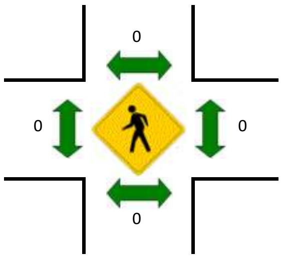
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

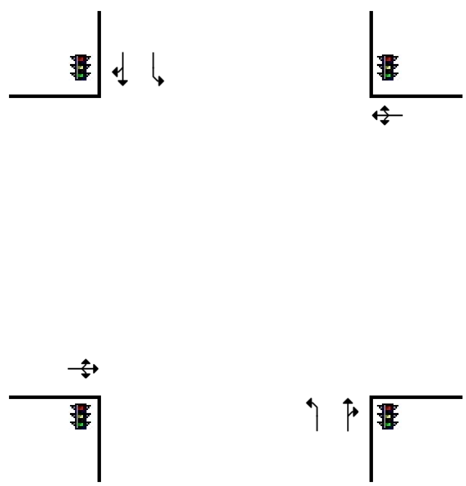
LOCATION: Clawiter Rd -- Enterprise Ave | **QC JOB #:** 15606419
CITY/STATE: Hayward, CA | **DATE:** Thu, Dec 2 2021

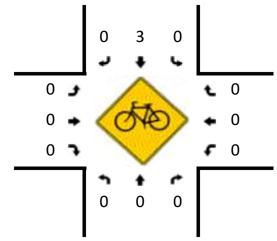
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

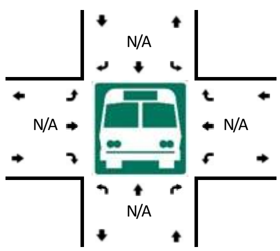


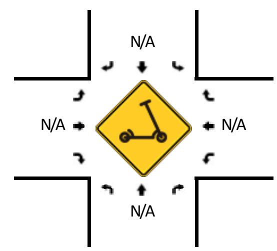












5-Min Count Period Beginning At	Clawiter Rd (Northbound) Left	Thru	Right	U	Clawiter Rd (Southbound) Left	Thru	Right	U	Enterprise Ave (Eastbound) Left	Thru	Right	U	Enterprise Ave (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	11	16	0	0	0	19	5	0	2	0	2	0	0	0	0	0	55	
7:05 AM	7	16	0	0	0	20	1	0	0	0	3	0	0	0	0	0	47	
7:10 AM	10	14	0	0	0	17	0	0	0	0	5	0	0	0	0	0	46	
7:15 AM	2	10	0	0	0	22	1	0	2	0	7	0	0	0	0	0	44	
7:20 AM	9	24	0	0	0	18	3	0	1	0	2	0	0	0	0	0	57	
7:25 AM	3	12	0	0	0	17	3	0	1	0	6	0	0	0	0	0	42	
7:30 AM	8	28	0	0	0	16	3	0	0	0	5	0	0	0	0	0	60	
7:35 AM	7	17	0	0	0	22	2	0	2	0	5	0	0	0	0	0	55	
7:40 AM	7	22	0	0	0	20	5	0	1	0	7	0	0	0	0	0	62	
7:45 AM	8	17	0	0	0	30	5	0	0	0	6	0	0	0	0	0	66	
7:50 AM	4	26	1	0	0	27	9	0	2	0	2	0	0	0	0	0	71	
7:55 AM	8	25	0	0	0	23	10	0	0	0	8	0	1	0	0	0	75	680
8:00 AM	6	25	0	0	0	15	1	0	1	0	5	0	0	0	0	0	53	678
8:05 AM	13	22	0	0	0	23	4	0	0	0	2	0	0	0	0	0	64	695
8:10 AM	3	20	0	0	0	22	4	0	1	0	4	0	0	0	0	0	54	703
8:15 AM	5	25	0	0	0	20	1	0	0	0	6	0	0	0	0	0	57	716
8:20 AM	3	22	0	0	0	22	4	0	1	0	6	0	0	0	0	0	58	717
8:25 AM	8	18	0	0	0	18	5	0	3	0	4	0	0	0	0	0	56	731
8:30 AM	6	28	0	0	0	19	7	0	0	0	8	0	0	0	0	0	68	739
8:35 AM	11	24	0	0	0	23	3	0	2	0	5	0	0	0	0	0	68	752
8:40 AM	7	25	0	0	0	13	4	0	1	0	2	0	0	0	0	0	52	742
8:45 AM	9	25	0	0	0	14	0	0	2	0	2	0	0	0	0	0	52	728
8:50 AM	6	18	0	0	0	16	4	0	2	0	3	0	0	0	0	0	49	706
8:55 AM	5	34	0	0	0	16	2	0	2	0	4	0	0	0	0	0	63	694

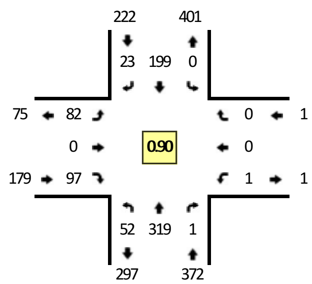
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	80	272	4	0	0	320	96	0	8	0	64	0	4	0	0	0	848
Heavy Trucks	16	48	0		0	80	12		4	0	32		0	0	0		192
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

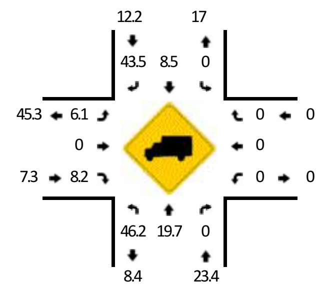
Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

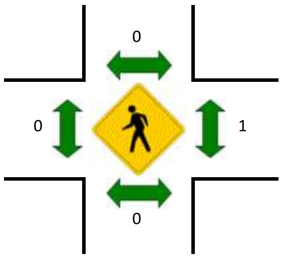
Type of peak hour being reported: Intersection Peak   Method for determining peak hour: Total Entering Volume

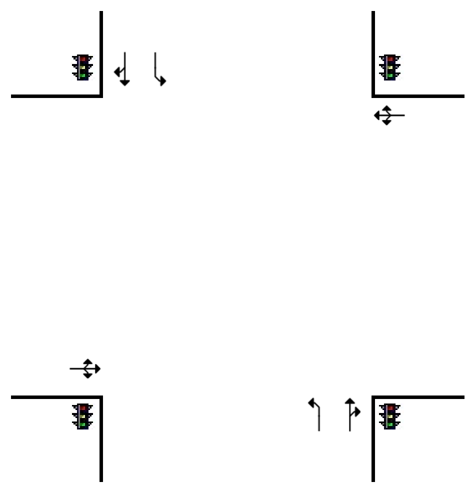
LOCATION: Clawiter Rd -- Enterprise Ave   **QC JOB #:** 15606420
CITY/STATE: Hayward, CA   **DATE:** Thu, Dec 2 2021

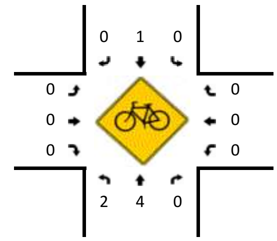


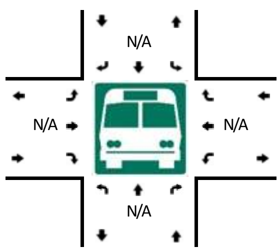
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

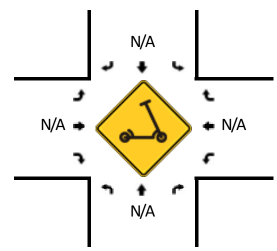












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Enterprise Ave (Eastbound)				Enterprise Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	27	1	0	0	24	4	0	4	0	9	0	1	0	0	0	75	
4:05 PM	6	17	0	0	0	22	0	0	8	0	17	0	0	0	0	0	70	
4:10 PM	5	35	0	0	0	13	1	0	6	0	10	0	0	0	0	0	70	
4:15 PM	9	25	0	0	0	9	1	0	8	0	9	0	0	0	0	0	61	
4:20 PM	4	22	0	0	0	16	4	0	6	0	6	0	0	0	0	0	58	
4:25 PM	3	17	0	0	0	19	4	0	4	0	8	0	0	0	0	0	55	
4:30 PM	1	31	0	0	0	12	0	0	4	0	6	0	0	0	0	0	54	
4:35 PM	5	21	0	0	0	15	4	0	17	0	7	0	0	0	0	0	69	
4:40 PM	4	38	0	0	0	19	0	0	9	0	5	0	0	0	0	0	75	
4:45 PM	7	34	0	0	0	17	1	0	7	0	4	0	0	0	0	0	70	
4:50 PM	1	24	0	0	0	17	2	0	4	0	12	0	0	0	0	0	60	
4:55 PM	2	28	0	0	0	16	2	0	5	0	4	0	0	0	0	0	57	774
5:00 PM	2	25	0	0	0	21	0	0	6	0	7	0	0	0	0	0	61	760
5:05 PM	1	34	0	0	0	26	1	0	6	0	8	0	0	0	0	0	76	766
5:10 PM	4	23	0	0	0	19	0	0	2	0	6	0	0	0	0	0	54	750
5:15 PM	5	26	0	0	0	14	0	0	2	0	6	0	0	0	0	0	53	742
5:20 PM	6	23	0	0	0	13	2	0	3	0	6	0	0	0	0	0	53	737
5:25 PM	0	25	0	0	0	19	0	0	3	0	10	0	0	0	0	0	57	739
5:30 PM	2	31	0	0	0	18	1	0	5	0	1	0	0	0	0	0	58	743
5:35 PM	2	42	0	0	0	20	0	0	4	0	5	0	0	0	0	0	73	747
5:40 PM	0	23	0	0	0	20	0	0	1	0	5	0	0	0	0	0	49	721
5:45 PM	2	26	0	0	0	11	0	0	2	0	5	0	0	0	0	0	46	697
5:50 PM	5	14	0	0	0	10	1	0	5	0	10	0	0	0	0	0	45	682
5:55 PM	2	17	0	0	0	9	0	0	1	0	3	0	0	0	0	0	32	657

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	316	4	0	0	236	20	0	72	0	144	0	4	0	0	0	860
Heavy Trucks	20	72	0		0	24	16		0	0	12		0	0	0		144
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

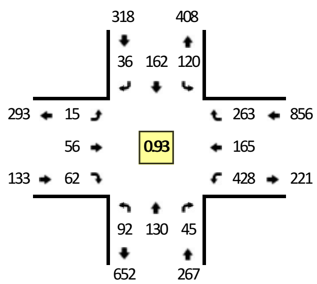
Comments:

Report generated on 12/9/2021 1:27 PM   SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

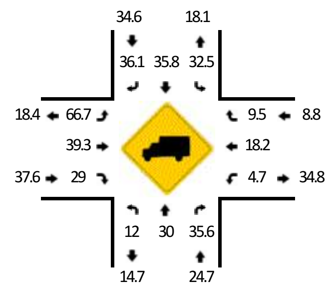
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

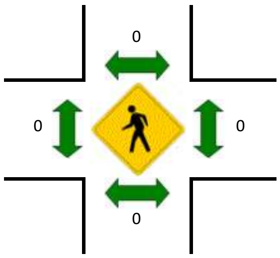
LOCATION: Clawiter Rd -- Breakwater Ave/SR 92 WB Ramps | **QC JOB #:** 15606421
CITY/STATE: Hayward, CA | **DATE:** Thu, Dec 2 2021

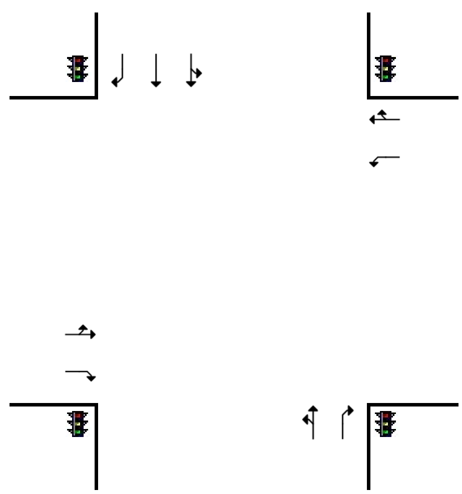
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

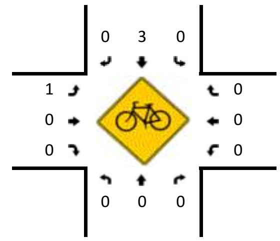


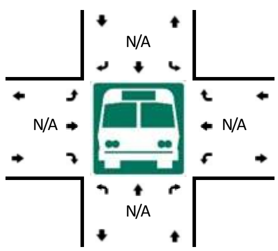
Quality Counts
DATA THAT DRIVES COMMUNITIES

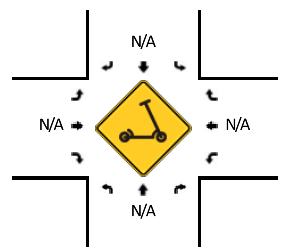












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Breakwater Ave/SR 92 WB Ramps (Eastbound)				Breakwater Ave/SR 92 WB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	1	4	0	14	10	3	0	0	8	4	0	41	18	29	0	136	
7:05 AM	7	7	4	0	12	11	0	0	1	6	9	0	22	12	25	0	116	
7:10 AM	6	7	0	0	8	8	1	0	1	2	4	0	28	13	22	0	100	
7:15 AM	8	6	1	0	14	9	4	0	1	7	7	0	21	13	21	0	112	
7:20 AM	4	6	3	0	17	7	3	0	2	8	7	0	35	9	22	0	123	
7:25 AM	7	15	2	0	12	13	2	0	0	11	5	0	18	10	12	0	107	
7:30 AM	4	10	4	0	12	5	1	0	3	6	3	0	24	10	23	0	105	
7:35 AM	7	8	4	0	18	11	2	0	1	2	7	0	24	14	16	0	114	
7:40 AM	9	7	4	0	9	15	2	0	1	14	7	0	16	12	28	0	124	
7:45 AM	9	12	5	0	17	12	2	0	2	5	4	0	27	11	26	0	132	
7:50 AM	9	10	3	0	14	12	4	0	1	3	5	0	36	12	19	0	128	
7:55 AM	13	12	3	0	22	13	6	0	0	4	4	0	28	14	26	0	145	1442
8:00 AM	3	7	4	0	5	12	4	0	0	5	6	0	57	19	24	0	146	1452
8:05 AM	6	11	4	0	14	9	1	0	1	8	5	0	31	15	25	0	130	1466
8:10 AM	5	10	2	0	7	13	3	0	2	2	6	0	43	13	17	0	123	1489
8:15 AM	10	7	6	0	5	20	2	0	3	5	7	0	29	15	17	0	126	1503
8:20 AM	9	12	5	0	10	10	3	0	1	7	6	0	36	8	23	0	130	1510
8:25 AM	7	11	6	0	7	17	2	0	0	6	5	0	38	12	12	0	123	1526
8:30 AM	8	16	2	0	6	14	2	0	2	4	6	0	30	12	21	0	123	1544
8:35 AM	7	14	2	0	8	18	3	0	2	6	4	0	29	12	19	0	124	1554
8:40 AM	6	8	3	0	5	12	4	0	1	1	4	0	44	22	34	0	144	1574
8:45 AM	10	13	3	0	5	7	3	0	2	3	5	0	30	13	20	0	114	1556
8:50 AM	11	10	5	0	12	12	1	0	0	5	7	0	37	23	20	0	143	1571
8:55 AM	11	11	3	0	5	10	1	0	2	1	9	0	41	27	19	0	140	1566

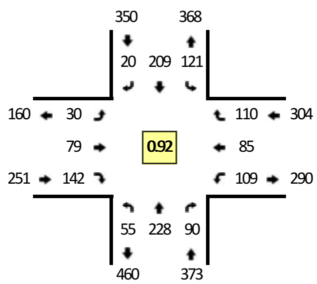
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	88	120	44	0	164	136	44	0	4	68	60	0	464	192	300	0	1684
Heavy Trucks	12	32	16		48	64	20		4	40	4		12	12	20		284
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

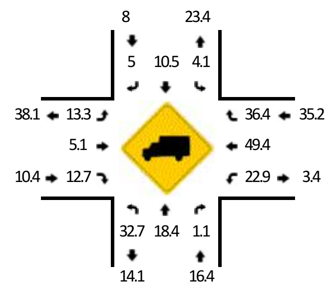
Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

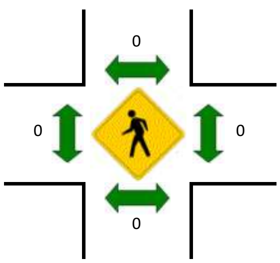
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

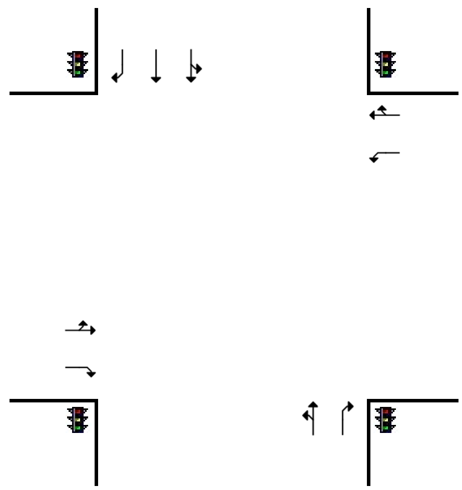
LOCATION: Clawiter Rd -- Breakwater Ave/SR 92 WB Ramps | **QC JOB #:** 15606422
CITY/STATE: Hayward, CA | **DATE:** Thu, Dec 2 2021

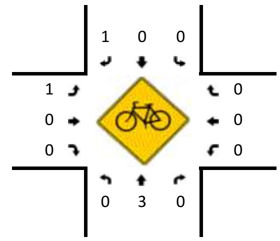


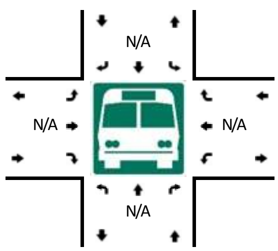
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

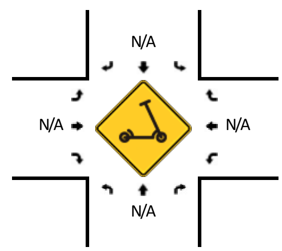












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Breakwater Ave/SR 92 WB Ramps (Eastbound)				Breakwater Ave/SR 92 WB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	23	7	0	19	27	1	0	2	6	8	0	8	9	7	0	121	
4:05 PM	4	12	7	0	7	21	6	0	4	7	16	0	6	11	12	0	113	
4:10 PM	7	18	10	0	18	19	0	0	0	6	9	0	6	7	15	0	115	
4:15 PM	8	19	5	0	6	8	2	0	4	7	10	0	15	10	11	0	105	
4:20 PM	8	9	13	0	14	14	0	0	5	4	6	0	11	6	11	0	101	
4:25 PM	6	13	5	0	9	19	2	0	2	4	14	0	11	7	8	0	100	
4:30 PM	4	19	3	0	7	17	0	0	2	6	12	0	9	6	6	0	91	
4:35 PM	6	28	14	0	7	18	2	0	2	3	17	0	8	6	6	0	117	
4:40 PM	1	25	8	0	10	22	2	0	3	6	15	0	8	7	10	0	117	
4:45 PM	0	22	8	0	5	20	1	0	1	9	7	0	7	4	12	0	96	
4:50 PM	3	30	5	0	7	15	4	0	2	8	15	0	12	7	4	0	112	
4:55 PM	4	10	5	0	12	9	0	0	3	13	13	0	8	5	8	0	90	1278
5:00 PM	5	19	12	0	11	15	1	0	6	7	19	0	10	3	4	0	112	1269
5:05 PM	5	23	14	0	15	25	1	0	3	6	13	0	7	2	4	0	118	1274
5:10 PM	3	22	19	0	12	16	2	0	0	8	17	0	1	4	5	0	109	1268
5:15 PM	2	16	12	0	14	13	0	0	3	7	9	0	5	1	8	0	90	1253
5:20 PM	7	12	15	0	9	16	0	0	5	2	20	0	5	1	5	1	98	1250
5:25 PM	4	22	15	0	17	18	2	0	1	4	9	0	3	5	3	0	103	1253
5:30 PM	2	26	18	0	10	9	1	0	2	9	7	0	4	2	7	0	97	1259
5:35 PM	0	27	10	0	12	22	2	0	4	4	12	0	6	3	4	0	106	1248
5:40 PM	6	18	5	0	5	10	2	0	4	13	13	0	5	3	2	0	86	1217
5:45 PM	2	13	9	0	12	11	1	0	4	4	7	0	7	5	6	0	81	1202
5:50 PM	1	15	10	0	8	13	0	0	1	5	6	0	5	6	6	0	76	1166
5:55 PM	3	12	9	0	7	5	1	0	0	4	12	0	7	4	6	0	70	1146

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	60	212	96	0	176	268	28	0	24	76	132	0	80	108	136	0	1396
Heavy Trucks	24	64	4		8	32	4		0	4	36		24	76	40		316
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

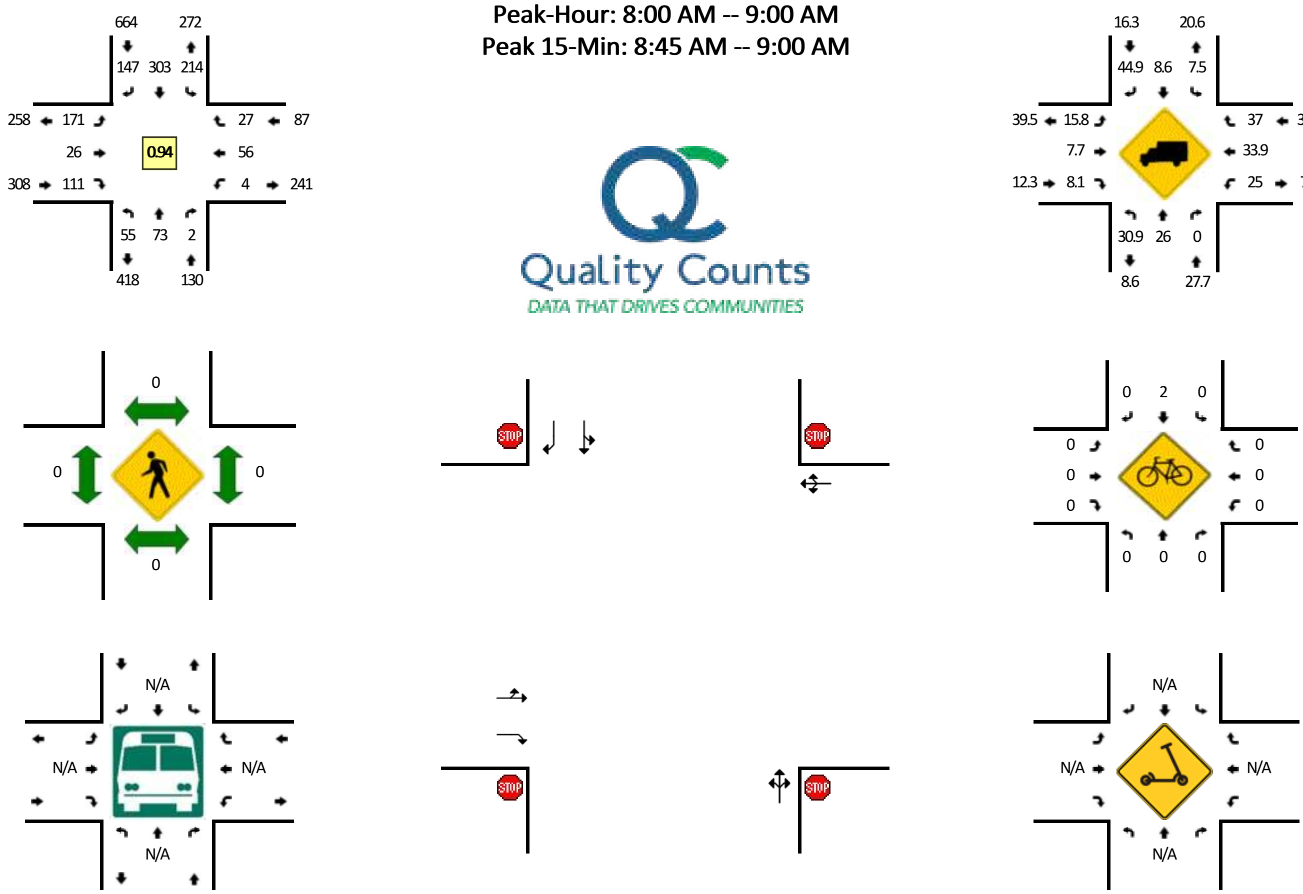
Comments:

Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd -- SR 92 EB Ramps/Eden Landing Rd | **QC JOB #:** 15606423
CITY/STATE: Hayward, CA | **DATE:** Thu, Dec 2 2021

Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM



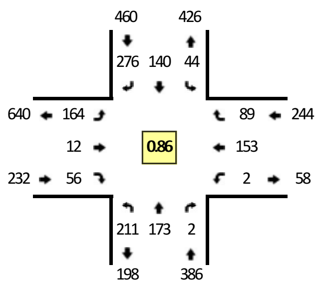
5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				SR 92 EB Ramps/Eden Landing Rd (Eastbound)				SR 92 EB Ramps/Eden Landing Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	5	0	0	17	23	8	0	8	1	8	0	1	1	0	0	79	
7:05 AM	7	4	0	0	11	27	14	0	12	0	4	0	0	7	0	0	86	
7:10 AM	9	3	0	0	13	16	8	0	7	0	12	0	0	3	0	0	71	
7:15 AM	7	7	0	0	10	19	11	0	9	1	7	0	0	6	2	0	79	
7:20 AM	3	5	0	0	15	22	9	0	12	1	9	0	0	4	0	0	80	
7:25 AM	5	1	1	0	12	15	12	0	15	0	8	0	0	3	3	0	75	
7:30 AM	4	5	0	0	10	17	7	0	11	4	7	0	0	2	4	0	71	
7:35 AM	1	4	1	0	9	13	12	0	13	2	7	0	0	2	4	0	68	
7:40 AM	5	5	0	0	7	12	16	0	9	1	3	0	0	3	3	0	64	
7:45 AM	4	10	0	0	18	22	10	0	11	3	5	0	0	2	5	0	90	
7:50 AM	7	9	0	0	17	27	9	0	14	1	8	0	0	2	0	0	94	
7:55 AM	5	3	0	0	17	18	6	0	21	1	6	0	1	1	2	0	81	938
8:00 AM	4	4	0	0	20	30	19	0	9	3	15	0	0	5	2	0	111	970
8:05 AM	5	8	0	0	17	27	6	0	10	2	6	0	0	5	2	0	88	972
8:10 AM	2	5	0	0	23	28	8	0	13	1	8	0	0	1	2	0	91	992
8:15 AM	2	7	0	0	16	24	15	0	14	3	9	0	0	6	3	0	99	1012
8:20 AM	8	8	0	0	22	16	12	0	13	2	12	0	0	7	3	0	103	1035
8:25 AM	0	9	1	0	24	29	14	0	18	0	8	0	0	3	2	0	108	1068
8:30 AM	8	6	0	0	17	21	19	0	13	1	11	0	0	4	3	0	103	1100
8:35 AM	5	3	1	0	13	22	7	1	14	2	9	0	1	3	0	0	81	1113
8:40 AM	4	2	0	0	18	22	11	0	12	2	6	0	1	8	4	0	90	1139
8:45 AM	8	9	0	0	11	26	11	0	17	2	8	0	1	4	2	0	99	1148
8:50 AM	1	7	0	0	16	29	7	0	25	4	12	0	1	3	0	0	105	1159
8:55 AM	8	5	0	0	16	29	18	0	13	4	7	0	0	7	4	0	111	1189

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	68	84	0	0	172	336	144	0	220	40	108	0	8	56	24	0	1260
Heavy Trucks	20	20	0		12	24	68		8	8	20		0	16	4		200
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

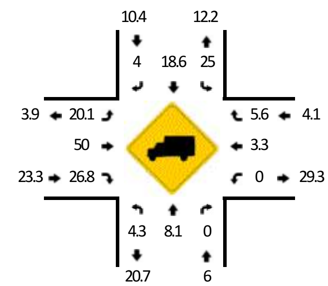
Report generated on 12/9/2021 1:27 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

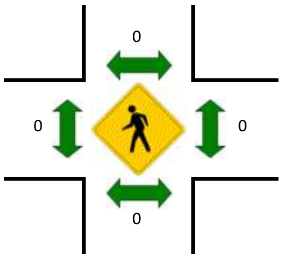
LOCATION: Clawiter Rd -- SR 92 EB Ramps/Eden Landing Rd | **QC JOB #:** 15606424
CITY/STATE: Hayward, CA | **DATE:** Thu, Dec 2 2021

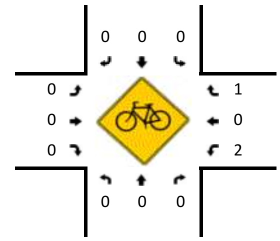


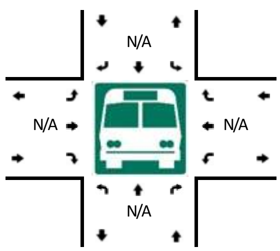
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

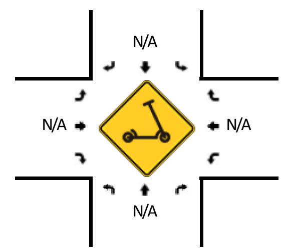
Quality Counts
DATA THAT DRIVES COMMUNITIES











5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				SR 92 EB Ramps/Eden Landing Rd (Eastbound)				SR 92 EB Ramps/Eden Landing Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	23	6	0	0	3	13	20	0	13	2	2	0	0	14	10	0	106	
4:05 PM	22	11	1	0	3	15	33	0	11	1	9	0	0	19	14	0	139	
4:10 PM	14	10	0	0	6	8	17	0	15	1	3	0	0	27	7	0	108	
4:15 PM	20	7	0	0	7	15	14	0	13	0	7	0	0	20	6	0	109	
4:20 PM	12	13	1	0	7	12	12	0	10	2	5	0	0	12	6	0	92	
4:25 PM	12	7	0	0	13	9	14	0	14	2	2	0	1	14	4	0	92	
4:30 PM	18	16	0	0	3	6	31	0	13	3	3	0	1	10	8	0	112	
4:35 PM	24	14	0	0	7	13	22	0	11	0	5	0	0	15	13	0	124	
4:40 PM	14	14	0	0	4	15	25	0	13	2	6	0	0	16	6	0	115	
4:45 PM	12	6	0	0	3	8	24	0	22	0	3	0	0	10	3	0	91	
4:50 PM	18	14	1	0	5	20	20	0	18	0	3	0	0	9	5	0	113	
4:55 PM	13	3	0	0	5	6	21	0	15	1	8	0	0	9	3	0	84	1285
5:00 PM	20	16	0	0	3	17	24	0	14	3	5	0	0	12	10	0	124	1303
5:05 PM	24	17	0	0	2	12	30	0	10	0	7	0	0	25	14	0	141	1305
5:10 PM	19	18	0	0	3	14	19	0	8	0	3	0	1	23	12	0	120	1317
5:15 PM	21	18	1	0	4	6	16	0	10	2	6	0	0	10	5	0	99	1307
5:20 PM	13	15	0	0	3	10	25	0	12	1	1	0	0	8	5	0	93	1308
5:25 PM	15	22	0	0	2	13	19	0	18	0	6	0	0	6	5	0	106	1322
5:30 PM	18	19	1	0	2	10	9	0	17	1	6	0	0	13	9	0	105	1315
5:35 PM	20	11	0	0	2	14	25	0	14	1	3	0	0	3	8	0	101	1292
5:40 PM	9	10	0	0	1	10	15	0	16	0	3	0	0	4	3	0	71	1248
5:45 PM	14	8	0	0	2	9	12	0	9	1	5	0	0	6	7	0	73	1230
5:50 PM	12	11	0	0	1	11	11	0	13	0	5	0	0	9	6	0	79	1196
5:55 PM	15	4	2	0	4	16	19	0	10	2	5	4	0	0	5	2	0	83	1195

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	252	204	0	0	32	172	292	0	128	12	60	0	4	240	144	0	1540
Heavy Trucks	8	4	0		0	24	24		36	0	20		0	8	16		140
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Intersection	Movement	Weekday AM Nov 2021	Weekday AM Historical	Weekday AM Growth Rate	Weekday PM Nov 2021	Weekday PM Historical	Weekday PM Growth Rate
Clawiter Rd and Winton Ave	NBL	152	149	-2%	77	100	30%
	NBT	3	0	-100%	1	0	-100%
	NBR	251	222	-12%	555	612	10%
	SBL	3	0	-100%	4	3	-25%
	SBT	0	0	#DIV/0!	1	2	100%
	SBR	2	0	-100%	1	0	-100%
	EBL	1	1	0%	0	1	#DIV/0!
	EBT	361	343	-5%	1020	1,026	1%
	EBR	115	154	34%	125	177	42%
	WBL	482	967	101%	200	266	33%
	WBT	972	1,086	12%	302	286	-5%
	WBR	13	1	-92%	2	0	-100%
	Total Entering Vehicles	2355	2,923	24%	2,288	2,473	8%
Clawiter Rd and Industrial Blvd (east)	NBL	0	6	#DIV/0!	27	34	26%
	NBT	439	296	-33%	412	502	22%
	NBR	0	7	#DIV/0!	0	2	#DIV/0!
	SBL	0	5	#DIV/0!	1	1	0%
	SBT	336	542	61%	324	395	22%
	SBR	388	764	97%	135	135	0%
	EBL	0	68	#DIV/0!	337	548	63%
	EBT	0	4	#DIV/0!	0	0	#DIV/0!
	EBR	0	1	#DIV/0!	8	8	0%
	WBL	0	4	#DIV/0!	4	40	900%
	WBT	0	1	#DIV/0!	0	1	#DIV/0!
	WBR	0	0	#DIV/0!	0	6	#DIV/0!
	Total Entering Vehicles	1163	1,698	46%	1,248	1,672	34%
Clawiter Rd and Depot Rd	NBL	42	17	-60%	30	21	-30%
	NBT	46	40	-13%	200	375	88%
	NBR	35	23	-34%	84	173	106%
	SBL	7	13	86%	12	12	0%
	SBT	202	544	169%	74	99	34%
	SBR	160	201	26%	50	12	-76%
	EBL	40	34	-15%	134	166	24%
	EBT	129	123	-5%	252	364	44%
	EBR	34	39	15%	27	16	-41%
	WBL	59	116	97%	10	18	80%
	WBT	200	253	27%	79	91	15%
	WBR	4	4	0%	6	12	100%
	Total Entering Vehicles	958	1,407	47%	958	1,359	42%
	NBL	92	108	17%	48	35	-27%
	NBT	130	214	65%	178	323	81%
	NBR	45	101	124%	80	153	91%
	SBL	120	327	173%	93	171	84%
	SBT	162	218	35%	210	260	24%
	SBR	36	70	94%	14	36	157%

Clawiter Rd and SR-92 WB	EBL	15	16	7%	31	36	16%
	EBT	56	76	36%	73	87	19%
	EBR	62	72	16%	167	130	-22%
	WBL	428	236	-45%	99	110	11%
	WBT	165	122	-26%	83	48	-42%
	WBR	263	134	-49%	102	146	43%
	Total Entering Vehicles	1574	1,694	8%	1,178	1,535	30%
Clawiter Rd and SR-92 EB	NBL	55	79	44%	238	267	12%
	NBT	73	130	78%	117	247	111%
	NBR	2	7	250%	3	6	100%
	SBL	214	162	-24%	56	66	18%
	SBT	303	328	8%	129	135	5%
	SBR	147	132	-10%	290	289	0%
	EBL	171	185	8%	119	185	55%
	EBT	26	50	92%	12	12	0%
	EBR	111	126	14%	38	79	108%
	WBL	4	5	25%	1	2	100%
	WBT	56	64	14%	165	165	0%
	WBR	27	36	33%	73	119	63%
	Total Entering Vehicles	1189	1,304	10%	1,241	1,572	27%
Cabot Blvd and Winton Ave	NBL	17	24	41%	10	19	90%
	NBT	15	23	53%	17	21	24%
	NBR	28	18	-36%	82	104	27%
	SBL	62	77	24%	142	169	19%
	SBT	14	17	21%	24	28	17%
	SBR	1	2	100%	1	5	400%
	EBL	0	3	#DIV/0!	1	2	100%
	EBT	46	42	-9%	76	127	67%
	EBR	12	17	42%	15	20	33%
	WBL	256	320	25%	90	57	-37%
	WBT	103	79	-23%	29	57	97%
	WBR	149	179	20%	53	54	2%
	Total Entering Vehicles	703	801	14%	540	663	23%
Overall Total		7,942	9,827	24%	7,453	9,274	24%

Intersection Averages: AM: 25% PM: 27%

FINAL GROWTH FACTORS: AM: 25% PM: 25%

Page intentionally blank

Appendix B: Existing Level of Service, Queue, And Peak Hour Traffic Signal Warrants Worksheets

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	42	17	320	79	179	24	23	18	77	17	2
Future Vol, veh/h	3	42	17	320	79	179	24	23	18	77	17	2
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
Heavy Vehicles, %	0	43	50	14	18	9	29	7	57	39	0	0
Mvmt Flow	3	47	19	356	88	199	27	26	20	86	19	2
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	10.4	14	10.3	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	23	18	3	42	17	320	79	179	77	17
LT Vol	24	0	0	3	0	0	320	0	0	77	0
Through Vol	0	23	0	0	42	0	0	79	0	0	17
RT Vol	0	0	18	0	0	17	0	0	179	0	0
Lane Flow Rate	27	26	20	3	47	19	356	88	199	86	19
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.057	0.048	0.039	0.006	0.093	0.035	0.606	0.139	0.268	0.184	0.034
Departure Headway (Hd)	7.675	6.801	6.951	6.954	7.185	6.604	6.136	5.704	4.851	7.738	6.575
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	467	527	516	516	500	543	594	633	746	465	545
Service Time	5.407	4.533	4.683	4.684	4.915	4.334	3.836	3.404	2.551	5.47	4.307
HCM Lane V/C Ratio	0.058	0.049	0.039	0.006	0.094	0.035	0.599	0.139	0.267	0.185	0.035
HCM Control Delay	10.9	9.9	10	9.7	10.7	9.6	17.8	9.3	9.3	12.2	9.5
HCM Lane LOS	B	A	A	A	B	A	C	A	A	B	A
HCM 95th-tile Q	0.2	0.2	0.1	0	0.3	0.1	4	0.5	1.1	0.7	0.1

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	9	10	18	23	150	15	139	28	75	78	8
Future Vol, veh/h	6	9	10	18	23	150	15	139	28	75	78	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	20	29	25	43	11	18	0	23	41	45	52	50
Mvmt Flow	6	10	11	19	25	161	16	149	30	81	84	9
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	9.1	11.4	11.1	10.3
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	24%	9%	100%	0%	0%
Vol Thru, %	0%	83%	36%	12%	0%	100%	0%
Vol Right, %	0%	17%	40%	79%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	167	25	191	75	78	8
LT Vol	15	0	6	18	75	0	0
Through Vol	0	139	9	23	0	78	0
RT Vol	0	28	10	150	0	0	8
Lane Flow Rate	16	180	27	205	81	84	9
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.028	0.297	0.046	0.33	0.15	0.147	0.013
Departure Headway (Hd)	6.189	5.961	6.105	5.782	6.686	6.301	5.56
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	573	596	590	616	532	564	637
Service Time	3.987	3.758	3.805	3.564	4.478	4.093	3.351
HCM Lane V/C Ratio	0.028	0.302	0.046	0.333	0.152	0.149	0.014
HCM Control Delay	9.2	11.3	9.1	11.4	10.7	10.2	8.4
HCM Lane LOS	A	B	A	B	B	B	A
HCM 95th-tile Q	0.1	1.2	0.1	1.4	0.5	0.5	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	123	39	116	253	4	17	40	23	13	544	201
Future Volume (veh/h)	34	123	39	116	253	4	17	40	23	13	544	201
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	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Adj Flow Rate, veh/h	36	131	41	123	269	4	18	43	24	14	579	214
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, %	27	27	27	27	27	27	27	27	27	27	27	27
Cap, veh/h	47	176	57	149	351	220	231	602	396	54	1630	877
Arrive On Green	0.10	0.10	0.10	0.17	0.17	0.17	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	483	1804	584	860	2022	1271	307	1016	668	31	2753	1271
Grp Volume(v), veh/h	110	0	98	208	184	4	40	0	45	317	276	214
Grp Sat Flow(s),veh/h/ln	1476	0	1395	1457	1425	1271	747	0	1245	1487	1297	1271
Q Serve(g_s), s	7.7	0.0	7.2	14.6	13.0	0.3	0.5	0.0	1.6	0.0	11.7	6.7
Cycle Q Clear(g_c), s	7.7	0.0	7.2	14.6	13.0	0.3	12.1	0.0	1.6	11.6	11.7	6.7
Prop In Lane	0.33		0.42	0.59		1.00	0.45		0.54	0.04		1.00
Lane Grp Cap(c), veh/h	144	0	136	253	247	220	491	0	737	916	768	877
V/C Ratio(X)	0.76	0.00	0.72	0.82	0.74	0.02	0.08	0.00	0.06	0.35	0.36	0.24
Avail Cap(c_a), veh/h	348	0	329	378	370	330	491	0	737	916	768	877
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	0.09	0.09	0.09	0.97	0.00	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	0.0	46.4	42.3	41.6	36.3	9.5	0.0	9.1	11.2	11.2	6.1
Incr Delay (d2), s/veh	3.2	0.0	2.7	0.9	0.4	0.0	0.3	0.0	0.2	0.3	0.4	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(95%),veh/ln	5.3	0.0	4.7	6.4	5.6	0.2	0.8	0.0	0.8	6.8	5.9	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	0.0	49.1	43.1	42.0	36.3	9.8	0.0	9.3	11.5	11.6	6.3
LnGrp LOS	D	A	D	D	D	D	A	A	A	B	B	A
Approach Vol, veh/h		208			396			85			807	
Approach Delay, s/veh		49.5			42.5			9.5			10.2	
Approach LOS		D			D			A			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.8		22.9		67.8		15.3				
Change Period (Y+Rc), s		5.0		4.5		* 5		5.0				
Max Green Setting (Gmax), s		39.0		27.5		* 40		25.0				
Max Q Clear Time (g_c+I1), s		14.1		16.6		13.7		9.7				
Green Ext Time (p_c), s		0.7		1.8		7.0		0.7				

Intersection Summary			
HCM 6th Ctrl Delay			24.2
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	5	5	10	6	28	6	150	29	10	83	0
Future Vol, veh/h	1	5	5	10	6	28	6	150	29	10	83	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	100	75	50	38	40	14	20	16	83	50	44	0
Mvmt Flow	1	6	6	12	7	33	7	179	35	12	99	0
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.5	8.5	9.7	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	9%	23%	100%	0%
Vol Thru, %	0%	84%	45%	14%	0%	100%
Vol Right, %	0%	16%	45%	64%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	179	11	44	10	83
LT Vol	6	0	1	10	10	0
Through Vol	0	150	5	6	0	83
RT Vol	0	29	5	28	0	0
Lane Flow Rate	7	213	13	52	12	99
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.011	0.292	0.023	0.074	0.021	0.154
Departure Headway (Hd)	5.624	4.941	6.28	5.086	6.212	5.608
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	638	729	571	706	578	641
Service Time	3.34	2.656	4.305	3.106	3.929	3.325
HCM Lane V/C Ratio	0.011	0.292	0.023	0.074	0.021	0.154
HCM Control Delay	8.4	9.7	9.5	8.5	9.1	9.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	1.2	0.1	0.2	0.1	0.5

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	127	20	57	57	54	19	21	104	169	28	5
Future Vol, veh/h	2	127	20	57	57	54	19	21	104	169	28	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	100	9	27	34	45	17	50	41	9	8	33	0
Mvmt Flow	2	148	23	66	66	63	22	24	121	197	33	6
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.2	10.4	10	12.7
HCM LOS	B	B	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	21	104	2	127	20	57	57	54	169	28
LT Vol	19	0	0	2	0	0	57	0	0	169	0
Through Vol	0	21	0	0	127	0	0	57	0	0	28
RT Vol	0	0	104	0	0	20	0	0	54	0	0
Lane Flow Rate	22	24	121	2	148	23	66	66	63	197	33
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.047	0.047	0.193	0.005	0.264	0.039	0.134	0.129	0.101	0.367	0.06
Departure Headway (Hd)	7.647	6.994	5.75	8.489	6.442	6.048	7.305	6.992	5.816	6.729	6.654
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	469	512	624	422	558	592	491	513	616	535	539
Service Time	5.386	4.733	3.489	6.226	4.179	3.785	5.045	4.732	3.556	4.463	4.388
HCM Lane V/C Ratio	0.047	0.047	0.194	0.005	0.265	0.039	0.134	0.129	0.102	0.368	0.061
HCM Control Delay	10.8	10.1	9.9	11.3	11.5	9	11.2	10.8	9.2	13.3	9.8
HCM Lane LOS	B	B	A	B	B	A	B	B	A	B	A
HCM 95th-tile Q	0.1	0.1	0.7	0	1.1	0.1	0.5	0.4	0.3	1.7	0.2

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	35	13	19	12	89	16	58	23	166	97	14
Future Vol, veh/h	13	35	13	19	12	89	16	58	23	166	97	14
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	18	10	0	31	10	34	54	40	26	11	16	42
Mvmt Flow	16	43	16	23	15	110	20	72	28	205	120	17
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	10	10.7	10.8	10.9
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	21%	16%	100%	0%	0%
Vol Thru, %	0%	72%	57%	10%	0%	100%	0%
Vol Right, %	0%	28%	21%	74%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	81	61	120	166	97	14
LT Vol	16	0	13	19	166	0	0
Through Vol	0	58	35	12	0	97	0
RT Vol	0	23	13	89	0	0	14
Lane Flow Rate	20	100	75	148	205	120	17
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.041	0.183	0.132	0.248	0.342	0.186	0.026
Departure Headway (Hd)	7.537	6.588	6.308	6.017	6.108	5.689	5.429
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	477	547	571	600	592	635	663
Service Time	5.253	4.304	4.019	3.717	3.808	3.389	3.129
HCM Lane V/C Ratio	0.042	0.183	0.131	0.247	0.346	0.189	0.026
HCM Control Delay	10.6	10.8	10	10.7	11.9	9.7	8.3
HCM Lane LOS	B	B	A	B	B	A	A
HCM 95th-tile Q	0.1	0.7	0.5	1	1.5	0.7	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	364	16	18	91	12	21	375	173	12	99	12
Future Volume (veh/h)	166	364	16	18	91	12	21	375	173	12	99	12
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	1826	1781	1500	1767	1470	1604	1352	1841	1826	1796	1633	1515
Adj Flow Rate, veh/h	175	383	17	19	96	13	22	395	182	13	104	13
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, %	5	8	27	9	29	20	37	4	5	7	18	26
Cap, veh/h	207	484	22	29	154	87	80	1337	598	183	1475	1032
Arrive On Green	0.20	0.20	0.20	0.06	0.06	0.06	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1013	2371	108	447	2398	1359	74	2231	997	236	2460	1284
Grp Volume(v), veh/h	299	0	276	62	53	13	326	0	273	60	57	13
Grp Sat Flow(s),veh/h/ln	1731	0	1762	1448	1397	1359	1806	0	1496	1285	1412	1284
Q Serve(g_s), s	17.6	0.0	15.7	4.4	3.9	1.0	0.0	0.0	9.5	0.1	1.8	0.2
Cycle Q Clear(g_c), s	17.6	0.0	15.7	4.4	3.9	1.0	9.1	0.0	9.5	9.6	1.8	0.2
Prop In Lane	0.59		0.06	0.31		1.00	0.07		0.67	0.22		1.00
Lane Grp Cap(c), veh/h	353	0	360	93	90	87	1119	0	897	812	846	1032
V/C Ratio(X)	0.85	0.00	0.77	0.66	0.59	0.15	0.29	0.00	0.30	0.07	0.07	0.01
Avail Cap(c_a), veh/h	547	0	557	362	349	340	1119	0	897	812	846	1032
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	0.81	0.81	0.81	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	0.0	39.8	48.5	48.2	46.8	10.3	0.0	10.4	8.9	8.9	2.1
Incr Delay (d2), s/veh	4.4	0.0	1.3	6.3	5.0	0.6	0.7	0.0	0.9	0.2	0.2	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(95%),veh/ln	12.4	0.0	11.2	3.1	2.7	0.6	6.7	0.0	5.7	1.1	1.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	0.0	41.1	54.8	53.3	47.5	11.0	0.0	11.3	9.0	9.0	2.1
LnGrp LOS	D	A	D	D	D	D	B	A	B	A	A	A
Approach Vol, veh/h		575			128			599			130	
Approach Delay, s/veh		43.1			53.4			11.1			8.3	
Approach LOS		D			D			B			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		68.6		11.3		68.6		26.1
Change Period (Y+Rc), s		5.0		4.5		* 5		4.5
Max Green Setting (Gmax), s		32.0		26.5		* 33		33.5
Max Q Clear Time (g_c+I1), s		11.5		6.4		11.6		19.6
Green Ext Time (p_c), s		5.2		0.6		0.9		2.0

Intersection Summary			
HCM 6th Ctrl Delay			27.5
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↱		↰	↱	
Traffic Vol, veh/h	2	2	0	8	0	24	4	73	37	42	122	1
Future Vol, veh/h	2	2	0	8	0	24	4	73	37	42	122	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	100	0	0	57	0	40	67	44	94	11	16	100
Mvmt Flow	2	2	0	9	0	28	5	84	43	48	140	1
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.6	8.6	9.2	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	50%	25%	100%	0%
Vol Thru, %	0%	66%	50%	0%	0%	99%
Vol Right, %	0%	34%	0%	75%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	110	4	32	42	123
LT Vol	4	0	2	8	42	0
Through Vol	0	73	2	0	0	122
RT Vol	0	37	0	24	0	1
Lane Flow Rate	5	126	5	37	48	141
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.008	0.186	0.008	0.054	0.071	0.193
Departure Headway (Hd)	6.418	5.288	6.574	5.29	5.325	4.904
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	560	681	547	680	665	722
Service Time	4.125	2.995	4.585	3.297	3.123	2.701
HCM Lane V/C Ratio	0.009	0.185	0.009	0.054	0.072	0.195
HCM Control Delay	9.2	9.2	9.6	8.6	8.5	8.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.7	0	0.2	0.2	0.7

KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX\[intersection 1 AM.xlsm]Warrant
Intersection:	1. Cabot Blvd. & Winton Ave.
Scenario:	Existing AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
7:50 AM	8:50 AM	65	96	62	578
2nd Highest Hour		62	91	60	559
3rd Highest Hour		61	90	53	495
4th Highest Hour		58	86	50	469
5th Highest Hour		57	84	47	437
6th Highest Hour		57	84	40	372
7th Highest Hour		55	81	39	366
8th Highest Hour		54	79	37	340
9th Highest Hour		52	77	34	315
10th Highest Hour		49	72	31	289
11th Highest Hour		47	69	31	289
12th Highest Hour		46	68	29	270
13th Highest Hour		44	65	28	257
14th Highest Hour		38	56	25	238
15th Highest Hour		30	45	25	238
16th Highest Hour		29	42	25	238
17th Highest Hour		20	29	20	186
18th Highest Hour		16	24	17	161
19th Highest Hour		9	13	13	122
20th Highest Hour		6	9	7	64
21st Highest Hour		5	8	5	45
22nd Highest Hour		3	5	4	39
23rd Highest Hour		2	3	3	26
24th Highest Hour		2	3	3	26

Warrant Summary

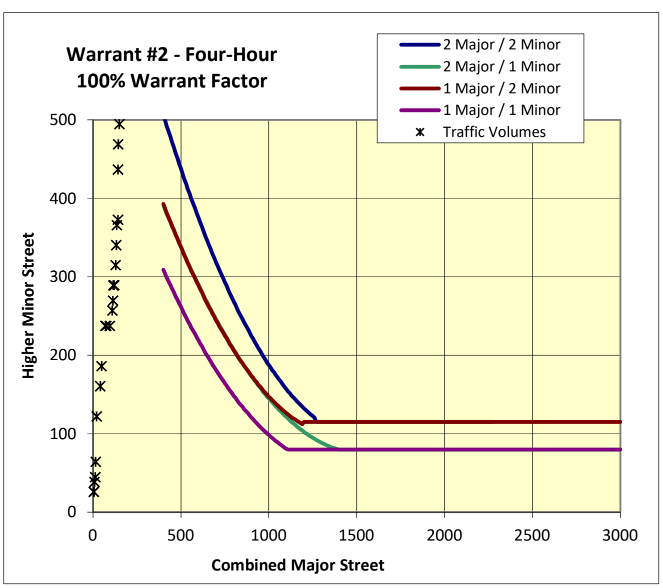
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

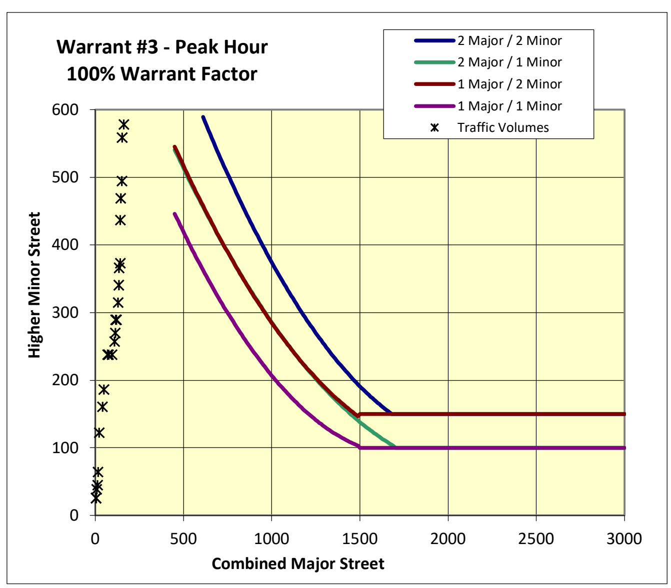
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 Sw 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX\[intersection 2 AM.xlsm]Warrant
Intersection:	2. Whitesell St. & Depot Rd.
Scenario:	Existing AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
7:55 AM	8:55 AM	181	160	25	190
2nd Highest Hour		171	151	24	184
3rd Highest Hour		169	149	21	163
4th Highest Hour		162	143	20	154
5th Highest Hour		159	141	19	144
6th Highest Hour		159	141	16	122
7th Highest Hour		152	134	16	120
8th Highest Hour		150	132	15	112
9th Highest Hour		145	128	14	103
10th Highest Hour		135	119	13	95
11th Highest Hour		130	115	13	95
12th Highest Hour		128	113	12	89
13th Highest Hour		123	109	11	84
14th Highest Hour		106	94	10	78
15th Highest Hour		84	75	10	78
16th Highest Hour		80	70	10	78
17th Highest Hour		56	49	8	61
18th Highest Hour		46	41	7	53
19th Highest Hour		24	21	5	40
20th Highest Hour		17	15	3	21
21st Highest Hour		14	13	2	15
22nd Highest Hour		10	9	2	13
23rd Highest Hour		5	4	1	8
24th Highest Hour		5	4	1	8

Warrant Summary

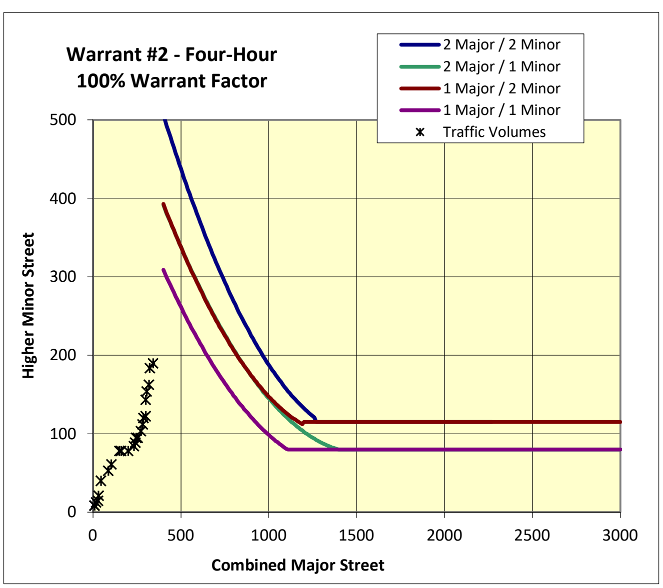
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

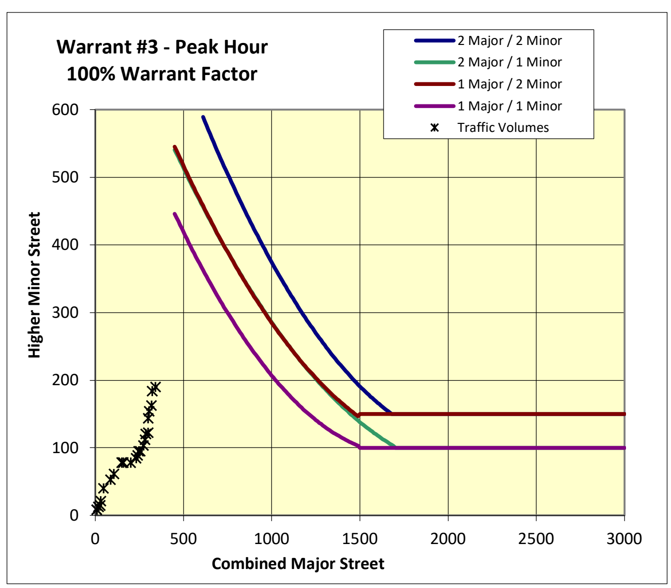
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	8	Yes	**Yes**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, suite 600
Portland, Oregon 97204
(503) 228-5230

Project #: 28037
Project Name: Hayward Depot Road Industrial TIA
Analyst: MSM
Date: 10/7/2022
File: H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX\[intersection 10 AM.xlsm]Warrant
Intersection: 4. Whitesell St. & Enterprise Ave.
Scenario: Existing AM

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
8:00 AM	9:00 AM	185	93	11	44
2nd Highest Hour		175	88	11	43
3rd Highest Hour		173	87	9	38
4th Highest Hour		165	83	9	36
5th Highest Hour		163	82	8	33
6th Highest Hour		163	82	7	28
7th Highest Hour		155	78	7	28
8th Highest Hour		153	77	6	26
9th Highest Hour		148	74	6	24
10th Highest Hour		138	69	6	22
11th Highest Hour		133	67	6	22
12th Highest Hour		131	66	5	21
13th Highest Hour		126	63	5	20
14th Highest Hour		109	55	5	18
15th Highest Hour		86	43	5	18
16th Highest Hour		81	41	5	18
17th Highest Hour		57	29	4	14
18th Highest Hour		47	24	3	12
19th Highest Hour		25	12	2	9
20th Highest Hour		17	9	1	5
21st Highest Hour		15	7	1	3
22nd Highest Hour		10	5	1	3
23rd Highest Hour		5	2	0	2
24th Highest Hour		5	2	0	2

Warrant Summary

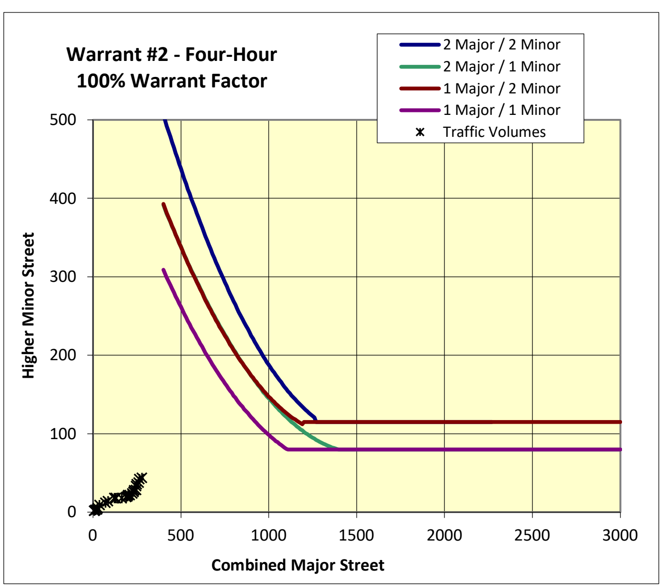
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

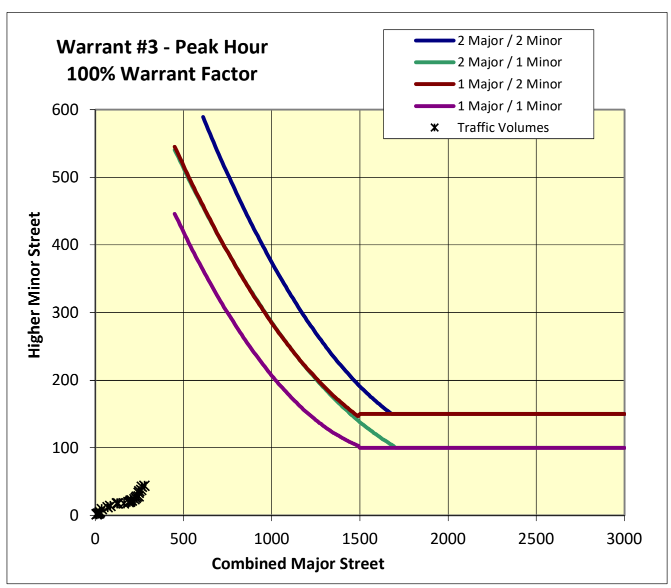
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX\[intersection 1 PM.xlsm]Warrant
Intersection:	1. Cabot Blvd. & Winton Ave.
Scenario:	Existing PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:10 PM	5:10 PM	144	202	149	168
2nd Highest Hour		136	191	144	162
3rd Highest Hour		134	189	127	144
4th Highest Hour		129	180	121	136
5th Highest Hour		127	178	113	127
6th Highest Hour		127	178	96	108
7th Highest Hour		121	170	94	106
8th Highest Hour		119	167	88	99
9th Highest Hour		115	162	81	91
10th Highest Hour		108	151	75	84
11th Highest Hour		104	145	75	84
12th Highest Hour		102	143	70	78
13th Highest Hour		98	137	66	75
14th Highest Hour		84	119	61	69
15th Highest Hour		67	94	61	69
16th Highest Hour		63	89	61	69
17th Highest Hour		44	62	48	54
18th Highest Hour		36	51	41	47
19th Highest Hour		19	27	31	35
20th Highest Hour		13	19	17	19
21st Highest Hour		12	16	12	13
22nd Highest Hour		8	11	10	11
23rd Highest Hour		4	5	7	7
24th Highest Hour		4	5	7	7

Warrant Summary

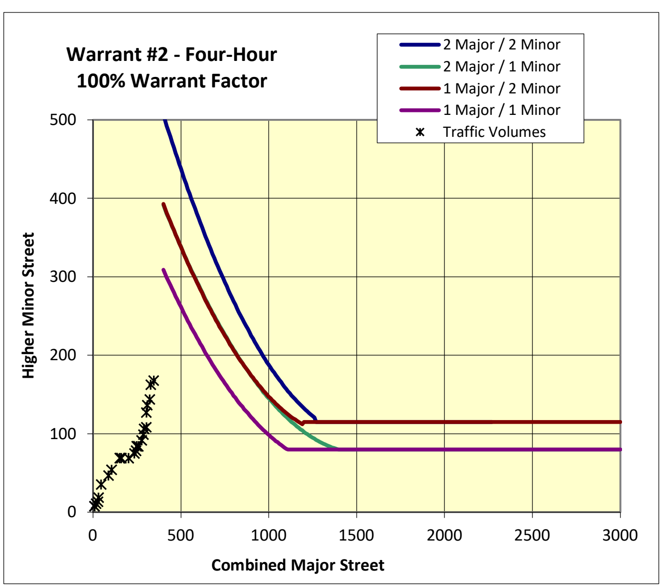
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

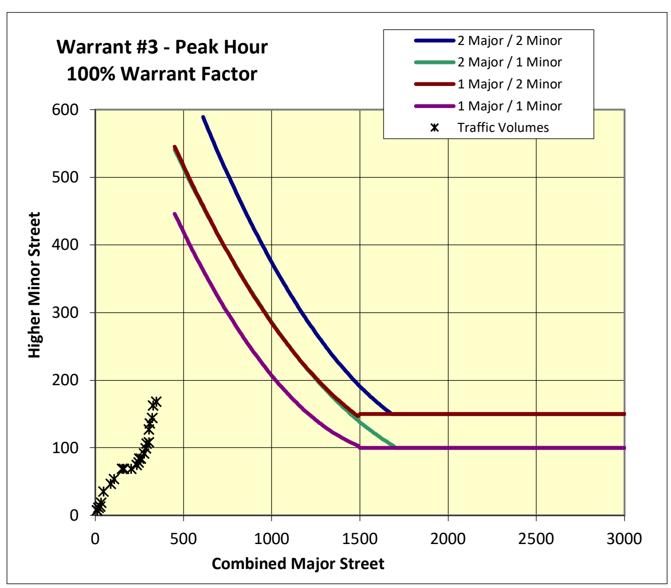
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	8	Yes	**Yes**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX\[intersection 4 PM.xlsm]Data Input
Intersection:	4. Whitesell St. & Enterprise Ave.
Scenario:	Existing PM

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
4:00 PM	5:00 PM	114	166	5	32
2nd Highest Hour		108	157	5	31
3rd Highest Hour		106	155	4	27
4th Highest Hour		102	148	4	26
5th Highest Hour		100	146	4	24
6th Highest Hour		100	146	3	21
7th Highest Hour		96	139	3	20
8th Highest Hour		94	137	3	19
9th Highest Hour		91	133	3	17
10th Highest Hour		85	124	3	16
11th Highest Hour		82	120	3	16
12th Highest Hour		81	117	2	15
13th Highest Hour		78	113	2	14
14th Highest Hour		67	97	2	13
15th Highest Hour		53	77	2	13
16th Highest Hour		50	73	2	13
17th Highest Hour		35	51	2	10
18th Highest Hour		29	42	1	9
19th Highest Hour		15	22	1	7
20th Highest Hour		11	15	1	4
21st Highest Hour		9	13	0	2
22nd Highest Hour		6	9	0	2
23rd Highest Hour		3	4	0	1
24th Highest Hour		3	4	0	1

Warrant Summary

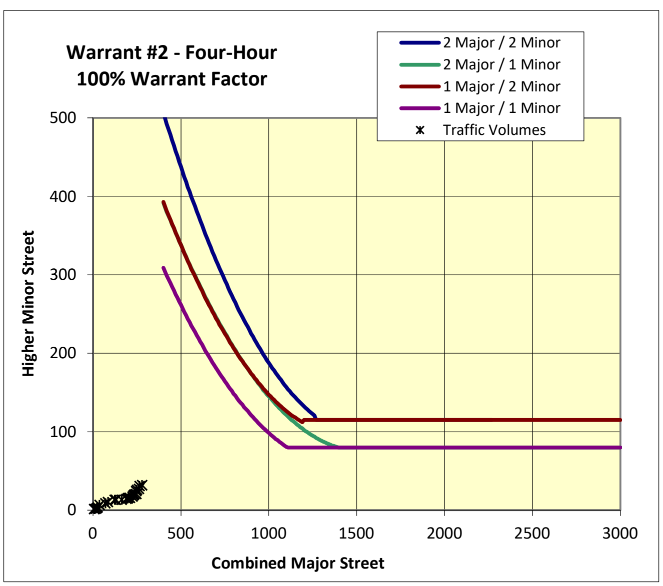
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

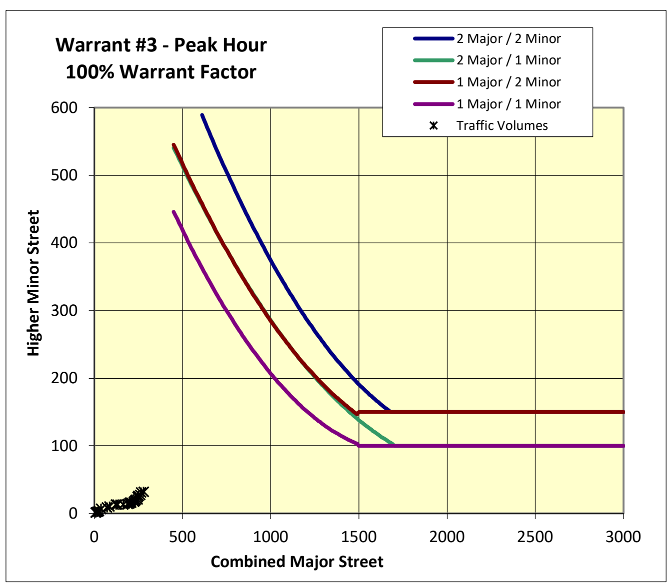
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX\[intersection 2 PM.xlsm]Warrant
Intersection:	2. Whitesell St. & Depot Rd.
Scenario:	Existing PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:05 PM	5:05 PM	96	277	61	120
2nd Highest Hour		91	262	59	116
3rd Highest Hour		90	259	52	103
4th Highest Hour		86	247	49	97
5th Highest Hour		84	244	46	91
6th Highest Hour		84	244	39	77
7th Highest Hour		81	233	39	76
8th Highest Hour		79	229	36	71
9th Highest Hour		77	222	33	65
10th Highest Hour		72	207	31	60
11th Highest Hour		69	199	31	60
12th Highest Hour		68	196	28	56
13th Highest Hour		65	188	27	53
14th Highest Hour		56	163	25	49
15th Highest Hour		45	129	25	49
16th Highest Hour		42	122	25	49
17th Highest Hour		29	85	20	39
18th Highest Hour		24	70	17	33
19th Highest Hour		13	37	13	25
20th Highest Hour		9	26	7	13
21st Highest Hour		8	22	5	9
22nd Highest Hour		5	15	4	8
23rd Highest Hour		3	7	3	5
24th Highest Hour		3	7	3	5

Warrant Summary

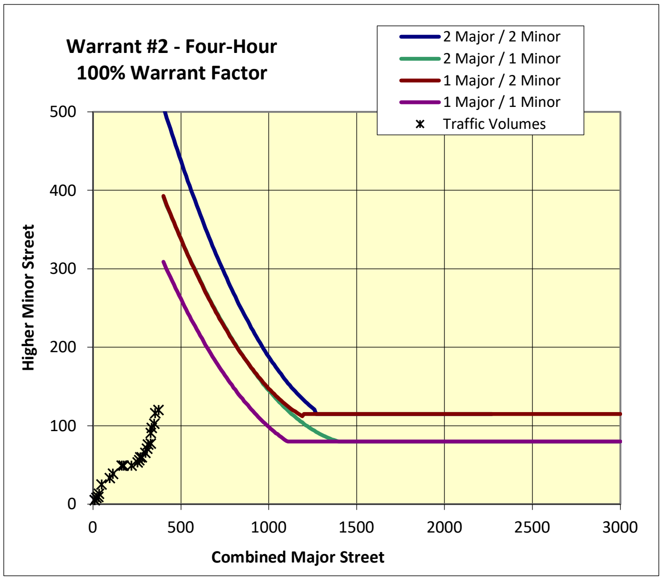
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

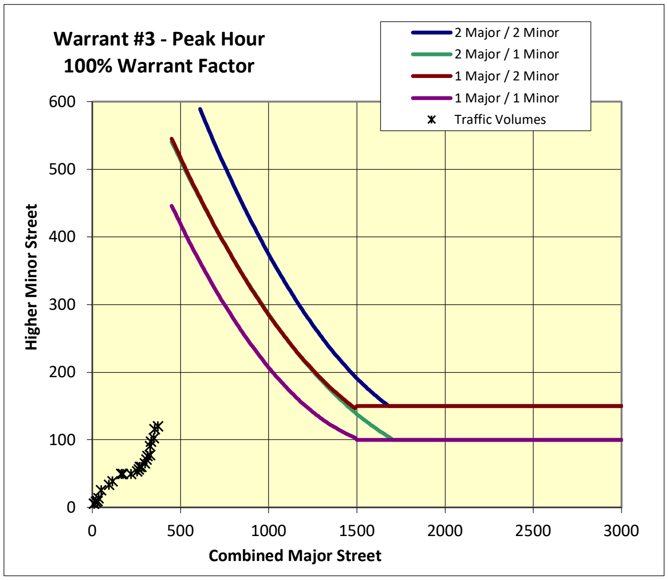
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	2	No	**No**
	B	525	53	0	No	
56%	A	280	84	5	No	**No**
	B	420	42	0	No	





Page intentionally blank

Appendix C: Existing Plus Project Level of Service, Queue, And Peak Hour Traffic Signal Warrants Worksheets

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	42	17	329	79	179	24	23	19	77	17	2
Future Vol, veh/h	3	42	17	329	79	179	24	23	19	77	17	2
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
Heavy Vehicles, %	0	43	50	14	18	9	29	7	57	39	0	0
Mvmt Flow	3	47	19	366	88	199	27	26	21	86	19	2
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	10.4	14.5	10.3	11.7
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	23	19	3	42	17	329	79	179	77	17
LT Vol	24	0	0	3	0	0	329	0	0	77	0
Through Vol	0	23	0	0	42	0	0	79	0	0	17
RT Vol	0	0	19	0	0	17	0	0	179	0	0
Lane Flow Rate	27	26	21	3	47	19	366	88	199	86	19
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.057	0.048	0.041	0.006	0.093	0.035	0.624	0.139	0.268	0.185	0.035
Departure Headway (Hd)	7.703	6.829	6.979	6.979	7.21	6.629	6.143	5.711	4.858	7.768	6.605
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	466	525	514	513	498	541	592	632	744	463	543
Service Time	5.436	4.562	4.712	4.712	4.943	4.362	3.843	3.411	2.558	5.499	4.336
HCM Lane V/C Ratio	0.058	0.05	0.041	0.006	0.094	0.035	0.618	0.139	0.267	0.186	0.035
HCM Control Delay	10.9	9.9	10	9.8	10.7	9.6	18.5	9.3	9.3	12.3	9.6
HCM Lane LOS	B	A	A	A	B	A	C	A	A	B	A
HCM 95th-tile Q	0.2	0.2	0.1	0	0.3	0.1	4.3	0.5	1.1	0.7	0.1

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	16	14	18	61	150	57	139	28	75	78	17
Future Vol, veh/h	7	16	14	18	61	150	57	139	28	75	78	17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	20	29	25	43	11	18	0	23	41	45	52	50
Mvmt Flow	8	17	15	19	66	161	61	149	30	81	84	18
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	9.6	13.3	11.5	10.7
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	19%	8%	100%	0%	0%
Vol Thru, %	0%	83%	43%	27%	0%	100%	0%
Vol Right, %	0%	17%	38%	66%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	167	37	229	75	78	17
LT Vol	57	0	7	18	75	0	0
Through Vol	0	139	16	61	0	78	0
RT Vol	0	28	14	150	0	0	17
Lane Flow Rate	61	180	40	246	81	84	18
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.112	0.316	0.07	0.42	0.159	0.156	0.03
Departure Headway (Hd)	6.56	6.331	6.376	6.147	7.088	6.701	5.957
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	547	569	562	586	507	536	602
Service Time	4.286	4.057	4.112	3.873	4.814	4.428	3.683
HCM Lane V/C Ratio	0.112	0.316	0.071	0.42	0.16	0.157	0.03
HCM Control Delay	10.1	12	9.6	13.3	11.2	10.7	8.9
HCM Lane LOS	B	B	A	B	B	B	A
HCM 95th-tile Q	0.4	1.3	0.2	2.1	0.6	0.5	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	125	43	116	274	4	30	40	23	13	544	205
Future Volume (veh/h)	35	125	43	116	274	4	30	40	23	13	544	205
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		0.98	1.00		1.00	1.00		0.99
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	1381	1159	937	1693	1722	1900	1618	1604	1648	1900	1722	1737
Adj Flow Rate, veh/h	38	136	47	126	298	4	33	43	25	14	591	223
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, %	35	50	65	14	12	0	19	20	17	0	12	11
Cap, veh/h	46	170	61	156	396	262	296	526	349	55	1807	1014
Arrive On Green	0.13	0.13	0.13	0.17	0.17	0.17	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	370	1357	485	937	2375	1571	417	920	611	34	3164	1453
Grp Volume(v), veh/h	117	0	104	225	199	4	46	0	55	324	281	223
Grp Sat Flow(s),veh/h/ln	1140	0	1072	1675	1636	1571	598	0	1349	1709	1489	1453
Q Serve(g_s), s	10.6	0.0	10.0	13.7	12.2	0.2	2.0	0.0	1.9	0.0	10.6	5.8
Cycle Q Clear(g_c), s	10.6	0.0	10.0	13.7	12.2	0.2	12.6	0.0	1.9	10.5	10.6	5.8
Prop In Lane	0.32		0.45	0.56		1.00	0.72		0.45	0.04		1.00
Lane Grp Cap(c), veh/h	143	0	134	280	273	262	400	0	771	1011	850	1014
V/C Ratio(X)	0.82	0.00	0.77	0.81	0.73	0.02	0.11	0.00	0.07	0.32	0.33	0.22
Avail Cap(c_a), veh/h	269	0	253	435	424	408	400	0	771	1011	850	1014
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	0.09	0.09	0.09	0.97	0.00	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.2	0.0	44.9	42.5	41.9	36.9	12.5	0.0	10.2	12.0	12.0	5.8
Incr Delay (d2), s/veh	4.4	0.0	3.6	0.6	0.3	0.0	0.6	0.0	0.2	0.3	0.3	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(95%),veh/ln	5.7	0.0	5.0	6.9	6.0	0.2	1.2	0.0	1.1	7.1	6.2	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	0.0	48.5	43.1	42.2	36.9	13.0	0.0	10.3	12.3	12.3	5.9
LnGrp LOS	D	A	D	D	D	D	B	A	B	B	B	A
Approach Vol, veh/h		221			428			101			828	
Approach Delay, s/veh		49.1			42.6			11.6			10.6	
Approach LOS		D			D			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.5		22.2		65.5		18.3				
Change Period (Y+Rc), s		5.0		4.5		* 5		5.0				
Max Green Setting (Gmax), s		39.0		27.5		* 40		25.0				
Max Q Clear Time (g_c+I1), s		14.6		15.7		12.6		12.6				
Green Ext Time (p_c), s		0.9		2.0		7.2		0.7				

Intersection Summary			
HCM 6th Ctrl Delay			24.7
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	5	5	10	6	42	6	178	29	10	86	0
Future Vol, veh/h	1	5	5	10	6	42	6	178	29	10	86	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	100	75	50	38	40	14	20	16	83	50	44	0
Mvmt Flow	1	6	6	12	7	50	7	212	35	12	102	0
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.6	8.7	10.2	9.5
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	9%	17%	100%	0%
Vol Thru, %	0%	86%	45%	10%	0%	100%
Vol Right, %	0%	14%	45%	72%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	207	11	58	10	86
LT Vol	6	0	1	10	10	0
Through Vol	0	178	5	6	0	86
RT Vol	0	29	5	42	0	0
Lane Flow Rate	7	246	13	69	12	102
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.011	0.343	0.023	0.098	0.021	0.162
Departure Headway (Hd)	5.675	5.007	6.406	5.12	6.291	5.686
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	632	720	559	700	570	632
Service Time	3.396	2.727	4.441	3.147	4.015	3.41
HCM Lane V/C Ratio	0.011	0.342	0.023	0.099	0.021	0.161
HCM Control Delay	8.5	10.3	9.6	8.7	9.2	9.5
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0	1.5	0.1	0.3	0.1	0.6

Intersection						
Int Delay, s/veh	4.2					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	25	0	80	45	0	11
Future Vol, veh/h	25	0	80	45	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	27	0	86	48	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	27	0	247	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	220	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1600	-	746	1054
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1600	-	705	1054
Mov Cap-2 Maneuver	-	-	-	-	705	-
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	776	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.7	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1054	-	-	1600	-
HCM Lane V/C Ratio	0.011	-	-	0.054	-
HCM Control Delay (s)	8.5	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	-

Intersection						
Int Delay, s/veh	0.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	0	9	125	0	1
Future Vol, veh/h	36	0	9	125	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	39	0	10	134	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	39	0	193	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	154	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1584	-	800	1038
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	879	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1584	-	794	1038
Mov Cap-2 Maneuver	-	-	-	-	794	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	873	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1038	-	-	1584	-
HCM Lane V/C Ratio	0.001	-	-	0.006	-
HCM Control Delay (s)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	127	20	58	57	54	19	21	112	169	28	5
Future Vol, veh/h	2	127	20	58	57	54	19	21	112	169	28	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	100	9	27	34	45	17	50	41	9	8	33	0
Mvmt Flow	2	148	23	67	66	63	22	24	130	197	33	6
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.2	10.5	10.1	12.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	21	112	2	127	20	58	57	54	169	28
LT Vol	19	0	0	2	0	0	58	0	0	169	0
Through Vol	0	21	0	0	127	0	0	57	0	0	28
RT Vol	0	0	112	0	0	20	0	0	54	0	0
Lane Flow Rate	22	24	130	2	148	23	67	66	63	197	33
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.047	0.047	0.208	0.006	0.265	0.039	0.137	0.129	0.102	0.369	0.06
Departure Headway (Hd)	7.655	7.002	5.758	8.516	6.469	6.075	7.333	7.02	5.844	6.755	6.68
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	468	511	623	421	555	589	489	511	612	533	536
Service Time	5.398	4.745	3.501	6.259	4.212	3.818	5.076	4.763	3.587	4.493	4.418
HCM Lane V/C Ratio	0.047	0.047	0.209	0.005	0.267	0.039	0.137	0.129	0.103	0.37	0.062
HCM Control Delay	10.8	10.1	10	11.3	11.5	9.1	11.2	10.8	9.3	13.4	9.8
HCM Lane LOS	B	B	A	B	B	A	B	B	A	B	A
HCM 95th-tile Q	0.1	0.1	0.8	0	1.1	0.1	0.5	0.4	0.3	1.7	0.2

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	80	37	19	18	89	21	58	23	166	97	15
Future Vol, veh/h	21	80	37	19	18	89	21	58	23	166	97	15
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	18	10	0	31	10	34	54	40	26	11	16	42
Mvmt Flow	26	99	46	23	22	110	26	72	28	205	120	19
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	11.8	11.4	11.4	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	15%	15%	100%	0%	0%
Vol Thru, %	0%	72%	58%	14%	0%	100%	0%
Vol Right, %	0%	28%	27%	71%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	81	138	126	166	97	15
LT Vol	21	0	21	19	166	0	0
Through Vol	0	58	80	18	0	97	0
RT Vol	0	23	37	89	0	0	15
Lane Flow Rate	26	100	170	156	205	120	19
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.058	0.195	0.301	0.272	0.369	0.202	0.03
Departure Headway (Hd)	7.99	7.036	6.354	6.298	6.483	6.062	5.801
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	448	509	566	571	555	592	617
Service Time	5.742	4.787	4.095	4.04	4.219	3.798	3.537
HCM Lane V/C Ratio	0.058	0.196	0.3	0.273	0.369	0.203	0.031
HCM Control Delay	11.2	11.5	11.8	11.4	13	10.3	8.7
HCM Lane LOS	B	B	B	B	B	B	A
HCM 95th-tile Q	0.2	0.7	1.3	1.1	1.7	0.7	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	381	40	18	93	12	23	375	173	12	99	14
Future Volume (veh/h)	170	381	40	18	93	12	23	375	173	12	99	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	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	1826	1781	1500	1767	1470	1604	1352	1841	1826	1796	1633	1515
Adj Flow Rate, veh/h	179	401	42	19	98	13	24	395	182	13	104	15
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, %	5	8	27	9	29	20	37	4	5	7	18	26
Cap, veh/h	209	498	54	29	160	90	84	1283	572	177	1424	1027
Arrive On Green	0.22	0.22	0.22	0.07	0.07	0.07	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	953	2268	246	439	2406	1353	81	2206	984	233	2448	1282
Grp Volume(v), veh/h	326	0	296	63	54	13	329	0	272	60	57	15
Grp Sat Flow(s),veh/h/ln	1734	0	1733	1448	1397	1353	1802	0	1469	1269	1412	1282
Q Serve(g_s), s	19.1	0.0	17.1	4.5	4.0	1.0	0.0	0.0	10.1	0.1	1.9	0.2
Cycle Q Clear(g_c), s	19.1	0.0	17.1	4.5	4.0	1.0	9.7	0.0	10.1	10.2	1.9	0.2
Prop In Lane	0.55		0.14	0.30		1.00	0.07		0.67	0.22		1.00
Lane Grp Cap(c), veh/h	381	0	380	97	93	90	1085	0	855	780	821	1027
V/C Ratio(X)	0.86	0.00	0.78	0.65	0.58	0.14	0.30	0.00	0.32	0.08	0.07	0.01
Avail Cap(c_a), veh/h	548	0	548	362	349	338	1085	0	855	780	821	1027
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	0.81	0.81	0.81	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	0.0	38.9	48.3	48.0	46.6	11.3	0.0	11.4	9.7	9.7	2.1
Incr Delay (d2), s/veh	6.5	0.0	2.5	5.8	4.6	0.6	0.7	0.0	1.0	0.2	0.2	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(95%),veh/ln	13.6	0.0	11.9	3.2	2.7	0.6	7.2	0.0	6.1	1.1	1.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	0.0	41.5	54.1	52.7	47.2	12.0	0.0	12.4	9.9	9.8	2.1
LnGrp LOS	D	A	D	D	D	D	B	A	B	A	A	A
Approach Vol, veh/h		622			130			601			132	
Approach Delay, s/veh		44.0			52.8			12.2			9.0	
Approach LOS		D			D			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.7		11.6		66.7		27.8				
Change Period (Y+Rc), s		5.0		4.5		* 5		4.5				
Max Green Setting (Gmax), s		32.0		26.5		* 33		33.5				
Max Q Clear Time (g_c+I1), s		12.1		6.5		12.2		21.1				
Green Ext Time (p_c), s		5.2		0.6		0.9		2.1				

Intersection Summary			
HCM 6th Ctrl Delay			28.8
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	0	8	0	26	4	76	37	42	146	1
Future Vol, veh/h	2	2	0	8	0	26	4	76	37	42	146	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	100	0	0	57	0	40	67	44	94	11	16	100
Mvmt Flow	2	2	0	9	0	30	5	87	43	48	168	1
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.7	8.7	9.3	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	50%	24%	100%	0%
Vol Thru, %	0%	67%	50%	0%	0%	99%
Vol Right, %	0%	33%	0%	76%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	113	4	34	42	147
LT Vol	4	0	2	8	42	0
Through Vol	0	76	2	0	0	146
RT Vol	0	37	0	26	0	1
Lane Flow Rate	5	130	5	39	48	169
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.008	0.192	0.008	0.058	0.073	0.235
Departure Headway (Hd)	6.45	5.326	6.653	5.351	5.435	5.014
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	557	677	539	671	663	720
Service Time	4.161	3.037	4.675	3.369	3.135	2.714
HCM Lane V/C Ratio	0.009	0.192	0.009	0.058	0.072	0.235
HCM Control Delay	9.2	9.3	9.7	8.7	8.6	9.2
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.7	0	0.2	0.2	0.9

Intersection	
Int Delay, s/veh	3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	0	11	42	0	69
Future Vol, veh/h	61	0	11	42	0	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	0	14	52	0	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	75	0	155	75
Stage 1	-	-	-	-	75	-
Stage 2	-	-	-	-	80	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1537	-	841	992
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	948	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1537	-	833	992
Mov Cap-2 Maneuver	-	-	-	-	833	-
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	992	-	-	1537	-
HCM Lane V/C Ratio	0.086	-	-	0.009	-
HCM Control Delay (s)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	0.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	0	1	53	0	8
Future Vol, veh/h	130	0	1	53	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	160	0	1	65	0	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	160	0	227	160
Stage 1	-	-	-	-	160	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1432	-	766	890
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1432	-	765	890
Mov Cap-2 Maneuver	-	-	-	-	765	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	960	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	890	-	-	1432	-
HCM Lane V/C Ratio	0.011	-	-	0.001	-
HCM Control Delay (s)	9.1	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX P\[intersection 1 AM.xlsm]Data Input
Intersection:	1. Cabot Blvd. & Winton Ave.
Scenario:	Existing AM+P

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
7:50 AM	8:50 AM	66	96	62	587
2nd Highest Hour		62	91	60	567
3rd Highest Hour		62	90	53	502
4th Highest Hour		59	86	50	476
5th Highest Hour		58	84	47	444
6th Highest Hour		58	84	40	378
7th Highest Hour		55	81	39	372
8th Highest Hour		55	79	37	346
9th Highest Hour		53	77	34	320
10th Highest Hour		49	72	31	294
11th Highest Hour		48	69	31	294
12th Highest Hour		47	68	29	274
13th Highest Hour		45	65	28	261
14th Highest Hour		39	56	25	241
15th Highest Hour		31	45	25	241
16th Highest Hour		29	42	25	241
17th Highest Hour		20	29	20	189
18th Highest Hour		17	24	17	163
19th Highest Hour		9	13	13	124
20th Highest Hour		6	9	7	65
21st Highest Hour		5	8	5	46
22nd Highest Hour		4	5	4	39
23rd Highest Hour		2	3	3	26
24th Highest Hour		2	3	3	26

Warrant Summary

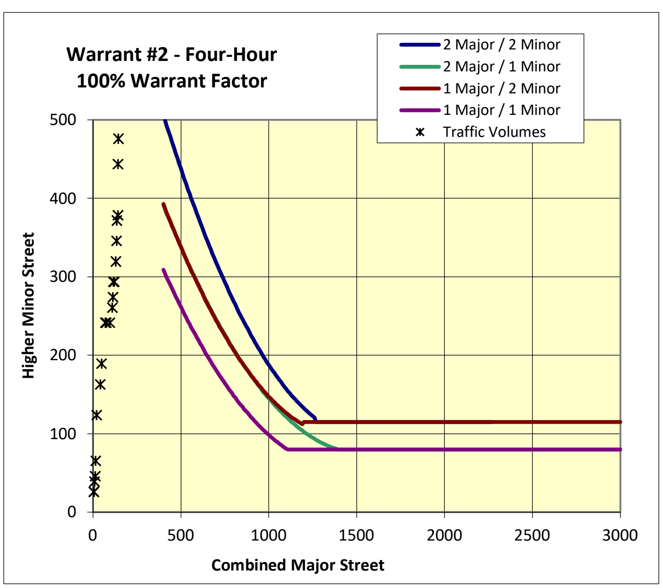
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

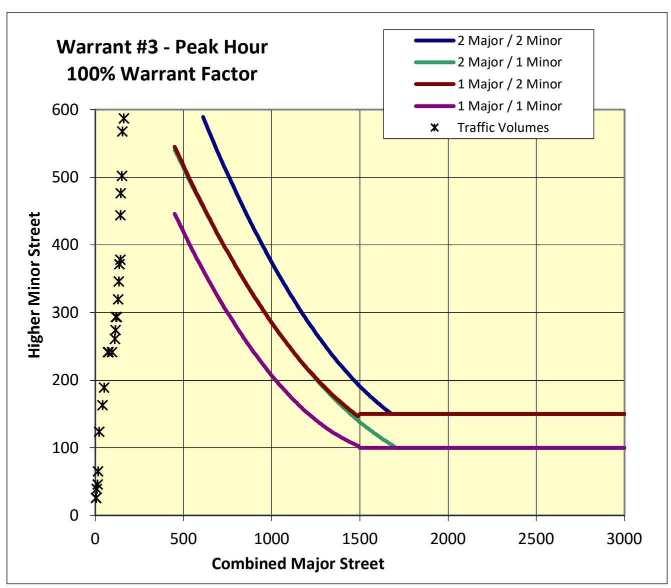
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX P\[intersection 11 AM.xlsm]Warrant
Intersection:	2. Whitesell St. & Depot Rd.
Scenario:	Existing AM+P

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
7:55 AM	8:55 AM	224	170	37	229
2nd Highest Hour		212	161	36	221
3rd Highest Hour		209	159	32	196
4th Highest Hour		200	152	30	186
5th Highest Hour		197	150	28	173
6th Highest Hour		197	150	24	148
7th Highest Hour		188	143	23	145
8th Highest Hour		185	141	22	135
9th Highest Hour		179	136	20	125
10th Highest Hour		167	127	19	115
11th Highest Hour		161	122	19	115
12th Highest Hour		158	120	17	107
13th Highest Hour		152	116	16	102
14th Highest Hour		131	100	15	94
15th Highest Hour		105	79	15	94
16th Highest Hour		99	75	15	94
17th Highest Hour		69	52	12	74
18th Highest Hour		57	43	10	64
19th Highest Hour		30	23	8	48
20th Highest Hour		21	16	4	25
21st Highest Hour		18	14	3	18
22nd Highest Hour		12	9	2	15
23rd Highest Hour		6	5	2	10
24th Highest Hour		6	5	2	10

Warrant Summary

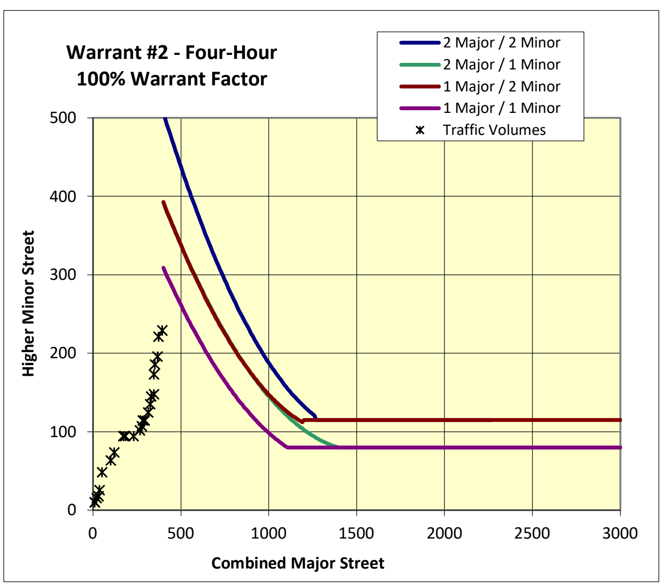
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

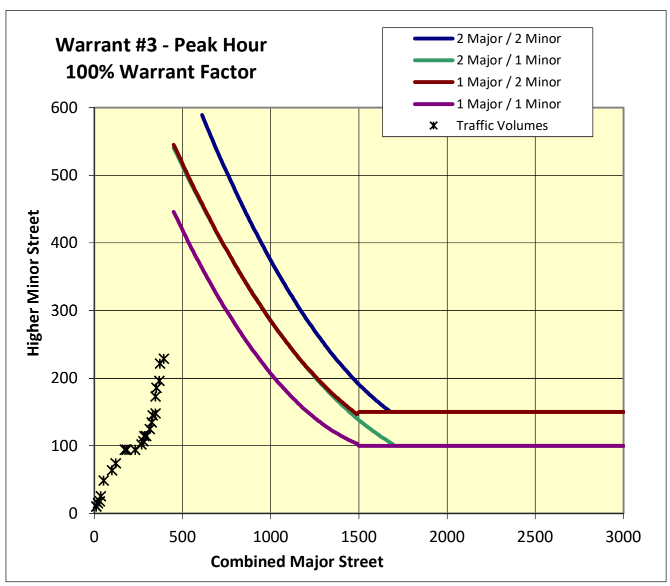
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	4	No	**No**
	B	525	53	0	No	
56%	A	280	84	11	Yes	**Yes**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
581 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX P\[intersection 4 AM.xlsm]Data Input
Intersection:	4. Whitesell St. & Enterprise Ave.
Scenario:	Existing AM+P

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
8:00 AM	9:00 AM	213	96	11	58
2nd Highest Hour		202	91	11	56
3rd Highest Hour		199	90	9	50
4th Highest Hour		190	86	9	47
5th Highest Hour		187	84	8	44
6th Highest Hour		187	84	7	37
7th Highest Hour		179	81	7	37
8th Highest Hour		176	79	6	34
9th Highest Hour		170	77	6	32
10th Highest Hour		159	72	6	29
11th Highest Hour		153	69	6	29
12th Highest Hour		151	68	5	27
13th Highest Hour		145	65	5	26
14th Highest Hour		125	56	5	24
15th Highest Hour		99	45	5	24
16th Highest Hour		94	42	5	24
17th Highest Hour		65	29	4	19
18th Highest Hour		54	24	3	16
19th Highest Hour		28	13	2	12
20th Highest Hour		20	9	1	6
21st Highest Hour		17	8	1	5
22nd Highest Hour		11	5	1	4
23rd Highest Hour		6	3	0	3
24th Highest Hour		6	3	0	3

Warrant Summary

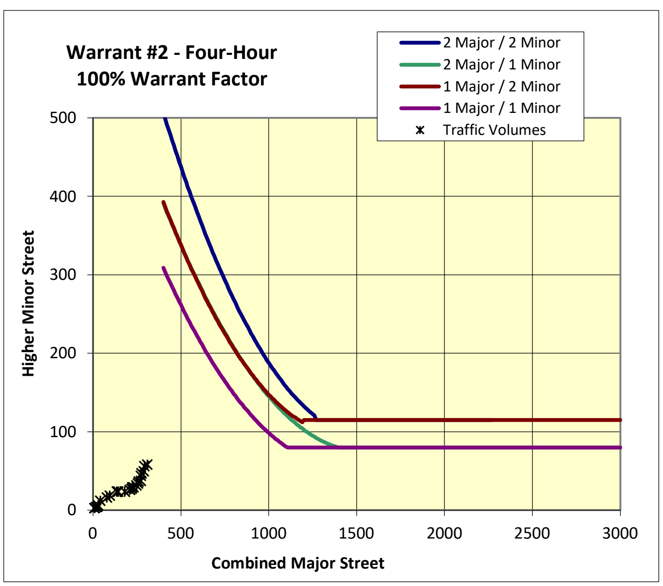
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

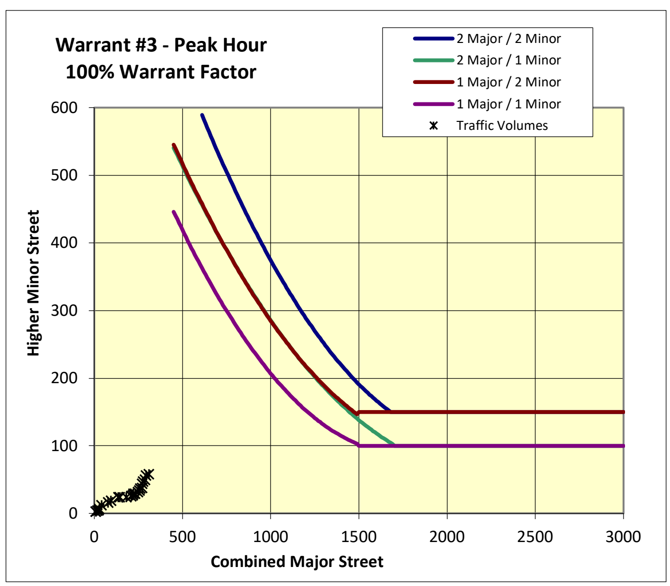
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG P\[intersection 1 PM.xlsm]Data Input
Intersection:	1. Cabot Blvd. & Winton Ave.
Scenario:	BG PM+P

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:10 PM	5:10 PM	167	210	155	177
2nd Highest Hour		158	199	150	171
3rd Highest Hour		156	196	133	151
4th Highest Hour		149	188	126	144
5th Highest Hour		147	185	117	134
6th Highest Hour		147	185	100	114
7th Highest Hour		140	176	98	112
8th Highest Hour		138	174	91	104
9th Highest Hour		134	168	84	96
10th Highest Hour		125	157	78	89
11th Highest Hour		120	151	78	89
12th Highest Hour		118	148	72	83
13th Highest Hour		114	143	69	79
14th Highest Hour		98	123	64	73
15th Highest Hour		78	98	64	73
16th Highest Hour		73	92	64	73
17th Highest Hour		51	64	50	57
18th Highest Hour		42	53	43	49
19th Highest Hour		22	28	33	37
20th Highest Hour		16	20	17	20
21st Highest Hour		13	17	12	14
22nd Highest Hour		9	11	10	12
23rd Highest Hour		4	6	7	8
24th Highest Hour		4	6	7	8

Warrant Summary

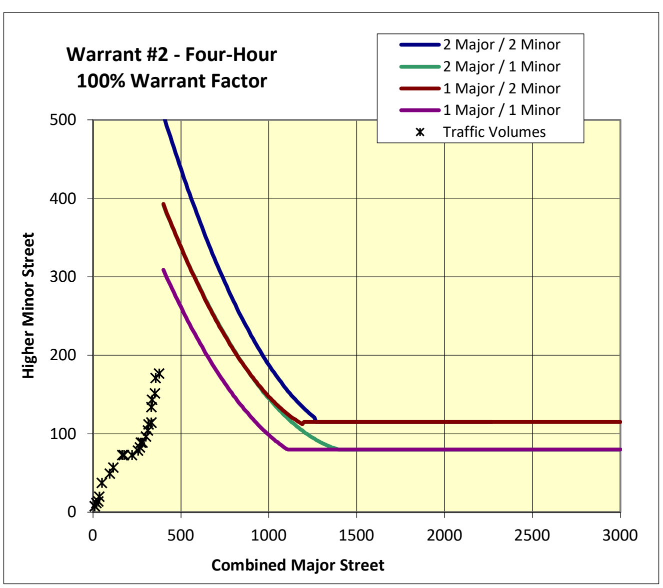
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

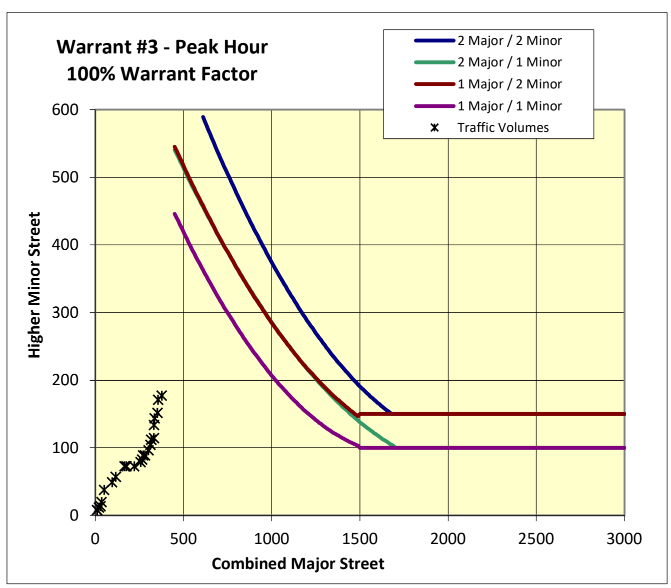
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	3	No	**No**
	B	525	53	0	No	
56%	A	280	84	10	Yes	**Yes**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX P\[intersection 2 PM.xlsm]Warrant
Intersection:	2. Whitesell St. & Depot Rd.
Scenario:	Existing PM+P

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:05 PM	5:05 PM	117	189	4	34
2nd Highest Hour		111	179	4	33
3rd Highest Hour		109	176	3	29
4th Highest Hour		105	169	3	28
5th Highest Hour		103	166	3	26
6th Highest Hour		103	166	3	22
7th Highest Hour		98	159	3	22
8th Highest Hour		97	156	2	20
9th Highest Hour		94	151	2	19
10th Highest Hour		87	141	2	17
11th Highest Hour		84	136	2	17
12th Highest Hour		83	134	2	16
13th Highest Hour		80	129	2	15
14th Highest Hour		69	111	2	14
15th Highest Hour		55	88	2	14
16th Highest Hour		51	83	2	14
17th Highest Hour		36	58	1	11
18th Highest Hour		30	48	1	9
19th Highest Hour		16	25	1	7
20th Highest Hour		11	18	0	4
21st Highest Hour		9	15	0	3
22nd Highest Hour		6	10	0	2
23rd Highest Hour		3	5	0	2
24th Highest Hour		3	5	0	2

Warrant Summary

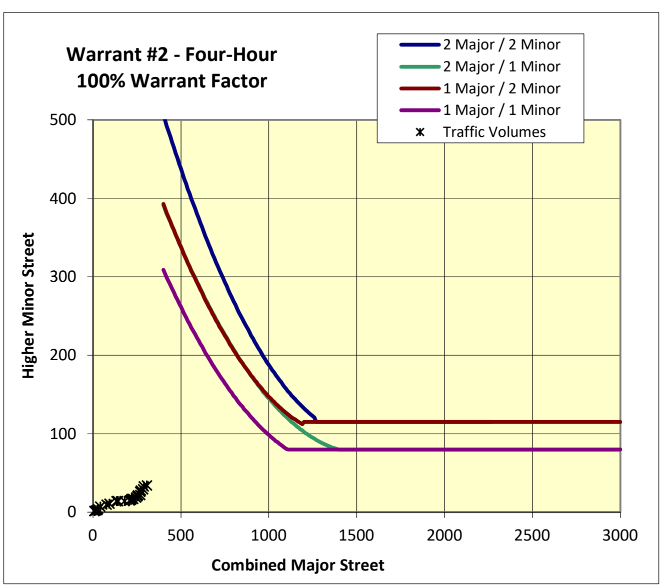
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

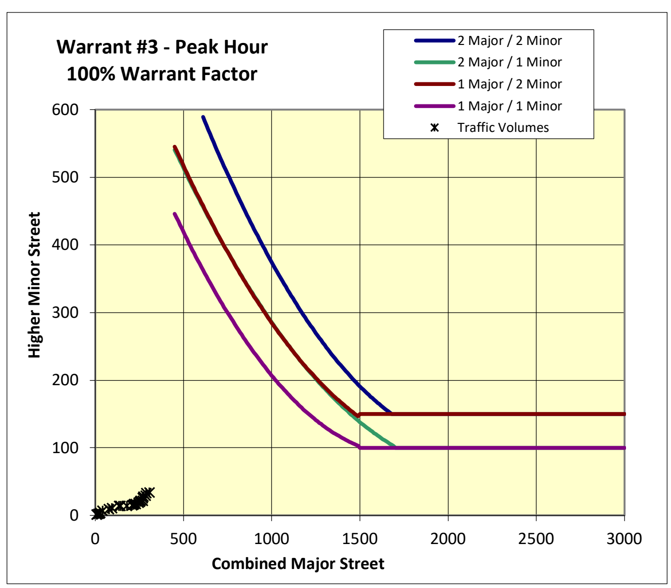
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
581 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\EX P\[intersection 4 PM.xlsm]Data Input
Intersection:	4. Whitesell St. & Enterprise Ave.
Scenario:	Existing PM+P

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
4:00 PM	5:00 PM	117	189	4	34
2nd Highest Hour		111	179	4	33
3rd Highest Hour		109	176	3	29
4th Highest Hour		105	169	3	28
5th Highest Hour		103	166	3	26
6th Highest Hour		103	166	3	22
7th Highest Hour		98	159	3	22
8th Highest Hour		97	156	2	20
9th Highest Hour		94	151	2	19
10th Highest Hour		87	141	2	17
11th Highest Hour		84	136	2	17
12th Highest Hour		83	134	2	16
13th Highest Hour		80	129	2	15
14th Highest Hour		69	111	2	14
15th Highest Hour		55	88	2	14
16th Highest Hour		51	83	2	14
17th Highest Hour		36	58	1	11
18th Highest Hour		30	48	1	9
19th Highest Hour		16	25	1	7
20th Highest Hour		11	18	0	4
21st Highest Hour		9	15	0	3
22nd Highest Hour		6	10	0	2
23rd Highest Hour		3	5	0	2
24th Highest Hour		3	5	0	2

Warrant Summary

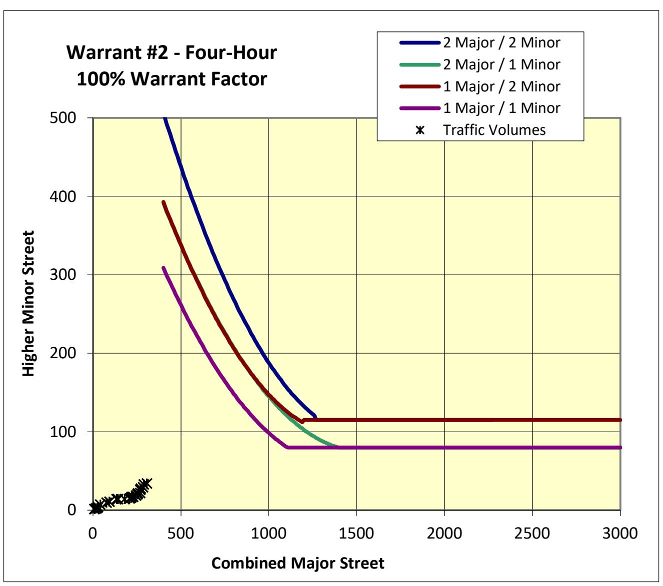
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

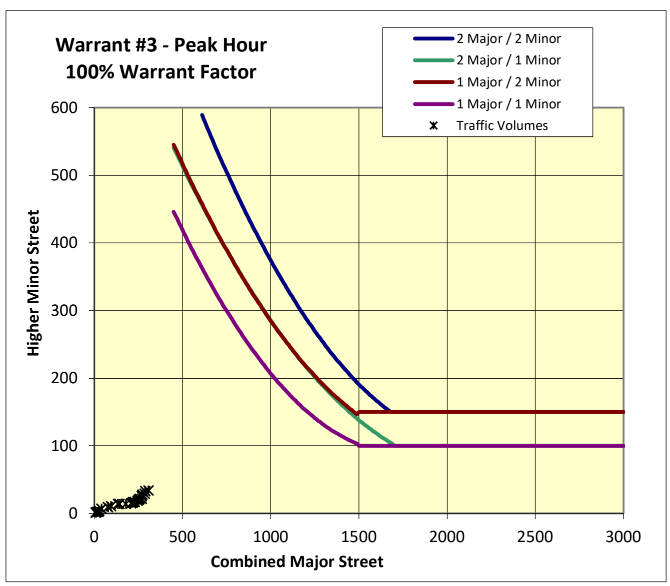
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





Page intentionally blank

Appendix D: Intersection Queue Spreadsheets

#	Intersection	Control	Movement		Storage	Existing				Existing Plus Project				Project Contribution			
						AM Queue (ft.)	Exceed Storage?	PM Queue (ft.)	Exceed Storage?	AM Queue (ft.)	Exceed Storage?	PM Queue (ft.)	Exceed Storage?	AM Queue	AM Cars	PM Queue	PM Cars
1	Cabot Blvd. & Winton Ave.	AWSC	NB	Left	90	0		0		0		0		0	0	0	0
				Thru	1,200	0		0		0		0		0	0	0	0
				Right	1,200	0		0		0		25		0	0	25	1
			SB	Left	450	50		50		25		50		-25	-1	0	0
				Thru	50	0		0		0		0			0	0	
			EB	Left	180	0		0		0		0		0	0	0	0
				Thru	625	25		25		0		25		-25	-1	0	0
				Right	625	0		0		0		0			0	0	
			WB	Left	210	100		25		125		25		25	1	0	0
				Thru	340	25		25		25		25			0	0	
				Right	340	25		25		25		0		0	0	-25	-1
2	Whitesell Rd. & Depot Rd.	AWSC	NB	Left	90	0		0		25		25		25	1	25	1
				Thru / Right	1,200	25		25		50		25		25	1	0	0
			SB	Left	450	25		50		25		50		0	0	0	0
				Thru	450	25		25		25		25		0	0	0	0
			EB	Left	180	0		25		0		0		0	0	-25	-1
				Thru/Right	625	0		25		25		25		25	1	0	0
			WB	Left	210	50		25		0		0		-50	-2	-25	-1
				Thru/Right	340	50		25		50		25		0	0	0	0
3	Clawiter Rd. & Depot Rd.	Signal	NB	Left/Thru/Right	265	25		175		25		175		0	0	0	0
			SB	Left/Thru	280	175		25		175		25		0	0	0	0
				Right	170	125		25		125		25		0	0	0	0
			EB	Left/Thru/Right	180	150		300	Yes	150		350	Yes	0	0	50	2
			WB	Left/Thru	500	175		75		150		75		-25	-1	0	0
				Right	70	0		0		0		50		0	0	50	2
4	Whitesell Rd. & Enterprise Ave.	AWSC	NB	Left	90	0		0		0		0		0	0	0	0
				Thru / Right	1,200	25		25		50		25		25	1	0	0
			SB	Left	450	0		0		25		0		25	1	0	0
				Thru/Right	50	25		25		25		25		0	0	0	0
			EB	Left/Thru/Right	625	0		0		25		0		25	1	0	0
			WB	Left/Thru/Right	340	0		0		25		0		25	1	0	0
5	West Dwy. & Depot Rd.	TWSC	NB	Left / Right	90	0		0		0		0		0	0	0	0
6	East Dwy. & Depot Rd.	TWSC	NB	Left / Right	90	0		0		0		0		0	0	0	0

#	Intersection	Control	Movement		Storage	Background				Background Plus Project				Project Contribution			
						AM Queue (ft.)	Exceed Storage?	PM Queue (ft.)	Exceed Storage?	AM Queue (ft.)	Exceed Storage?	PM Queue (ft.)	Exceed Storage?	AM Queue	AM Cars	PM Queue	PM Cars
1	Cabot Blvd. & Winton Ave.	AWSC	NB	Left	90	0		0		0		0		0	0	0	0
				Thru / Right	1,200	0		0		0		25		0	0	0	0
			SB	Left	450	25		50		25		50		0	0	0	0
				Thru / Right	50	0		0		0		0			0	0	
			EB	Left	180	0		25		0		25		0	0	0	0
				Thru / Right	625	0		0		0		0		0	0	0	0
2	Whitesell Rd. & Depot Rd.	AWSC	NB	Left	90	0		0		25		0		25	1	0	0
				Thru / Right	1,200	25		25		50		25		25	1	0	0
			SB	Left	450	25		50		25		50		0	0	0	0
				Thru/Right	450	25		25		25		25		0	0	0	0
			EB	Left	180	0		0		0		0		0	0	0	0
				Thru/Right	625	25		25		0		25		-25	-1	0	0
			WB	Left	210	0		0		0		0		0	0	0	0
				Thru/Right	340	50		25		75		50		25	1	-25	-1
3	Clawiter Rd. & Depot Rd.	Signal	NB	Left/Thru/Right	265	350	Yes	275	Yes	50		300	Yes	-300	-12	0	0
			SB	Left/Thru	280	225		50		225		50		0	0	0	0
				Right	170	150		0		150		0		0	0	0	0
			EB	Left/Thru/Right	180	150		325	Yes	150		375	Yes	0	0	0	0
			WB	Left/Thru	500	225		125		250		125		25	1	0	0
				Right	70	0		25		50		25		50	2	0	0
4	Whitesell Rd. & Enterprise Ave.	AWSC	NB	Left	90	0		0		0		0		0	0	0	0
				Thru / Right	1,200	50		25		50		25		0	0	0	0
			SB	Left	450	0		0		0		25		0	0	0	0
				Thru/Right	50	25		25		25		0		0	0	0	0
			EB	Left/Thru/Right	625	0		25		0		25		0	0	0	0
			WB	Left/Thru/Right	340	25		0		50		0		25	1	0	0
5	West Dwy. & Depot Rd.	TWSC	NB	Left / Right	90	0		0		0		0		0	0	0	0
6	East Dwy. & Depot Rd.	TWSC	NB	Left / Right	90	0		0		0		0		0	0	0	0

Page intentionally blank

Appendix E: Background Level of Service, Queue, And Peak Hour Traffic Signal Warrants Worksheets

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	44	18	344	82	186	25	24	21	80	18	2
Future Vol, veh/h	3	44	18	344	82	186	25	24	21	80	18	2
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
Heavy Vehicles, %	0	43	50	14	18	9	29	7	57	39	0	0
Mvmt Flow	3	49	20	382	91	207	28	27	23	89	20	2
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	10.5	15.4	10.4	11.9
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	24	21	3	44	18	344	82	186	80	18
LT Vol	25	0	0	3	0	0	344	0	0	80	0
Through Vol	0	24	0	0	44	0	0	82	0	0	18
RT Vol	0	0	21	0	0	18	0	0	186	0	0
Lane Flow Rate	28	27	23	3	49	20	382	91	207	89	20
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.06	0.051	0.046	0.007	0.099	0.037	0.658	0.146	0.282	0.194	0.037
Departure Headway (Hd)	7.797	6.923	7.073	7.075	7.306	6.725	6.195	5.763	4.91	7.86	6.697
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	460	518	507	506	491	533	589	626	736	457	535
Service Time	5.536	4.662	4.812	4.811	5.042	4.461	3.895	3.463	2.61	5.598	4.435
HCM Lane V/C Ratio	0.061	0.052	0.045	0.006	0.1	0.038	0.649	0.145	0.281	0.195	0.037
HCM Control Delay	11	10	10.2	9.9	10.8	9.7	20	9.4	9.5	12.5	9.7
HCM Lane LOS	B	A	B	A	B	A	C	A	A	B	A
HCM 95th-tile Q	0.2	0.2	0.1	0	0.3	0.1	4.8	0.5	1.2	0.7	0.1

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	9	10	35	23	156	16	146	31	78	92	8
Future Vol, veh/h	7	9	10	35	23	156	16	146	31	78	92	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	20	29	25	43	11	18	0	23	41	45	52	50
Mvmt Flow	8	10	11	38	25	168	17	157	33	84	99	9
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	9.4	12.6	11.8	10.7
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	27%	16%	100%	0%	0%
Vol Thru, %	0%	82%	35%	11%	0%	100%	0%
Vol Right, %	0%	18%	38%	73%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	177	26	214	78	92	8
LT Vol	16	0	7	35	78	0	0
Through Vol	0	146	9	23	0	92	0
RT Vol	0	31	10	156	0	0	8
Lane Flow Rate	17	190	28	230	84	99	9
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.031	0.329	0.049	0.388	0.161	0.179	0.014
Departure Headway (Hd)	6.46	6.225	6.305	6.067	6.917	6.531	5.788
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	555	579	569	596	520	550	619
Service Time	4.185	3.951	4.034	3.767	4.643	4.257	3.514
HCM Lane V/C Ratio	0.031	0.328	0.049	0.386	0.162	0.18	0.015
HCM Control Delay	9.4	12	9.4	12.6	11	10.7	8.6
HCM Lane LOS	A	B	A	B	B	B	A
HCM 95th-tile Q	0.1	1.4	0.2	1.8	0.6	0.6	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	130	41	265	280	4	18	52	56	14	608	209
Future Volume (veh/h)	35	130	41	265	280	4	18	52	56	14	608	209
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		0.98	1.00		1.00	1.00		0.99
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	1381	1159	937	1693	1722	1900	1618	1604	1648	1900	1722	1737
Adj Flow Rate, veh/h	38	141	45	288	304	4	20	57	61	15	661	227
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, %	35	50	65	14	12	0	19	20	17	0	12	11
Cap, veh/h	46	176	58	355	354	340	164	446	553	51	1648	942
Arrive On Green	0.13	0.13	0.13	0.22	0.22	0.22	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	365	1392	460	1640	1636	1572	230	857	1063	30	3167	1453
Grp Volume(v), veh/h	119	0	105	288	304	4	65	0	73	361	315	227
Grp Sat Flow(s),veh/h/ln	1141	0	1076	1640	1636	1572	882	0	1268	1708	1489	1453
Q Serve(g_s), s	10.7	0.0	10.0	17.7	19.0	0.2	0.6	0.0	3.1	0.0	13.6	6.9
Cycle Q Clear(g_c), s	10.7	0.0	10.0	17.7	19.0	0.2	14.3	0.0	3.1	13.5	13.6	6.9
Prop In Lane	0.32		0.43	1.00		1.00	0.31		0.84	0.04		1.00
Lane Grp Cap(c), veh/h	144	0	136	355	354	340	503	0	660	924	774	942
V/C Ratio(X)	0.82	0.00	0.77	0.81	0.86	0.01	0.13	0.00	0.11	0.39	0.41	0.24
Avail Cap(c_a), veh/h	269	0	254	426	424	408	503	0	660	924	774	942
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	0.09	0.09	0.09	0.86	0.00	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	0.0	44.8	39.5	40.0	32.6	13.1	0.0	12.9	15.4	15.5	7.8
Incr Delay (d2), s/veh	4.4	0.0	3.5	1.0	1.5	0.0	0.5	0.0	0.3	0.4	0.5	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(95%),veh/ln	5.8	0.0	5.0	8.5	9.0	0.1	1.5	0.0	1.7	9.0	8.1	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	0.0	48.3	40.4	41.5	32.6	13.6	0.0	13.2	15.8	16.0	8.0
LnGrp LOS	D	A	D	D	D	C	B	A	B	B	B	A
Approach Vol, veh/h		224			596			138			903	
Approach Delay, s/veh		49.0			40.9			13.4			13.9	
Approach LOS		D			D			B			B	

Timer - Assigned Phs		2	4	6	8
Phs Duration (G+Y+Rc), s		60.1	27.5	60.1	18.4
Change Period (Y+Rc), s		5.0	4.5	* 5	5.0
Max Green Setting (Gmax), s		39.0	27.5	* 40	25.0
Max Q Clear Time (g_c+I1), s		16.3	21.0	15.6	12.7
Green Ext Time (p_c), s		1.2	2.0	7.7	0.7

Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	21	5	10	123	29	7	156	30	10	86	28
Future Vol, veh/h	5	21	5	10	123	29	7	156	30	10	86	28
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	100	75	50	38	40	14	20	16	83	50	44	0
Mvmt Flow	6	25	6	12	146	35	8	186	36	12	102	33
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.5	11	11	10.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	16%	6%	100%	0%
Vol Thru, %	0%	84%	68%	76%	0%	75%
Vol Right, %	0%	16%	16%	18%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	186	31	162	10	114
LT Vol	7	0	5	10	10	0
Through Vol	0	156	21	123	0	86
RT Vol	0	30	5	29	0	28
Lane Flow Rate	8	221	37	193	12	136
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.014	0.339	0.071	0.297	0.022	0.226
Departure Headway (Hd)	6.191	5.504	6.885	5.545	6.783	6.002
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	575	649	516	644	525	594
Service Time	3.964	3.276	4.984	3.617	4.565	3.783
HCM Lane V/C Ratio	0.014	0.341	0.072	0.3	0.023	0.229
HCM Control Delay	9.1	11.1	10.5	11	9.7	10.6
HCM Lane LOS	A	B	B	B	A	B
HCM 95th-tile Q	0	1.5	0.2	1.2	0.1	0.9

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	132	21	61	59	56	20	22	117	176	29	5
Future Vol, veh/h	2	132	21	61	59	56	20	22	117	176	29	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	100	9	27	34	45	17	50	41	9	8	33	0
Mvmt Flow	2	153	24	71	69	65	23	26	136	205	34	6
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.5	10.6	10.4	13.2
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	22	117	2	132	21	61	59	56	176	29
LT Vol	20	0	0	2	0	0	61	0	0	176	0
Through Vol	0	22	0	0	132	0	0	59	0	0	29
RT Vol	0	0	117	0	0	21	0	0	56	0	0
Lane Flow Rate	23	26	136	2	153	24	71	69	65	205	34
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.05	0.05	0.221	0.006	0.28	0.042	0.146	0.135	0.107	0.389	0.063
Departure Headway (Hd)	7.745	7.092	5.848	8.609	6.562	6.168	7.423	7.11	5.934	6.837	6.762
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	462	505	612	416	546	580	483	504	603	526	529
Service Time	5.491	4.838	3.594	6.354	4.307	3.913	5.17	4.857	3.681	4.58	4.505
HCM Lane V/C Ratio	0.05	0.051	0.222	0.005	0.28	0.041	0.147	0.137	0.108	0.39	0.064
HCM Control Delay	10.9	10.2	10.3	11.4	11.9	9.2	11.4	11	9.4	13.9	10
HCM Lane LOS	B	B	B	B	B	A	B	B	A	B	A
HCM 95th-tile Q	0.2	0.2	0.8	0	1.1	0.1	0.5	0.5	0.4	1.8	0.2

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	36	14	22	12	92	16	69	38	172	103	15
Future Vol, veh/h	14	36	14	22	12	92	16	69	38	172	103	15
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	18	10	0	31	10	34	54	40	26	11	16	42
Mvmt Flow	17	44	17	27	15	114	20	85	47	212	127	19
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	10.3	11.2	11.4	11.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	22%	17%	100%	0%	0%
Vol Thru, %	0%	64%	56%	10%	0%	100%	0%
Vol Right, %	0%	36%	22%	73%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	107	64	126	172	103	15
LT Vol	16	0	14	22	172	0	0
Through Vol	0	69	36	12	0	103	0
RT Vol	0	38	14	92	0	0	15
Lane Flow Rate	20	132	79	156	212	127	19
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.042	0.244	0.142	0.267	0.366	0.204	0.028
Departure Headway (Hd)	7.643	6.643	6.481	6.181	6.198	5.779	5.518
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	469	542	554	582	582	623	650
Service Time	5.376	4.375	4.213	3.91	3.92	3.5	3.239
HCM Lane V/C Ratio	0.043	0.244	0.143	0.268	0.364	0.204	0.029
HCM Control Delay	10.7	11.5	10.3	11.2	12.5	10	8.4
HCM Lane LOS	B	B	B	B	B	A	A
HCM 95th-tile Q	0.1	1	0.5	1.1	1.7	0.8	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	393	17	86	97	12	22	431	322	12	123	12
Future Volume (veh/h)	173	393	17	86	97	12	22	431	322	12	123	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	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	1826	1781	1500	1767	1470	1604	1352	1841	1826	1796	1633	1515
Adj Flow Rate, veh/h	182	414	18	91	102	13	23	454	339	13	129	13
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, %	5	8	27	9	29	20	37	4	5	7	18	26
Cap, veh/h	213	518	23	140	140	135	61	1012	736	133	1310	985
Arrive On Green	0.22	0.22	0.22	0.10	0.10	0.10	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	987	2398	108	1400	1397	1355	47	1833	1333	168	2374	1282
Grp Volume(v), veh/h	319	0	295	91	102	13	461	0	355	69	73	13
Grp Sat Flow(s),veh/h/ln	1732	0	1760	1400	1397	1355	1817	0	1395	1130	1412	1282
Q Serve(g_s), s	18.8	0.0	16.7	6.6	7.5	0.9	0.0	0.0	16.2	0.5	2.6	0.3
Cycle Q Clear(g_c), s	18.8	0.0	16.7	6.6	7.5	0.9	15.9	0.0	16.2	16.6	2.6	0.3
Prop In Lane	0.57		0.06	1.00		1.00	0.05		0.96	0.19		1.00
Lane Grp Cap(c), veh/h	374	0	380	140	140	135	1039	0	770	664	779	985
V/C Ratio(X)	0.85	0.00	0.78	0.65	0.73	0.10	0.44	0.00	0.46	0.10	0.09	0.01
Avail Cap(c_a), veh/h	547	0	556	350	349	339	1039	0	770	664	779	985
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	0.61	0.61	0.61	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	0.0	39.1	45.9	46.3	43.4	14.2	0.0	14.3	11.4	11.2	2.9
Incr Delay (d2), s/veh	6.0	0.0	2.2	3.1	4.5	0.2	1.4	0.0	2.0	0.3	0.2	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(95%),veh/ln	13.3	0.0	11.8	4.4	4.9	0.6	11.0	0.0	9.1	1.4	1.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	0.0	41.3	49.0	50.8	43.5	15.6	0.0	16.2	11.7	11.5	2.9
LnGrp LOS	D	A	D	D	D	D	B	A	B	B	B	A
Approach Vol, veh/h		614			206			816			155	
Approach Delay, s/veh		43.7			49.5			15.9			10.8	
Approach LOS		D			D			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		15.1		63.5		27.4				
Change Period (Y+Rc), s		5.0		4.5		* 5		4.5				
Max Green Setting (Gmax), s		32.0		26.5		* 33		33.5				
Max Q Clear Time (g_c+I1), s		18.2		9.5		18.6		20.8				
Green Ext Time (p_c), s		6.1		1.0		0.9		2.1				
Intersection Summary												
HCM 6th Ctrl Delay			28.8									
HCM 6th LOS			C									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	102	0	9	16	25	4	76	39	44	127	5
Future Vol, veh/h	26	102	0	9	16	25	4	76	39	44	127	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	100	0	0	57	0	40	67	44	94	11	16	100
Mvmt Flow	30	117	0	10	18	29	5	87	45	51	146	6
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.2	9.5	10.3	9.9
HCM LOS	B	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	20%	18%	100%	0%
Vol Thru, %	0%	66%	80%	32%	0%	96%
Vol Right, %	0%	34%	0%	50%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	115	128	50	44	132
LT Vol	4	0	26	9	44	0
Through Vol	0	76	102	16	0	127
RT Vol	0	39	0	25	0	5
Lane Flow Rate	5	132	147	57	51	152
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.009	0.217	0.271	0.092	0.085	0.235
Departure Headway (Hd)	7.047	5.908	6.642	5.793	6.016	5.57
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	506	604	538	613	593	642
Service Time	4.816	3.677	4.718	3.881	3.778	3.332
HCM Lane V/C Ratio	0.01	0.219	0.273	0.093	0.086	0.237
HCM Control Delay	9.9	10.3	12.2	9.5	9.3	10.1
HCM Lane LOS	A	B	B	A	A	B
HCM 95th-tile Q	0	0.8	1.1	0.3	0.3	0.9

KITTELSON & ASSOCIATES, INC.
851 Sw 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG\[intersection 1 AM.xlsm]Warrant
Intersection:	1. Cabot Blvd. & Winton Ave.
Scenario:	BG AM

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
7:50 AM	8:50 AM	70	100	65	612
2nd Highest Hour		66	95	63	592
3rd Highest Hour		65	93	56	524
4th Highest Hour		63	89	53	496
5th Highest Hour		62	88	49	462
6th Highest Hour		62	88	42	394
7th Highest Hour		59	84	41	388
8th Highest Hour		58	83	38	360
9th Highest Hour		56	80	35	333
10th Highest Hour		52	75	33	306
11th Highest Hour		50	72	33	306
12th Highest Hour		49	71	30	286
13th Highest Hour		48	68	29	272
14th Highest Hour		41	59	27	252
15th Highest Hour		33	47	27	252
16th Highest Hour		31	44	27	252
17th Highest Hour		21	31	21	197
18th Highest Hour		18	25	18	170
19th Highest Hour		9	13	14	129
20th Highest Hour		7	9	7	68
21st Highest Hour		6	8	5	48
22nd Highest Hour		4	5	4	41
23rd Highest Hour		2	3	3	27
24th Highest Hour		2	3	3	27

Warrant Summary

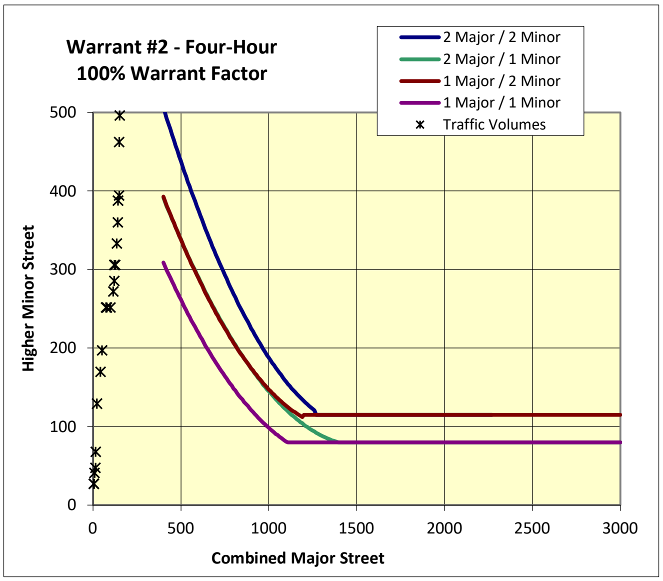
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

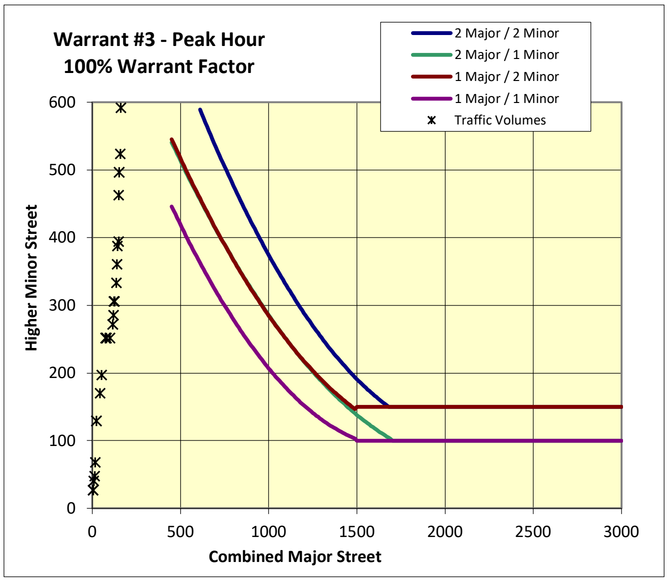
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG\[intersection 2 AM.xlsm]Warrant
Intersection:	2. Whitesell St. & Depot Rd.
Scenario:	BG AM

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
7:55 AM	8:55 AM	193	178	26	214
2nd Highest Hour		183	169	25	207
3rd Highest Hour		180	166	22	183
4th Highest Hour		172	159	21	174
5th Highest Hour		170	157	20	162
6th Highest Hour		170	157	17	138
7th Highest Hour		162	150	16	136
8th Highest Hour		160	147	15	126
9th Highest Hour		154	142	14	117
10th Highest Hour		144	133	13	107
11th Highest Hour		139	128	13	107
12th Highest Hour		136	126	12	100
13th Highest Hour		131	121	12	95
14th Highest Hour		113	104	11	88
15th Highest Hour		90	83	11	88
16th Highest Hour		85	78	11	88
17th Highest Hour		59	55	8	69
18th Highest Hour		49	45	7	59
19th Highest Hour		26	24	5	45
20th Highest Hour		18	17	3	24
21st Highest Hour		15	14	2	17
22nd Highest Hour		10	9	2	14
23rd Highest Hour		5	5	1	10
24th Highest Hour		5	5	1	10

Warrant Summary

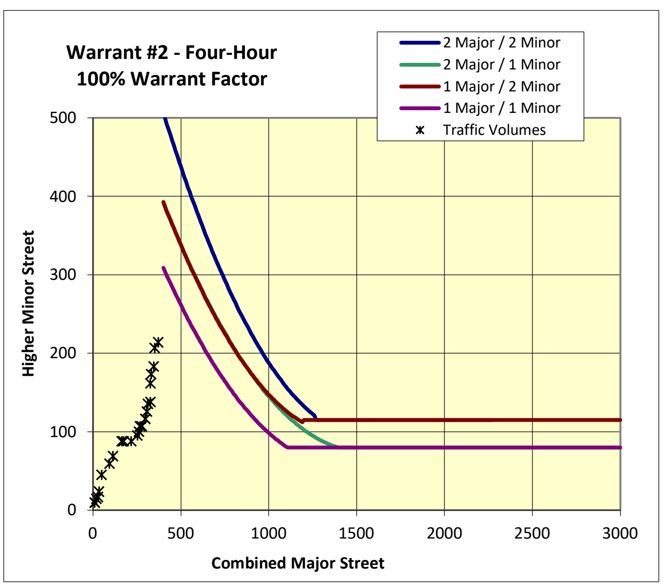
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

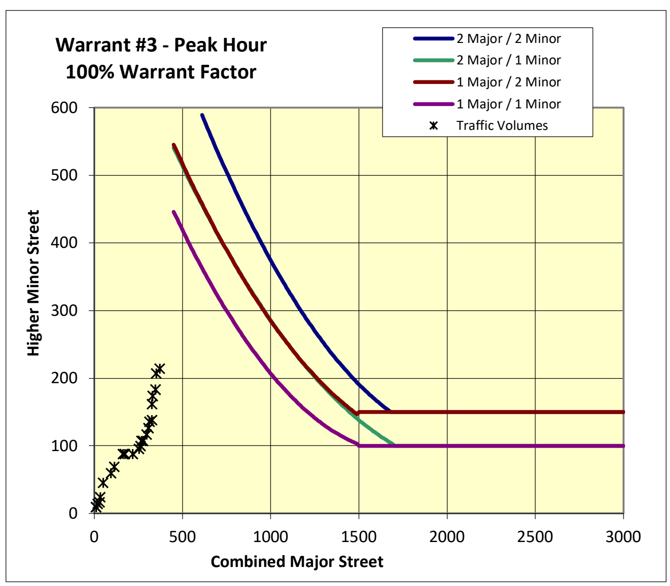
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	2	No	**No**
	B	525	53	0	No	
56%	A	280	84	9	Yes	**Yes**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG\[intersection 4 AM.xlsm]Warrant
Intersection:	4. Whitesell St. & Enterprise Ave.
Scenario:	BG AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	193	124	31	162
2nd Highest Hour		183	117	30	157
3rd Highest Hour		180	116	27	139
4th Highest Hour		172	111	25	131
5th Highest Hour		170	109	23	122
6th Highest Hour		170	109	20	104
7th Highest Hour		162	104	20	103
8th Highest Hour		160	103	18	95
9th Highest Hour		154	99	17	88
10th Highest Hour		144	93	16	81
11th Highest Hour		139	89	16	81
12th Highest Hour		136	88	14	76
13th Highest Hour		131	84	14	72
14th Highest Hour		113	73	13	67
15th Highest Hour		90	58	13	67
16th Highest Hour		85	55	13	67
17th Highest Hour		59	38	10	52
18th Highest Hour		49	31	9	45
19th Highest Hour		26	17	7	34
20th Highest Hour		18	12	3	18
21st Highest Hour		15	10	2	13
22nd Highest Hour		10	7	2	11
23rd Highest Hour		5	3	1	7
24th Highest Hour		5	3	1	7

Warrant Summary

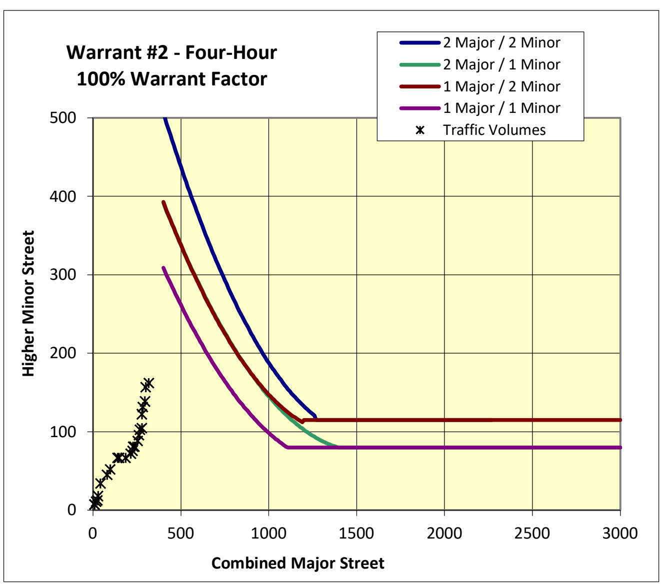
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

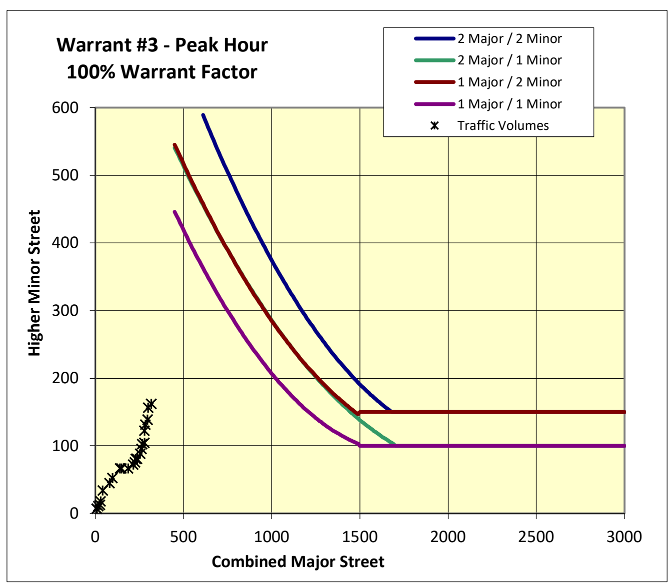
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	4	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 Sw 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG\[intersection 1 PM.xlsm]Warrant
Intersection:	1. Cabot Blvd. & Winton Ave.
Scenario:	BG PM

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
4:10 PM	5:10 PM	159	210	155	176
2nd Highest Hour		151	199	150	170
3rd Highest Hour		148	196	133	151
4th Highest Hour		142	188	126	143
5th Highest Hour		140	185	117	133
6th Highest Hour		140	185	100	113
7th Highest Hour		134	176	98	111
8th Highest Hour		131	174	91	104
9th Highest Hour		127	168	84	96
10th Highest Hour		119	157	78	88
11th Highest Hour		114	151	78	88
12th Highest Hour		112	148	72	82
13th Highest Hour		108	143	69	78
14th Highest Hour		93	123	64	72
15th Highest Hour		74	98	64	72
16th Highest Hour		70	92	64	72
17th Highest Hour		49	64	50	57
18th Highest Hour		40	53	43	49
19th Highest Hour		21	28	33	37
20th Highest Hour		15	20	17	20
21st Highest Hour		13	17	12	14
22nd Highest Hour		8	11	10	12
23rd Highest Hour		4	6	7	8
24th Highest Hour		4	6	7	8

Warrant Summary

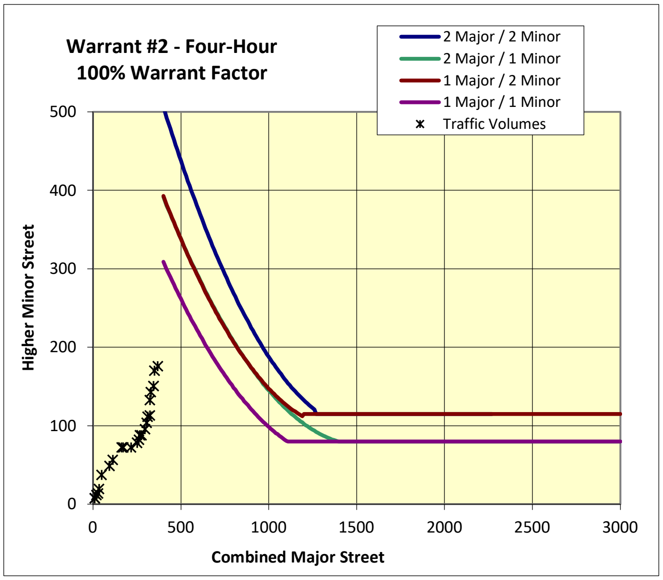
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

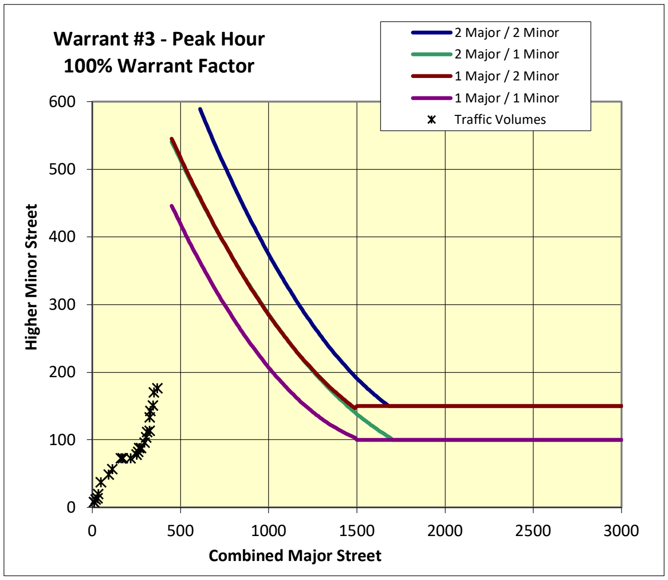
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	2	No	**No**
	B	525	53	0	No	
56%	A	280	84	9	Yes	**Yes**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG\[intersection 2 PM.xlsm]Warrant
Intersection:	2. Whitesell St. & Depot Rd.
Scenario:	BG PM

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
4:05 PM	5:05 PM	122	290	64	126
2nd Highest Hour		115	275	62	122
3rd Highest Hour		114	271	55	108
4th Highest Hour		109	259	52	102
5th Highest Hour		107	255	48	95
6th Highest Hour		107	255	41	81
7th Highest Hour		102	244	41	80
8th Highest Hour		101	240	38	74
9th Highest Hour		98	232	35	69
10th Highest Hour		91	217	32	63
11th Highest Hour		88	209	32	63
12th Highest Hour		86	205	30	59
13th Highest Hour		83	197	28	56
14th Highest Hour		72	170	26	52
15th Highest Hour		57	135	26	52
16th Highest Hour		54	128	26	52
17th Highest Hour		37	89	21	41
18th Highest Hour		31	73	18	35
19th Highest Hour		16	39	14	27
20th Highest Hour		11	27	7	14
21st Highest Hour		10	23	5	10
22nd Highest Hour		7	15	4	8
23rd Highest Hour		3	8	3	6
24th Highest Hour		3	8	3	6

Warrant Summary

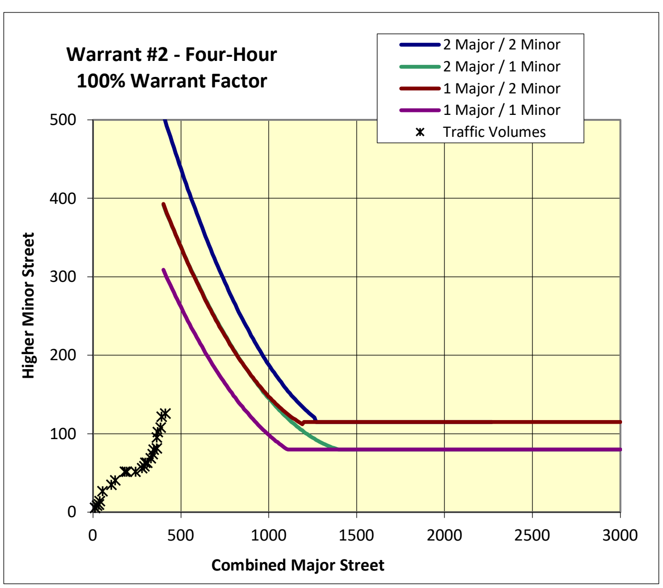
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

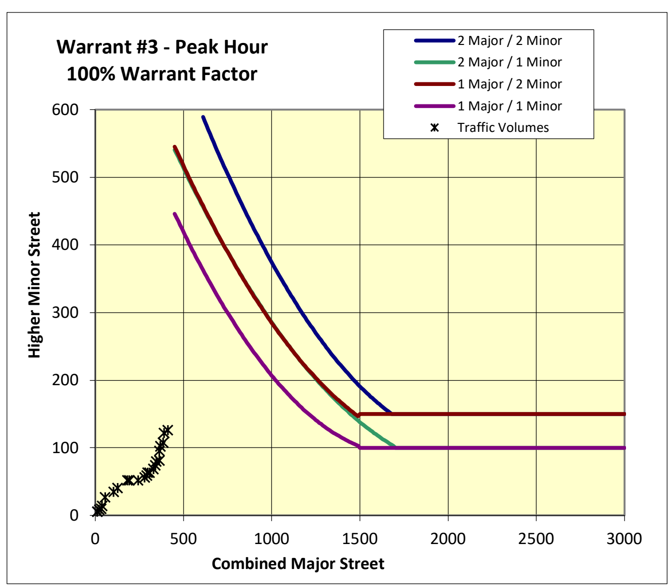
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	1	No	**No**
	B	600	60	0	No	
70%	A	350	105	3	No	**No**
	B	525	53	0	No	
56%	A	280	84	5	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG\[intersection 4 PM.xlsm]Warrant
Intersection:	4. Whitesell St. & Enterprise Ave.
Scenario:	BG PM

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
4:00 PM	5:00 PM	119	172	127	50
2nd Highest Hour		113	163	123	48
3rd Highest Hour		111	161	109	43
4th Highest Hour		106	154	103	41
5th Highest Hour		105	151	96	38
6th Highest Hour		105	151	82	32
7th Highest Hour		100	144	80	32
8th Highest Hour		98	142	75	29
9th Highest Hour		95	138	69	27
10th Highest Hour		89	128	64	25
11th Highest Hour		86	124	64	25
12th Highest Hour		84	122	59	23
13th Highest Hour		81	117	56	22
14th Highest Hour		70	101	52	21
15th Highest Hour		56	80	52	21
16th Highest Hour		52	76	52	21
17th Highest Hour		36	53	41	16
18th Highest Hour		30	44	35	14
19th Highest Hour		16	23	27	11
20th Highest Hour		11	16	14	6
21st Highest Hour		10	14	10	4
22nd Highest Hour		6	9	8	3
23rd Highest Hour		3	5	6	2
24th Highest Hour		3	5	6	2

Warrant Summary

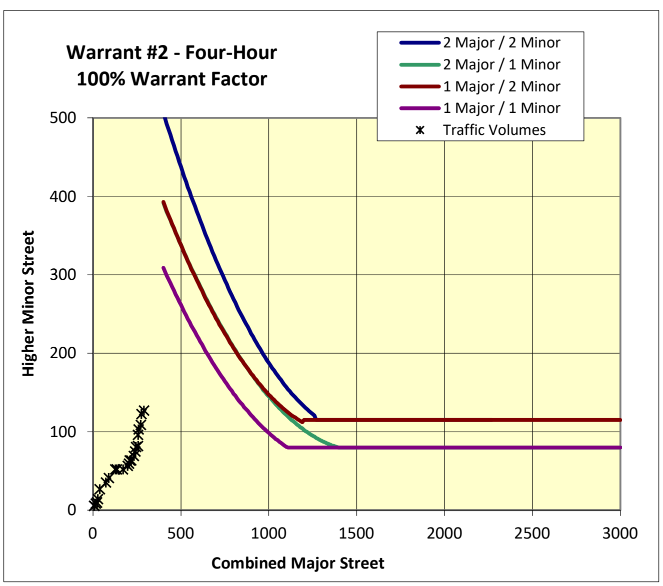
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

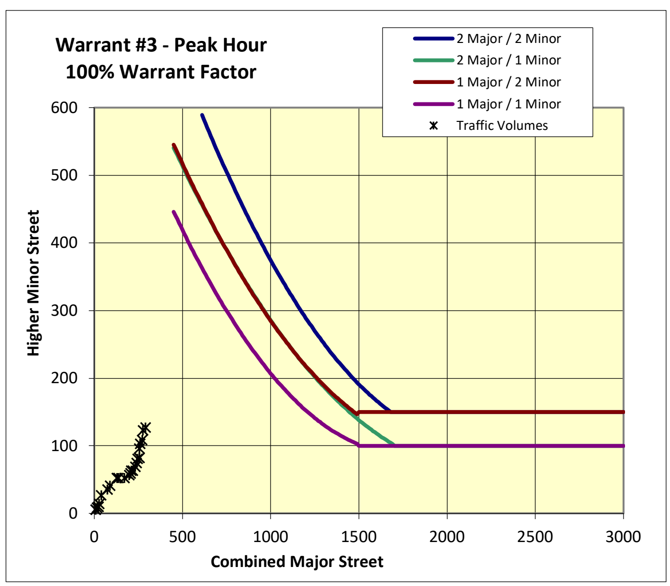
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	1	No	**No**
	B	420	42	0	No	





Page intentionally blank

Appendix F: Background Plus Project Alternative Level of Service, Queue, And Peak Hour Traffic Signal Warrants Worksheets

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	44	18	353	82	186	25	24	22	80	18	2
Future Vol, veh/h	3	44	18	353	82	186	25	24	22	80	18	2
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
Heavy Vehicles, %	0	43	50	14	18	9	29	7	57	39	0	0
Mvmt Flow	3	49	20	392	91	207	28	27	24	89	20	2
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	10.5	16	10.5	11.9
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	24	22	3	44	18	353	82	186	80	18
LT Vol	25	0	0	3	0	0	353	0	0	80	0
Through Vol	0	24	0	0	44	0	0	82	0	0	18
RT Vol	0	0	22	0	0	18	0	0	186	0	0
Lane Flow Rate	28	27	24	3	49	20	392	91	207	89	20
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.06	0.051	0.048	0.007	0.1	0.038	0.676	0.146	0.282	0.195	0.037
Departure Headway (Hd)	7.825	6.951	7.101	7.101	7.332	6.751	6.203	5.771	4.918	7.89	6.727
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	515	505	504	489	531	584	625	736	455	532
Service Time	5.566	4.692	4.842	4.837	5.068	4.487	3.903	3.471	2.618	5.629	4.466
HCM Lane V/C Ratio	0.061	0.052	0.048	0.006	0.1	0.038	0.671	0.146	0.281	0.196	0.038
HCM Control Delay	11.1	10.1	10.2	9.9	10.9	9.8	20.9	9.5	9.5	12.5	9.7
HCM Lane LOS	B	B	B	A	B	A	C	A	A	B	A
HCM 95th-tile Q	0.2	0.2	0.2	0	0.3	0.1	5.1	0.5	1.2	0.7	0.1

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	16	14	35	61	156	58	146	31	78	92	17
Future Vol, veh/h	8	16	14	35	61	156	58	146	31	78	92	17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	20	29	25	43	11	18	0	23	41	45	52	50
Mvmt Flow	9	17	15	38	66	168	62	157	33	84	99	18
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	9.9	14.7	12.1	11.1
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	21%	14%	100%	0%	0%
Vol Thru, %	0%	82%	42%	24%	0%	100%	0%
Vol Right, %	0%	18%	37%	62%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	177	38	252	78	92	17
LT Vol	58	0	8	35	78	0	0
Through Vol	0	146	16	61	0	92	0
RT Vol	0	31	14	156	0	0	17
Lane Flow Rate	62	190	41	271	84	99	18
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.117	0.344	0.075	0.475	0.169	0.188	0.031
Departure Headway (Hd)	6.739	6.503	6.576	6.314	7.238	6.851	6.106
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	532	554	544	572	496	524	586
Service Time	4.48	4.244	4.324	4.049	4.977	4.59	3.845
HCM Lane V/C Ratio	0.117	0.343	0.075	0.474	0.169	0.189	0.031
HCM Control Delay	10.4	12.6	9.9	14.7	11.5	11.2	9
HCM Lane LOS	B	B	A	B	B	B	A
HCM 95th-tile Q	0.4	1.5	0.2	2.5	0.6	0.7	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	132	45	265	301	4	31	52	56	14	608	213
Future Volume (veh/h)	36	132	45	265	301	4	31	52	56	14	608	213
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		0.98	1.00		1.00	1.00		0.99
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	1381	1159	937	1693	1722	1900	1618	1604	1648	1900	1722	1737
Adj Flow Rate, veh/h	39	143	49	288	327	4	34	57	61	15	661	232
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, %	35	50	65	14	12	0	19	20	17	0	12	11
Cap, veh/h	47	177	63	374	373	358	202	360	468	50	1601	926
Arrive On Green	0.13	0.13	0.13	0.23	0.23	0.23	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	363	1365	484	1640	1636	1573	298	712	926	30	3167	1453
Grp Volume(v), veh/h	122	0	109	288	327	4	67	0	85	361	315	232
Grp Sat Flow(s),veh/h/ln	1141	0	1072	1640	1636	1573	644	0	1293	1708	1489	1453
Q Serve(g_s), s	11.1	0.0	10.4	17.4	20.4	0.2	1.8	0.0	3.7	0.0	14.0	7.3
Cycle Q Clear(g_c), s	11.1	0.0	10.4	17.4	20.4	0.2	15.9	0.0	3.7	13.9	14.0	7.3
Prop In Lane	0.32		0.45	1.00		1.00	0.51		0.72	0.04		1.00
Lane Grp Cap(c), veh/h	148	0	139	374	373	358	377	0	653	899	752	926
V/C Ratio(X)	0.83	0.00	0.78	0.77	0.88	0.01	0.18	0.00	0.13	0.40	0.42	0.25
Avail Cap(c_a), veh/h	269	0	253	426	424	408	377	0	653	899	752	926
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	0.09	0.09	0.09	0.86	0.00	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	44.6	38.3	39.5	31.7	15.3	0.0	13.9	16.4	16.4	8.4
Incr Delay (d2), s/veh	4.4	0.0	3.5	0.7	1.9	0.0	0.9	0.0	0.4	0.4	0.5	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(95%),veh/ln	5.9	0.0	5.2	8.3	9.7	0.1	1.6	0.0	2.0	9.3	8.3	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	0.0	48.2	39.0	41.4	31.7	16.2	0.0	14.2	16.8	17.0	8.6
LnGrp LOS	D	A	D	D	D	C	B	A	B	B	B	A
Approach Vol, veh/h		231			619			152			908	
Approach Delay, s/veh		48.8			40.2			15.1			14.8	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	58.6	28.7	58.6	18.8
Change Period (Y+Rc), s	5.0	4.5	* 5	5.0
Max Green Setting (Gmax), s	39.0	27.5	* 40	25.0
Max Q Clear Time (g_c+I1), s	17.9	22.4	16.0	13.1
Green Ext Time (p_c), s	1.3	1.7	7.7	0.7

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	21	5	10	123	43	7	184	30	10	90	28
Future Vol, veh/h	5	21	5	10	123	43	7	184	30	10	90	28
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	100	75	50	38	40	14	20	16	83	50	44	0
Mvmt Flow	6	25	6	12	146	51	8	219	36	12	107	33
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.7	11.5	11.9	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	16%	6%	100%	0%
Vol Thru, %	0%	86%	68%	70%	0%	76%
Vol Right, %	0%	14%	16%	24%	0%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	214	31	176	10	118
LT Vol	7	0	5	10	10	0
Through Vol	0	184	21	123	0	90
RT Vol	0	30	5	43	0	28
Lane Flow Rate	8	255	37	210	12	140
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.014	0.395	0.073	0.327	0.023	0.242
Departure Headway (Hd)	6.252	5.58	7.156	5.615	6.981	6.206
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	567	639	503	635	516	582
Service Time	4.046	3.373	5.164	3.708	4.683	3.906
HCM Lane V/C Ratio	0.014	0.399	0.074	0.331	0.023	0.241
HCM Control Delay	9.1	12	10.7	11.5	9.8	10.9
HCM Lane LOS	A	B	B	B	A	B
HCM 95th-tile Q	0	1.9	0.2	1.4	0.1	0.9

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	26	0	80	47	0	11
Future Vol, veh/h	26	0	80	47	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	28	0	86	51	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	28	0	251	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	223	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1599	-	742	1053
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1599	-	701	1053
Mov Cap-2 Maneuver	-	-	-	-	701	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	774	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.6	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1053	-	-	1599	-
HCM Lane V/C Ratio	0.011	-	-	0.054	-
HCM Control Delay (s)	8.5	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	-

Intersection						
Int Delay, s/veh	0.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	0	9	127	0	1
Future Vol, veh/h	37	0	9	127	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	40	0	10	137	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	40	0	197	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1583	-	796	1037
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	876	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1583	-	790	1037
Mov Cap-2 Maneuver	-	-	-	-	790	-
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	870	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1037	-	-	1583	-
HCM Lane V/C Ratio	0.001	-	-	0.006	-
HCM Control Delay (s)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	132	21	62	59	56	20	22	125	176	29	5
Future Vol, veh/h	2	132	21	62	59	56	20	22	125	176	29	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	100	9	27	34	45	17	50	41	9	8	33	0
Mvmt Flow	2	153	24	72	69	65	23	26	145	205	34	6
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.5	10.7	10.4	13.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	22	125	2	132	21	62	59	56	176	29
LT Vol	20	0	0	2	0	0	62	0	0	176	0
Through Vol	0	22	0	0	132	0	0	59	0	0	29
RT Vol	0	0	125	0	0	21	0	0	56	0	0
Lane Flow Rate	23	26	145	2	153	24	72	69	65	205	34
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.05	0.05	0.236	0.006	0.281	0.042	0.149	0.136	0.108	0.39	0.064
Departure Headway (Hd)	7.751	7.098	5.854	8.638	6.591	6.197	7.451	7.138	5.962	6.862	6.787
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	462	504	612	414	545	577	481	502	600	524	527
Service Time	5.503	4.85	3.606	6.388	4.341	3.947	5.199	4.886	3.71	4.61	4.535
HCM Lane V/C Ratio	0.05	0.052	0.237	0.005	0.281	0.042	0.15	0.137	0.108	0.391	0.065
HCM Control Delay	10.9	10.2	10.4	11.4	11.9	9.2	11.5	11	9.4	14	10
HCM Lane LOS	B	B	B	B	B	A	B	B	A	B	A
HCM 95th-tile Q	0.2	0.2	0.9	0	1.1	0.1	0.5	0.5	0.4	1.8	0.2

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	81	38	22	18	92	21	69	37	172	103	16
Future Vol, veh/h	22	81	38	22	18	92	21	69	37	172	103	16
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	18	10	0	31	10	34	54	40	26	11	16	42
Mvmt Flow	27	100	47	27	22	114	26	85	46	212	127	20
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay	12.3	11.9	12.2	12.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	16%	17%	100%	0%	0%
Vol Thru, %	0%	65%	57%	14%	0%	100%	0%
Vol Right, %	0%	35%	27%	70%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	106	141	132	172	103	16
LT Vol	21	0	22	22	172	0	0
Through Vol	0	69	81	18	0	103	0
RT Vol	0	37	38	92	0	0	16
Lane Flow Rate	26	131	174	163	212	127	20
Geometry Grp	8	8	7	7	7	7	7
Degree of Util (X)	0.058	0.259	0.316	0.294	0.39	0.219	0.033
Departure Headway (Hd)	8.114	7.112	6.537	6.489	6.61	6.188	5.926
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	441	504	548	552	544	580	603
Service Time	5.877	4.874	4.291	4.244	4.356	3.934	3.672
HCM Lane V/C Ratio	0.059	0.26	0.318	0.295	0.39	0.219	0.033
HCM Control Delay	11.4	12.4	12.3	11.9	13.5	10.7	8.9
HCM Lane LOS	B	B	B	B	B	B	A
HCM 95th-tile Q	0.2	1	1.3	1.2	1.8	0.8	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	409	41	86	99	12	24	431	322	12	123	14
Future Volume (veh/h)	177	409	41	86	99	12	24	431	322	12	123	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	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	1826	1781	1500	1767	1470	1604	1352	1841	1826	1796	1633	1515
Adj Flow Rate, veh/h	186	431	43	91	104	13	25	454	339	13	129	15
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, %	5	8	27	9	29	20	37	4	5	7	18	26
Cap, veh/h	216	530	55	142	142	137	64	980	712	129	1261	983
Arrive On Green	0.23	0.23	0.23	0.10	0.10	0.10	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	934	2298	237	1400	1397	1355	53	1829	1329	165	2354	1281
Grp Volume(v), veh/h	346	0	314	91	104	13	462	0	356	68	74	15
Grp Sat Flow(s),veh/h/ln	1735	0	1735	1400	1397	1355	1814	0	1396	1107	1412	1281
Q Serve(g_s), s	20.3	0.0	18.1	6.6	7.7	0.9	0.0	0.0	16.9	0.5	2.7	0.3
Cycle Q Clear(g_c), s	20.3	0.0	18.1	6.6	7.7	0.9	16.5	0.0	16.9	17.3	2.7	0.3
Prop In Lane	0.54		0.14	1.00		1.00	0.05		0.95	0.19		1.00
Lane Grp Cap(c), veh/h	400	0	400	142	142	137	1008	0	748	633	756	983
V/C Ratio(X)	0.86	0.00	0.79	0.64	0.73	0.09	0.46	0.00	0.48	0.11	0.10	0.02
Avail Cap(c_a), veh/h	548	0	548	350	349	339	1008	0	748	633	756	983
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	0.61	0.61	0.61	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	38.3	45.8	46.2	43.2	15.2	0.0	15.3	12.3	12.1	2.9
Incr Delay (d2), s/veh	8.0	0.0	3.4	2.9	4.5	0.2	1.5	0.0	2.2	0.3	0.3	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(95%),veh/ln	14.5	0.0	12.6	4.3	5.0	0.6	11.4	0.0	9.5	1.5	1.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	0.0	41.7	48.7	50.7	43.4	16.7	0.0	17.5	12.6	12.3	3.0
LnGrp LOS	D	A	D	D	D	D	B	A	B	B	B	A
Approach Vol, veh/h		660			208			818			157	
Approach Delay, s/veh		44.6			49.4			17.1			11.5	
Approach LOS		D			D			B			B	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		61.8		15.2		61.8		29.0
Change Period (Y+Rc), s		5.0		4.5		* 5		4.5
Max Green Setting (Gmax), s		32.0		26.5		* 33		33.5
Max Q Clear Time (g_c+I1), s		18.9		9.7		19.3		22.3
Green Ext Time (p_c), s		5.9		1.0		0.9		2.2

Intersection Summary			
HCM 6th Ctrl Delay			30.1
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	102	0	9	16	27	4	79	39	44	151	5
Future Vol, veh/h	25	102	0	9	16	27	4	79	39	44	151	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	100	0	0	57	0	40	67	44	94	11	16	100
Mvmt Flow	29	117	0	10	18	31	5	91	45	51	174	6
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.3	9.6	10.5	10.3
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	20%	17%	100%	0%
Vol Thru, %	0%	67%	80%	31%	0%	97%
Vol Right, %	0%	33%	0%	52%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	118	127	52	44	156
LT Vol	4	0	25	9	44	0
Through Vol	0	79	102	16	0	151
RT Vol	0	39	0	27	0	5
Lane Flow Rate	5	136	146	60	51	179
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.009	0.224	0.273	0.097	0.085	0.278
Departure Headway (Hd)	7.088	5.955	6.727	5.865	6.028	5.587
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	599	531	605	591	638
Service Time	4.867	3.732	4.808	3.961	3.798	3.356
HCM Lane V/C Ratio	0.01	0.227	0.275	0.099	0.086	0.281
HCM Control Delay	9.9	10.5	12.3	9.6	9.4	10.5
HCM Lane LOS	A	B	B	A	A	B
HCM 95th-tile Q	0	0.9	1.1	0.3	0.3	1.1

Intersection						
Int Delay, s/veh	3.7					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	64	0	11	44	0	69
Future Vol, veh/h	64	0	11	44	0	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	79	0	14	54	0	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	79	0	161	79
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	82	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1532	-	835	987
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1532	-	827	987
Mov Cap-2 Maneuver	-	-	-	-	827	-
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	937	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	987	-	-	1532	-
HCM Lane V/C Ratio	0.086	-	-	0.009	-
HCM Control Delay (s)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	133	0	1	55	0	8
Future Vol, veh/h	133	0	1	55	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	164	0	1	68	0	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	164	0	234	164
Stage 1	-	-	-	-	164	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1427	-	759	886
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1427	-	758	886
Mov Cap-2 Maneuver	-	-	-	-	758	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	957	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	886	-	-	1427	-
HCM Lane V/C Ratio	0.011	-	-	0.001	-
HCM Control Delay (s)	9.1	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG_P\[intersection_1_AM.xlsm]Data Input
Intersection:	1. Cabot Blvd. & Winton Ave.
Scenario:	BG AM+p

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
7:50 AM	8:50 AM	71	100	65	621
2nd Highest Hour		67	95	63	600
3rd Highest Hour		66	93	56	531
4th Highest Hour		63	89	53	504
5th Highest Hour		62	88	49	469
6th Highest Hour		62	88	42	400
7th Highest Hour		60	84	41	393
8th Highest Hour		59	83	38	366
9th Highest Hour		57	80	35	338
10th Highest Hour		53	75	33	311
11th Highest Hour		51	72	33	311
12th Highest Hour		50	71	30	290
13th Highest Hour		48	68	29	276
14th Highest Hour		42	59	27	255
15th Highest Hour		33	47	27	255
16th Highest Hour		31	44	27	255
17th Highest Hour		22	31	21	200
18th Highest Hour		18	25	18	173
19th Highest Hour		9	13	14	131
20th Highest Hour		7	9	7	69
21st Highest Hour		6	8	5	48
22nd Highest Hour		4	5	4	41
23rd Highest Hour		2	3	3	28
24th Highest Hour		2	3	3	28

Warrant Summary

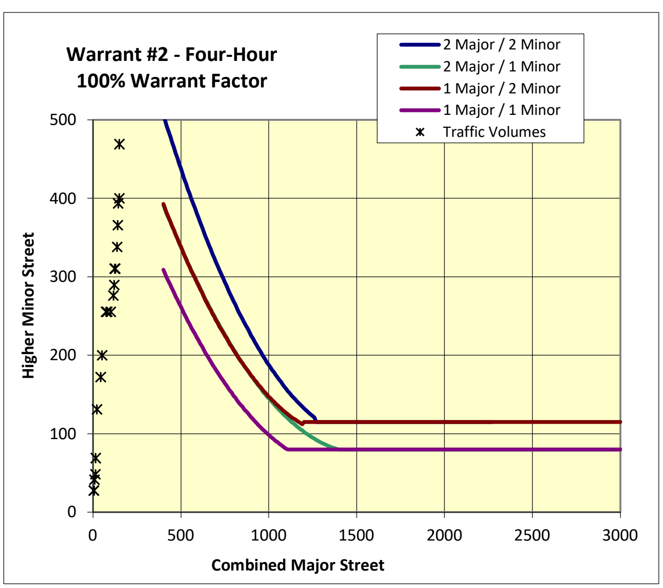
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

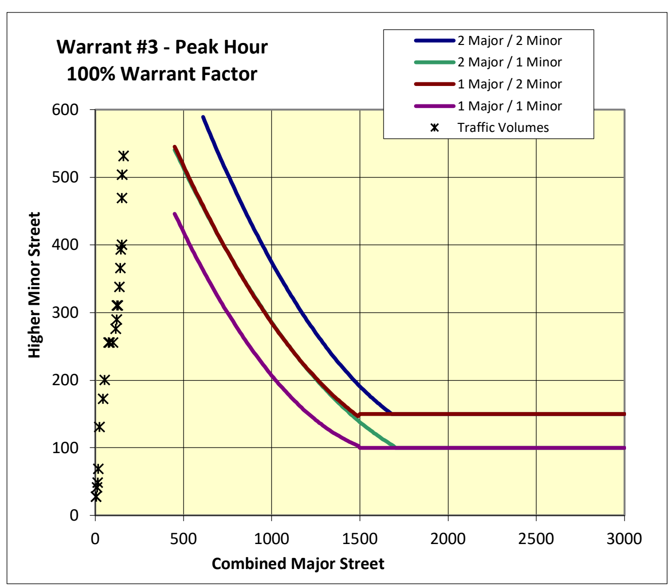
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG P\[intersection 2 AM.xlsm]Data Input
Intersection:	2. Whitesell St. & Depot Rd.
Scenario:	BG AM+P

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
7:55 AM	8:55 AM	235	187	38	252
2nd Highest Hour		222	177	37	244
3rd Highest Hour		219	175	33	216
4th Highest Hour		210	167	31	204
5th Highest Hour		207	165	29	190
6th Highest Hour		207	165	24	162
7th Highest Hour		197	157	24	160
8th Highest Hour		194	155	22	148
9th Highest Hour		188	150	21	137
10th Highest Hour		175	140	19	126
11th Highest Hour		169	135	19	126
12th Highest Hour		166	132	18	118
13th Highest Hour		160	127	17	112
14th Highest Hour		138	110	16	104
15th Highest Hour		110	87	16	104
16th Highest Hour		103	82	16	104
17th Highest Hour		72	57	12	81
18th Highest Hour		60	47	11	70
19th Highest Hour		31	25	8	53
20th Highest Hour		22	17	4	28
21st Highest Hour		19	15	3	20
22nd Highest Hour		13	10	3	17
23rd Highest Hour		6	5	2	11
24th Highest Hour		6	5	2	11

Warrant Summary

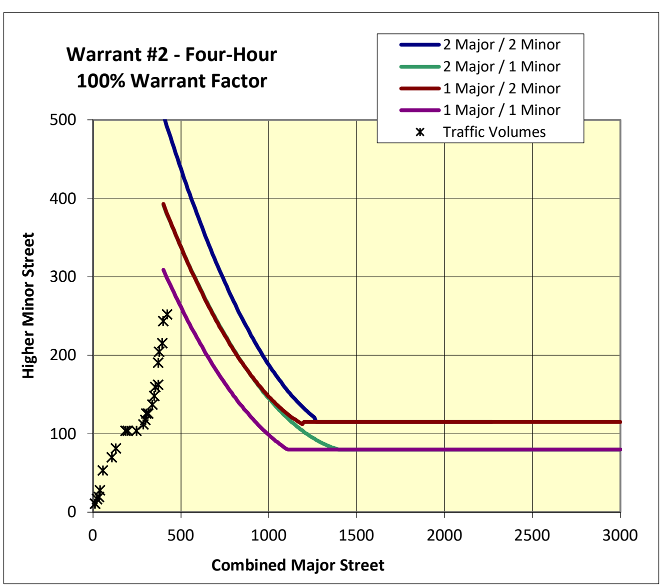
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

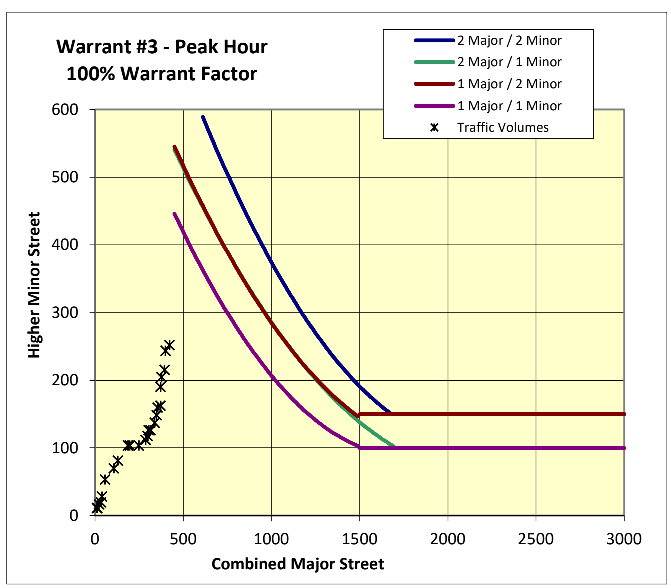
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	2	No	**No**
	B	600	60	0	No	
70%	A	350	105	7	No	**No**
	B	525	53	0	No	
56%	A	280	84	13	Yes	**Yes**
	B	420	42	1	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Ave, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG P\[intersection 4 AM.xlsm]Data Input
Intersection:	4. Whitesell St. & Enterprise Ave.
Scenario:	BG AM+P

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	122	200	127	52
2nd Highest Hour		115	189	123	50
3rd Highest Hour		114	187	109	44
4th Highest Hour		109	179	103	42
5th Highest Hour		107	176	96	39
6th Highest Hour		107	176	82	34
7th Highest Hour		102	168	80	33
8th Highest Hour		101	165	75	31
9th Highest Hour		98	160	69	28
10th Highest Hour		91	149	64	26
11th Highest Hour		88	144	64	26
12th Highest Hour		86	141	59	24
13th Highest Hour		83	136	56	23
14th Highest Hour		72	117	52	21
15th Highest Hour		57	93	52	21
16th Highest Hour		54	88	52	21
17th Highest Hour		37	61	41	17
18th Highest Hour		31	51	35	14
19th Highest Hour		16	27	27	11
20th Highest Hour		11	19	14	6
21st Highest Hour		10	16	10	4
22nd Highest Hour		7	11	8	3
23rd Highest Hour		3	5	6	2
24th Highest Hour		3	5	6	2

Warrant Summary

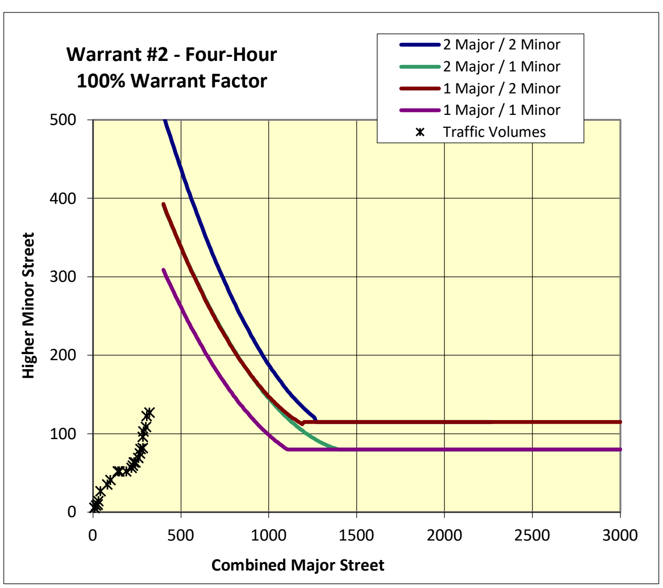
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

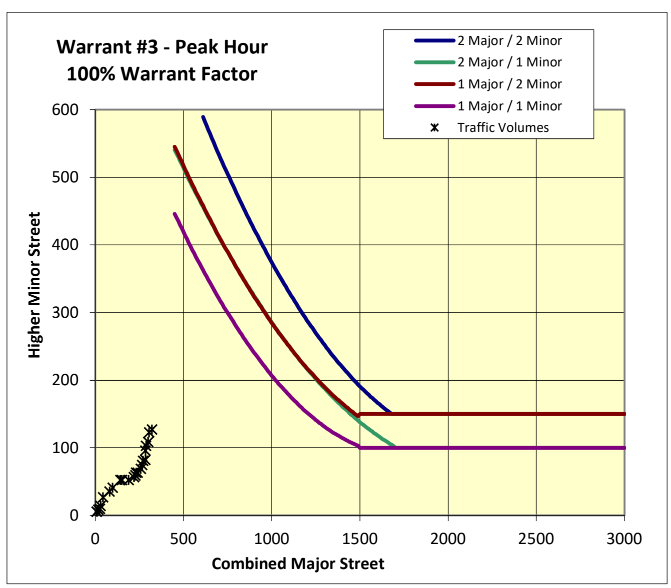
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	No
	B	750	75	0	No	
80%	A	400	120	0	No	No
	B	600	60	0	No	
70%	A	350	105	0	No	No
	B	525	53	0	No	
56%	A	280	84	5	No	No
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG P\[intersection 1 PM.xlsm]Warrant
Intersection:	1. Cabot Blvd. & Winton Ave.
Scenario:	BG PM+P

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:10 PM	5:10 PM	167	210	155	177
2nd Highest Hour		158	199	150	171
3rd Highest Hour		156	196	133	151
4th Highest Hour		149	188	126	144
5th Highest Hour		147	185	117	134
6th Highest Hour		147	185	100	114
7th Highest Hour		140	176	98	112
8th Highest Hour		138	174	91	104
9th Highest Hour		134	168	84	96
10th Highest Hour		125	157	78	89
11th Highest Hour		120	151	78	89
12th Highest Hour		118	148	72	83
13th Highest Hour		114	143	69	79
14th Highest Hour		98	123	64	73
15th Highest Hour		78	98	64	73
16th Highest Hour		73	92	64	73
17th Highest Hour		51	64	50	57
18th Highest Hour		42	53	43	49
19th Highest Hour		22	28	33	37
20th Highest Hour		16	20	17	20
21st Highest Hour		13	17	12	14
22nd Highest Hour		9	11	10	12
23rd Highest Hour		4	6	7	8
24th Highest Hour		4	6	7	8

Warrant Summary

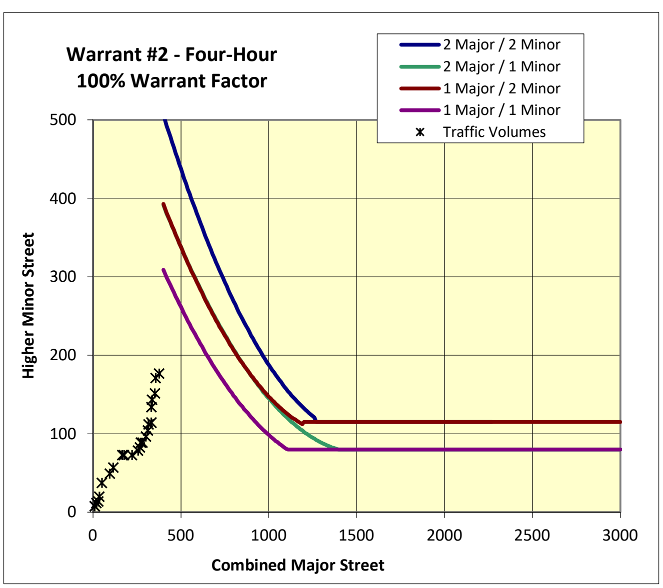
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

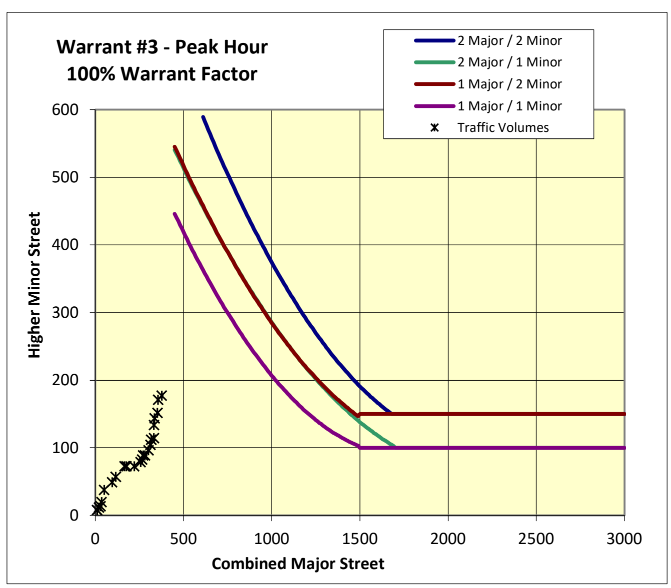
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	3	No	**No**
	B	525	53	0	No	
56%	A	280	84	10	Yes	**Yes**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG P\[intersection 2 PM.xlsm]Data Input
Intersection:	2. Whitesell St. & Depot Rd.
Scenario:	BG PM+P

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:05 PM	5:05 PM	127	291	141	132
2nd Highest Hour		120	275	136	128
3rd Highest Hour		119	272	121	113
4th Highest Hour		113	260	114	107
5th Highest Hour		112	256	107	100
6th Highest Hour		112	256	91	85
7th Highest Hour		107	244	89	84
8th Highest Hour		105	241	83	78
9th Highest Hour		102	233	77	72
10th Highest Hour		95	217	71	66
11th Highest Hour		91	210	71	66
12th Highest Hour		90	206	66	62
13th Highest Hour		86	198	63	59
14th Highest Hour		75	171	58	54
15th Highest Hour		59	136	58	54
16th Highest Hour		56	128	58	54
17th Highest Hour		39	89	45	43
18th Highest Hour		32	74	39	37
19th Highest Hour		17	39	30	28
20th Highest Hour		12	27	16	15
21st Highest Hour		10	23	11	10
22nd Highest Hour		7	16	9	9
23rd Highest Hour		3	8	6	6
24th Highest Hour		3	8	6	6

Warrant Summary

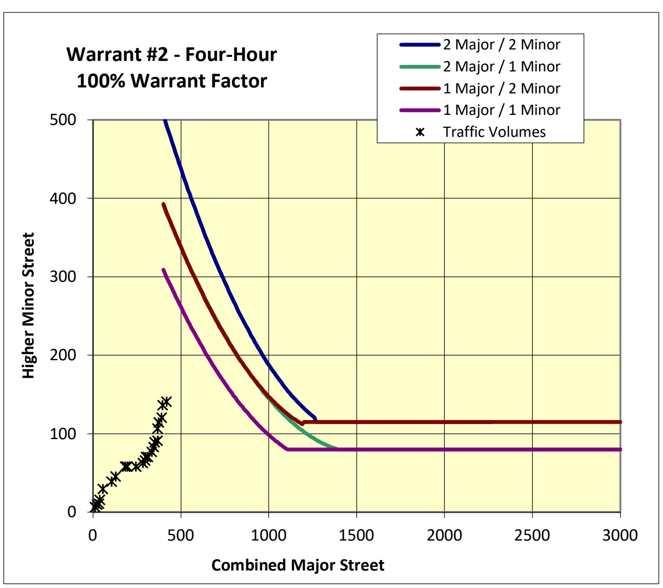
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

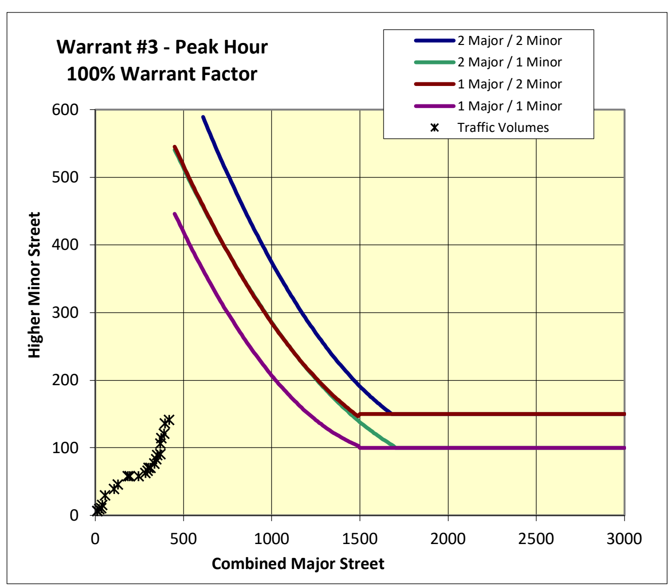
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	1	No	**No**
	B	600	60	0	No	
70%	A	350	105	5	No	**No**
	B	525	53	0	No	
56%	A	280	84	8	Yes	**Yes**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
851 SW 6th Avenue, Suite 600
Portland, Oregon 97204
(503) 228-5230

Project #:	28037
Project Name:	Hayward Depot Road Industrial TIA
Analyst:	MSM
Date:	10/7/2022
File:	H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\analysis\Signal Warrants\Signal Warrants\BG P\[intersection 4 PM.xlsm]Data Input
Intersection:	4. Whitesell St. & Enterprise Ave.
Scenario:	BG PM+P

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street NB	Major Street SB	Minor Street EB	Minor Street WB
4:00 PM	5:00 PM	122	200	127	52
2nd Highest Hour		115	189	123	50
3rd Highest Hour		114	187	109	44
4th Highest Hour		109	179	103	42
5th Highest Hour		107	176	96	39
6th Highest Hour		107	176	82	34
7th Highest Hour		102	168	80	33
8th Highest Hour		101	165	75	31
9th Highest Hour		98	160	69	28
10th Highest Hour		91	149	64	26
11th Highest Hour		88	144	64	26
12th Highest Hour		86	141	59	24
13th Highest Hour		83	136	56	23
14th Highest Hour		72	117	52	21
15th Highest Hour		57	93	52	21
16th Highest Hour		54	88	52	21
17th Highest Hour		37	61	41	17
18th Highest Hour		31	51	35	14
19th Highest Hour		16	27	27	11
20th Highest Hour		11	19	14	6
21st Highest Hour		10	16	10	4
22nd Highest Hour		7	11	8	3
23rd Highest Hour		3	5	6	2
24th Highest Hour		3	5	6	2

Warrant Summary

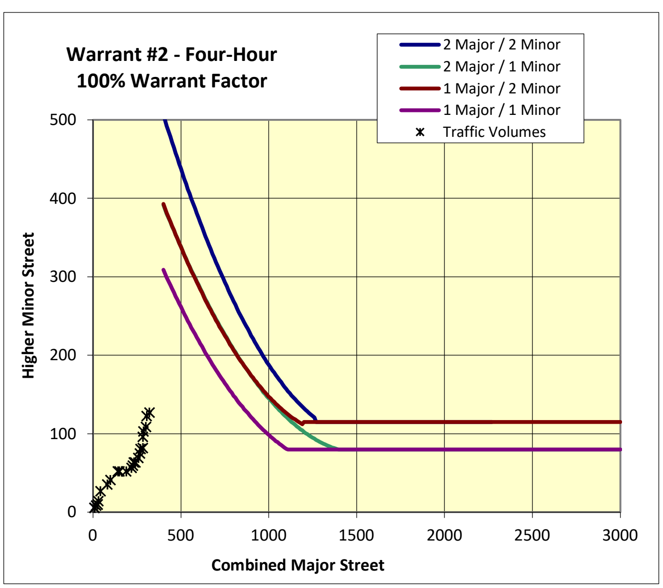
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

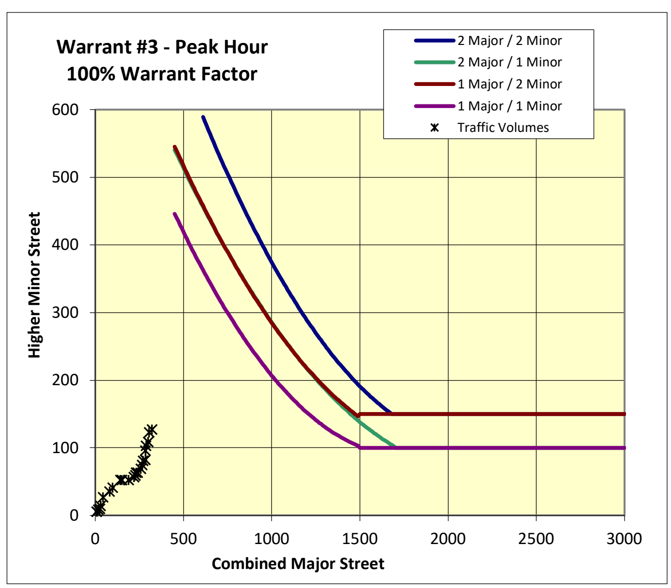
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	No
Warrant Factor	100%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	81%
Minor Street: 8th-Highest Hour / Peak Hour	59%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	5	No	**No**
	B	420	42	0	No	





Page intentionally blank

Appendix G: ACTC Development Review Complete Streets Checklist

Development Review Complete Streets Checklist

This checklist is designed to assist the applicant and jurisdiction staff identify and assess a range of Complete Streets-related needs in the vicinity of each development. These needs, if addressed, would better serve the multimodal transportation needs of those coming and going from the site and the surrounding area. The checklist is to be completed during the pre-application phase, but can be used as a reference throughout the development and design of the project. Following completion of the checklist, staff will identify and document project modifications for further evaluation and discussion.

Project Name: 3890 & 3898 Depot Road Industrial Project Project Description / Project Type: Industrial Park
Project Location: 3890 & 3898 Depot Road, Hayward, CA
Project Manager____
Anticipated construction date____

Pre-Application Phase

Project Description

1. What are the proposed land uses (check all that apply)?

   ☐ residential ☐ commercial /mixed use ☒ industrial
   ☐ civic/institutional
   ☐ other ____

2. What are the major trip generators near the project site, if any? (existing and future)

   a) Schools ☐yes ☒no
   b) Major employers ☒yes ☐no
   c) Civic/community destinations ☐yes ☒no
   d) Medium to high-density residential ☐yes ☒no
   e) Senior centers/healthcare facilities ☐yes ☒no
   f) Daily needs (grocery, retail, etc.) ☐yes ☒no
   g) Other ____

3. Is the project site located on the path to/from nearby trip generators?
   ☒yes ☐no
   Explain: Located directly on Depot Road

4. Based on the modal priority maps (available at https://alameda-ctc.maps.arcgis.com/apps/View/index.html?appid=2040175145de4305a5f59c6e82ca16c7), list the modal priorities on adjacent streets (check all that apply):

Adjacent Street 1 Name: Depot Road

Auto	☒ First	☐Second	☒Other
Bicycle	☐ First	☒Second	☐Other
Pedestrian	☐ First	☐Second	☒Other
Transit	☐ First	☐Second	☒Other
Trucks	☐ First	☐Second	☒Other

Work with Transportation and Engineering Staff to fill out questions 5-8.

5. Within the past five years, have there been any fatal or severe injury collisions within ¼ mile of the site? ☐yes ☒no

   If yes, explain: N/A

6. Within the past five years, have there been any collisions within ¼ mile of the site involving pedestrians or bicyclists? ☐yes ☒no

   If yes, explain: N/A

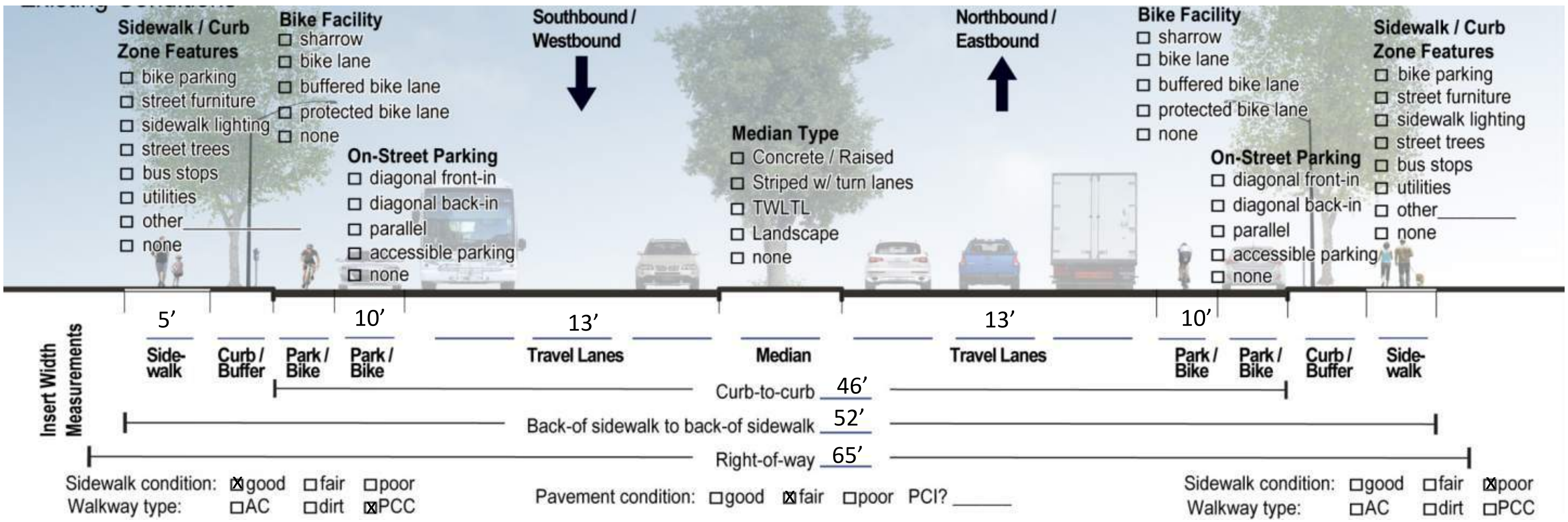
7. Have you observed other opportunities to improve safety performance? (based on field observation) ☒yes ☐no If yes, note:

If yes, explain: Improve and add sidewalks on Depot Road.

Existing Physical Conditions

8. What are the existing right-of-way elements adjacent to the project site? Use cross section graphic for each street adjacent to the site.

Adjacent Street 1: Street name Depot Road



TWLTL = two-way left turn lane | AC = asphalt concrete | PCC = poured cement concrete | PCI = pavement condition index

Plans, Policies, Guidelines, and Standards

9. What are **relevant ongoing or existing plans**?

Plan	Identified Needs (yes or no)				
	Ped	Bike	Transit	Vehicular	Other
Bicycle and Pedestrian Master Plan	☒ yes ☐ no	☒ yes ☐ no	☒ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no
	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no
	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no

List any transportation improvement needs identified in the plan documents listed above:

The Hayward Bicycle and Pedestrian Master Plan (BPMP).

The BPMP includes a map of roadways with the top pedestrian prioritization scores, highlighting roads that are prime candidates for improvements. Within the study area these includes portions of Clawiter Road, Winton Avenue, and Depot Road.

Transportation Evaluation

10. Indicate whether the following elements have been evaluated for <u>existing</u> conditions at the site and surrounding area and list the result for each mode:

Pedestrian

Internal site circulation and pedestrian routes	☒ yes	☐ no
Site access and street frontage	☒ yes	☐ no
Signage and wayfinding	☐ yes	☒ no
Intersections and street crossings	☒ yes	☐ no
Access to/from surrounding area	☒ yes	☐ no
Lighting	☐ yes	☒no
ADA facilities	☒yes	☐ no
Other________________________________	☐ yes	☐ no

List any pedestrian deficiencies identified: Sidewalks are intermittent on the south side of Depot Road.

Bicycle

Parking supply and ease of use	☐ yes	☒ no
Site access	☒ yes	☐ no
Signage and wayfinding	☒ yes	☐ no
Intersections	☐ yes	☒no
Access to/from surrounding area	☒ yes	☐ no
Other________________________________	☐ yes	☐ no

List any bicycle deficiencies identified:

Auto

On-street parking	☒ yes	☐ no
Off-street parking	☐ yes	☒ no
Disabled parking	☐ yes	☒ no
Green infrastructure	☐ yes	☒ no
Driveway placement and ped/bike conflict points	☒ yes	☐ no
Other________________________________	☐ yes	☐ no

List any auto deficiencies identified:

Transit

Bus stop placement	☒ yes	☐ no
Waiting area amenities and stop design parameters	☒ yes	☐ no
Other________________________________	☐ yes	☐ no

List any transit deficiencies identified:

Trucks and Heavy Vehicles

Curbside loading areas	☐ yes	☒ no
On-site loading areas	☐ yes	☒ no
Turning radii	☐ yes	☒ no
Emergency vehicle access	☐ yes	☒ no
Other________________________________	☐ yes	☐ no

List any truck/heavy vehicle deficiencies identified:

11. How does the proposed **site design** impact conditions for each mode? If negative or positive, note the impact. (Note: both negative and positive impacts could be found for one mode.)

Mode	Impacts	
Auto	☐ positive ☐ neutral ☒ negative	Potential for intersection delay, including at driveways.
Bicycle	☒positive ☐ neutral ☒ negative	Improve on-site bike facilities. Potential for increased traffic along bike routes at driveways.
Pedestrian	☒ positive ☐ neutral ☒ negative	Improve sidewalk facilities. Potential for increased heavy vehicle-pedestrian conflicts at driveways and on-site.
Transit	☐ positive ☒ neutral ☐ negative	Transit routes run on Depot Road and Cabot Boulevard east of the project site.
Trucks	☐ positive ☐ neutral ☒ negative	Potential for intersection delay, including at driveways.

Other mode?	☐ positive ☐ neutral ☐ negative	

External Agency/Stakeholder Coordination

12. List agencies requiring coordination: N/A

Agency	Has coordination occurred? Note any issues that are outstanding.
	☐ yes ☐ no

Maintenance and Construction Phase Considerations

13. How will access for all modes be maintained during construction (check one box per mode)?

Agency	Auto	Bicycle	Pedestrian	Transit	Trucks
Detour for duration of project	☐	☐	☐	☐	☐
Time-of-day closures only (e.g. nighttime)	☒	☒	☒	☐	☐
Short-term closures (e.g. 24 hour) with detour route	☐	☐	☐	☐	☐
Access maintained with reduced facilities*	☐	☐	☐	☐	☐
Full access maintained (work does not impact mode)	☐	☐	☐	☒	☒
Other	☐	☐	☐	☐	☐

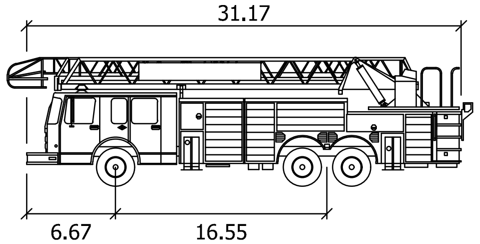
*"Access maintained with reduced facilities" could mean some travel lanes closed for vehicles; could mean bicycle lane is closed, with signage for bicycles to share travel lane; could mean that sidewalk is closed with pedestrian space provided on shoulder; could mean that some transit stops are closed; etc.)

14. Will any transportation facilities or street elements be privately maintained? ☐ yes ☒ no If yes, explain:

15. Will Complete Streets design be applied on privately maintained facilities? ☐ yes ☒no

Appendix H: Truck Turning Template

Page intentionally blank

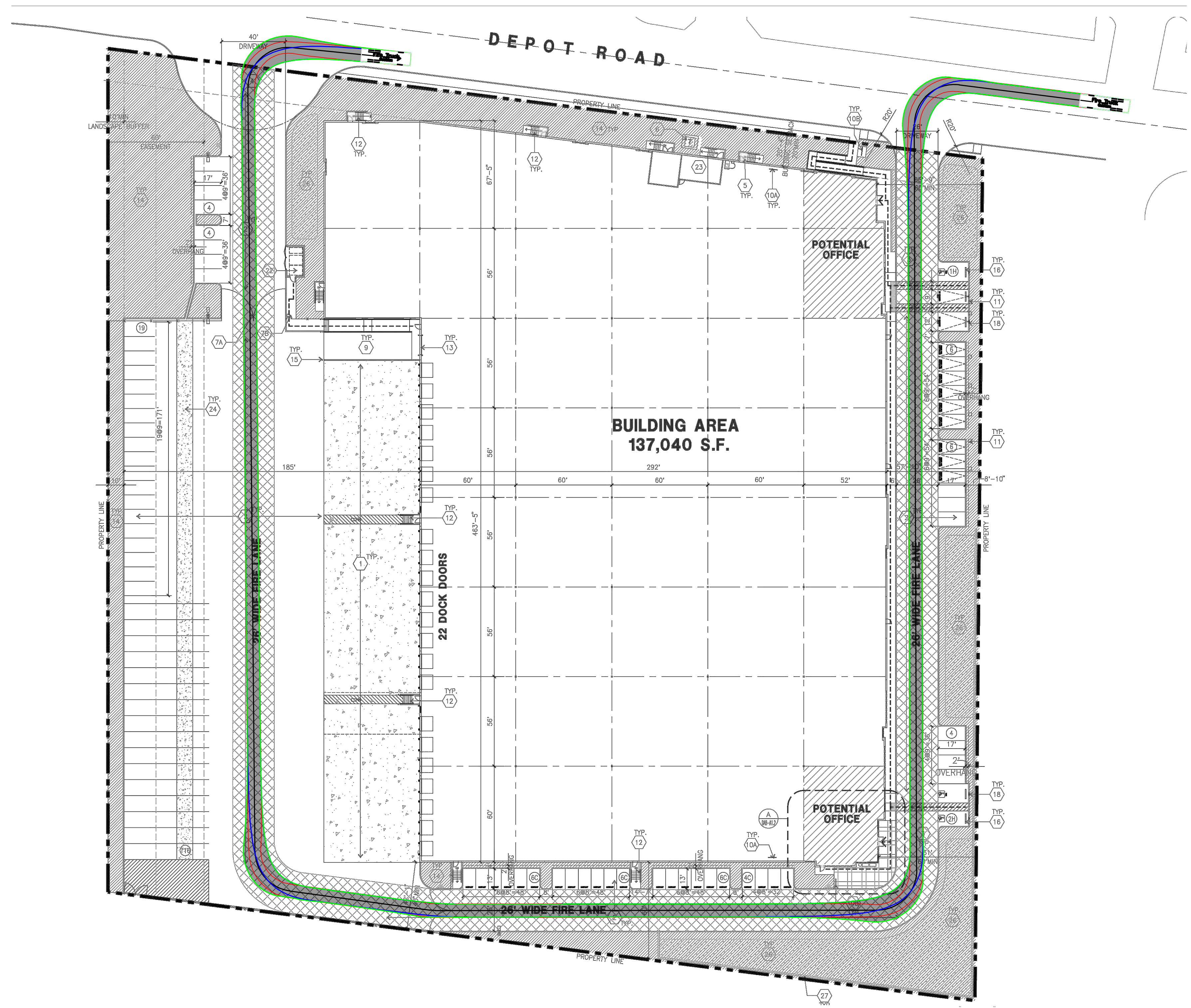


Fire Truck

	feet
Width	: 7.99
Track	: 7.99
Lock to Lock Time	: 6.0
Steering Angle	: 41.7

Vehicle Turning Settings

Design Vehicle:	Fire Truck
Vehicle Speed:	5 MPH
Min. Turning Radius:	25 FEET
Turn from stop:	Off
Vehicle Envelope	(green line)
Front Tire Track	(red line)
Rear Tire Track	(blue line)

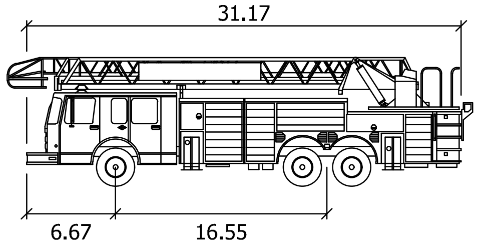


Scale: 1" = 80'

80 40 0 80

Fire Truck Turning
Hayward, CA

Figure
H-1

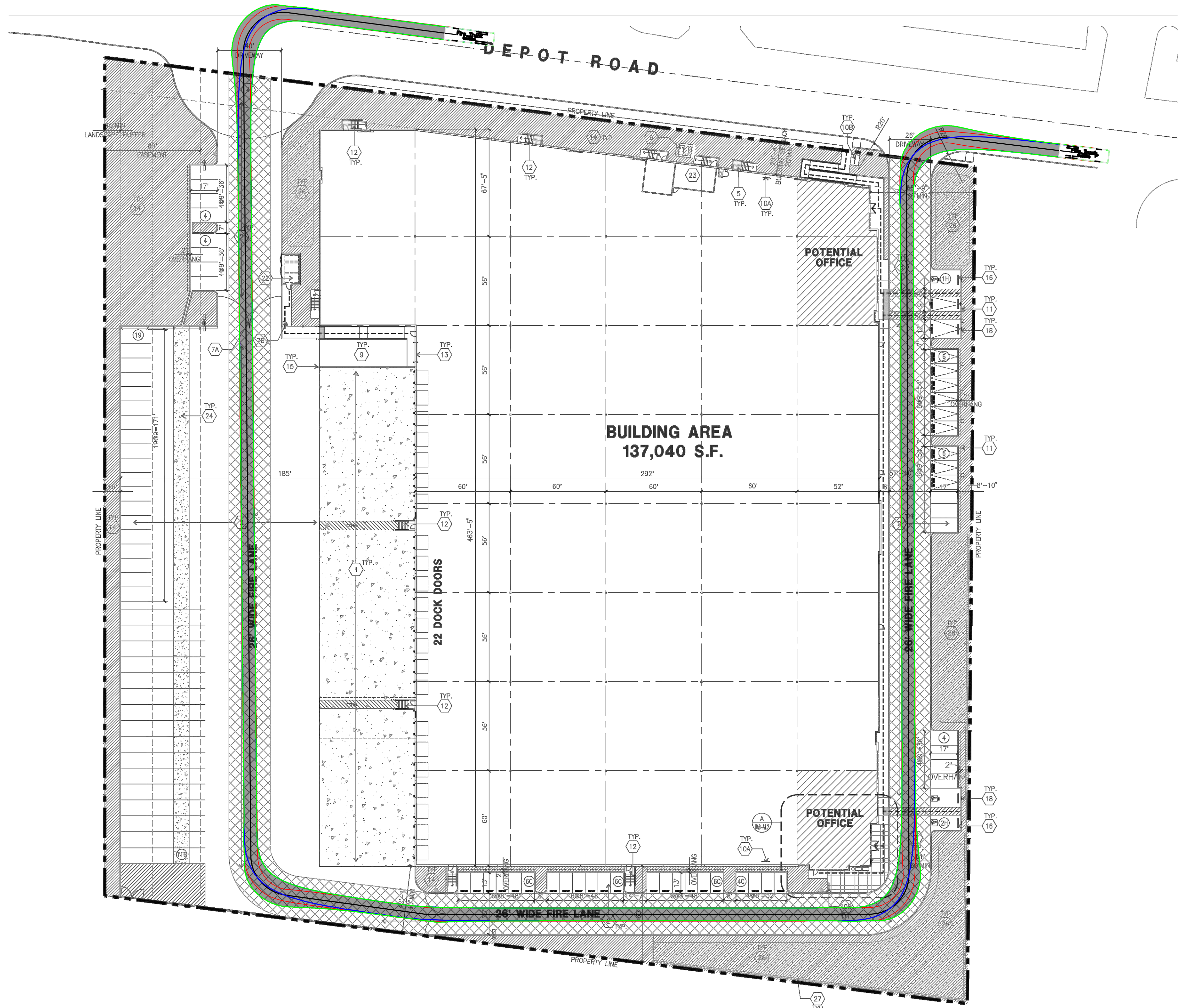


Fire Truck

		feet
Width	:	7.99
Track	:	7.99
Lock to Lock Time	:	6.0
Steering Angle	:	41.7

Vehicle Turning Settings

Design Vehicle:	Fire Truck
Vehicle Speed:	5 MPH
Min. Turning Radius:	25 FEET
Turn from stop:	Off
Vehicle Envelope	(green line)
Front Tire Track	(red line)
Rear Tire Track	(blue line)



Scale: 1" = 80'

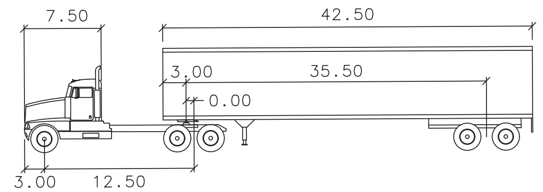
80 40 0 80

Fire Truck Turning
Hayward, CA

Figure
H-2

H:\28\28037 - Hayward 3890 Depot Rd Industrial EIR\report\figs\AutoTurn\28037_AutoTurn2.dwg Oct 10, 2022 - 3:55pm - mmilacek Layout Tab: Figure 2

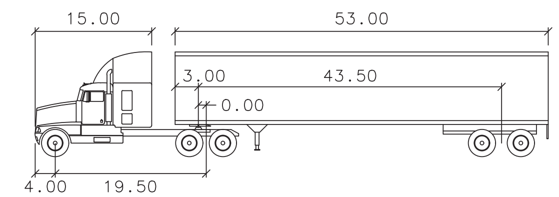
KITTELSON & ASSOCIATES



WB-50

feet

Tractor Width	:8.00	Lock to Lock Time	:6.0
Trailer Width	:8.50	Steering Angle	:17.7
Tractor Track	:8.00	Articulating Angle	:70.0
Trailer Track	:8.50		



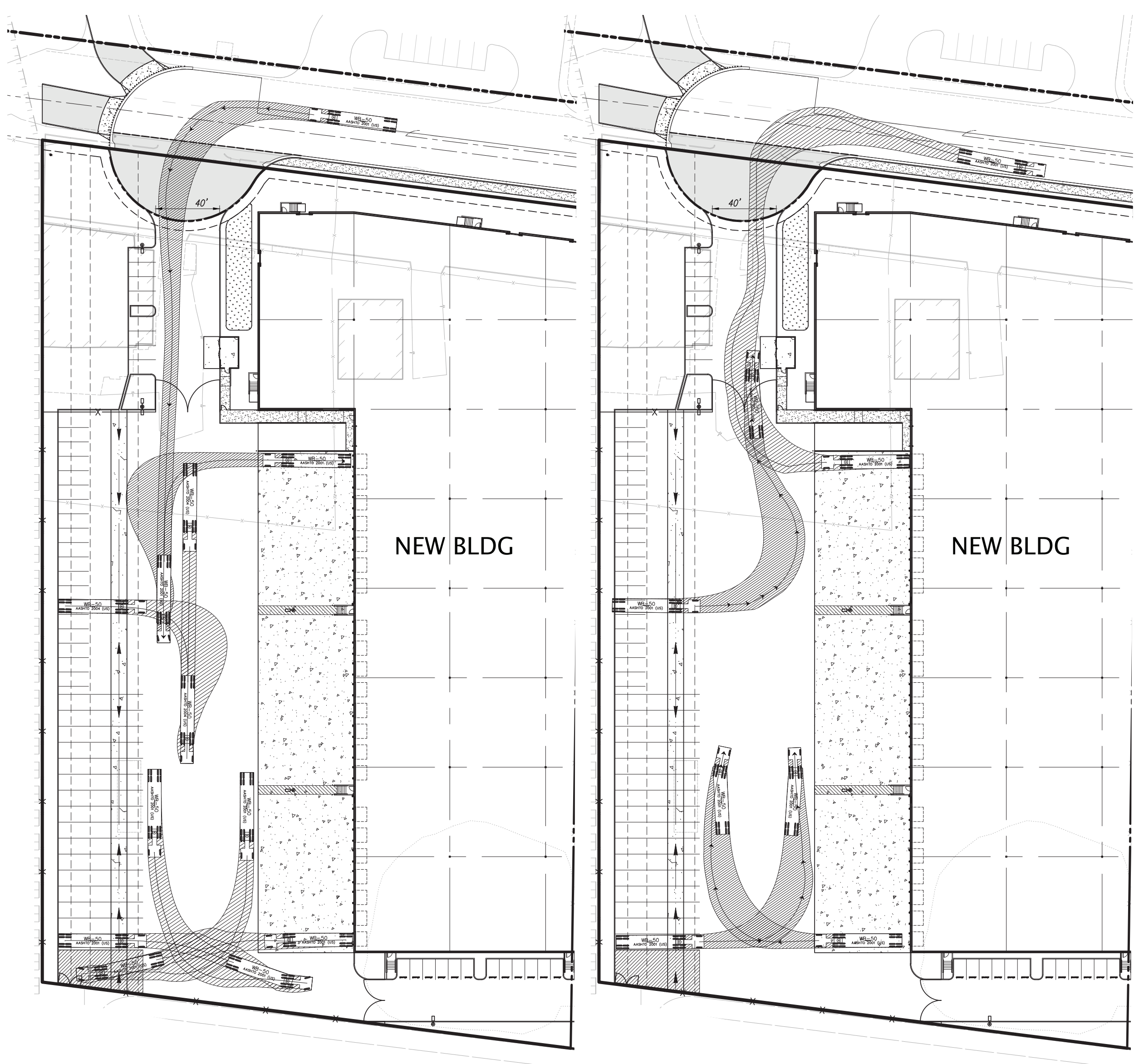
WB-65

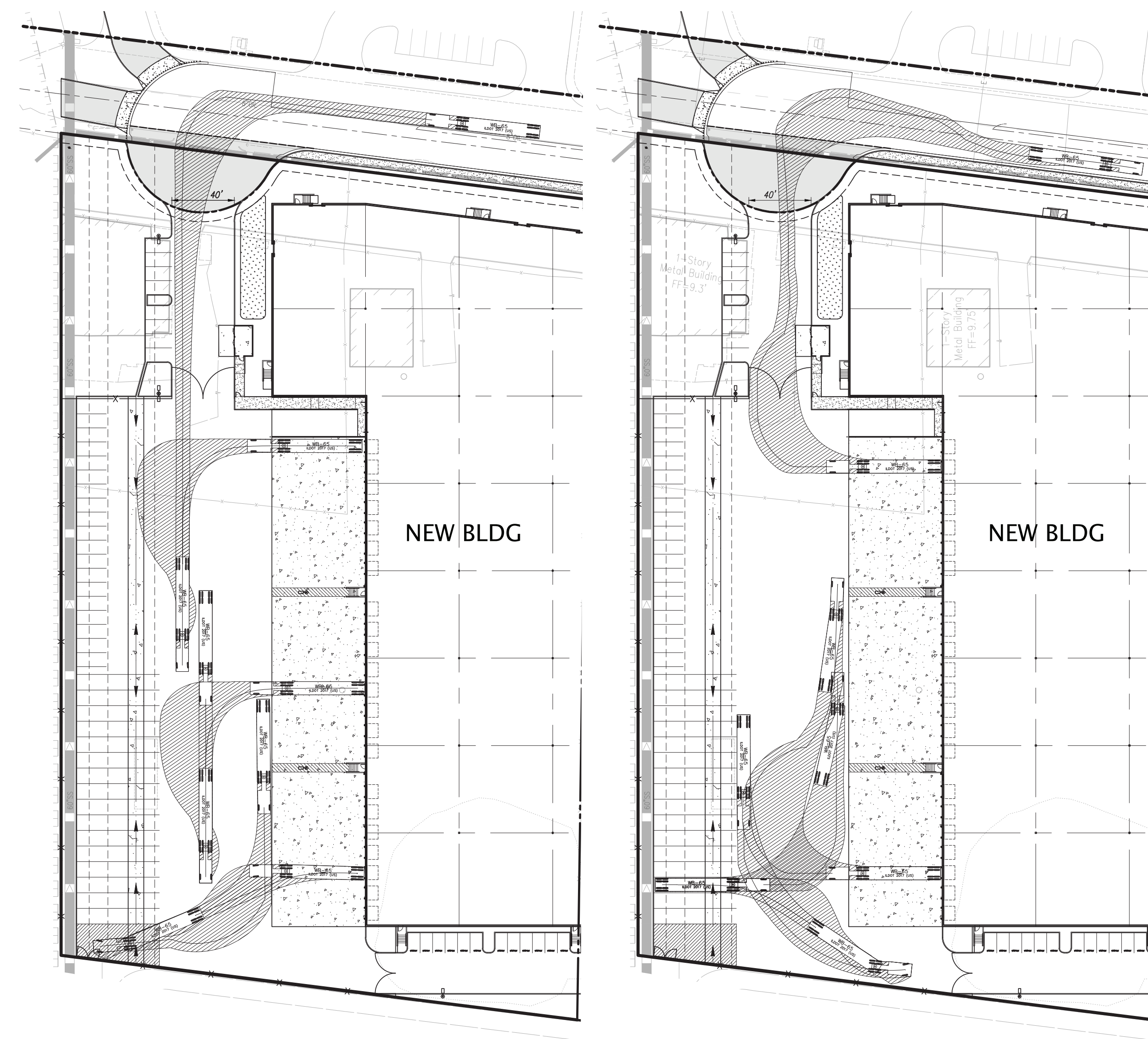
feet

Tractor Width	:8.00	Lock to Lock Time	:6.0
Trailer Width	:8.50	Steering Angle	:28.4
Tractor Track	:8.00	Articulating Angle	:70.0
Trailer Track	:8.50		

NORTH

0 20 40 80 120
Scale 1" = 40'





NO.	REVISION	BY
	FIRST SUBMITTAL 1/18/2022	
	SECOND SUBMITTAL 5/24/2022	
	THIRD SUBMITTAL 7/5/2022	

REGISTERED PROFESSIONAL ENGINEER
No. C65112
STATE OF CALIFORNIA

KIER+WRIGHT
2850 Collier Canyon Road
Livermore, CA 94551
Phone: (925) 245-8788
www.kierwright.com

TRUCK TURN EXHIBIT
OF
3890 DEPOT ROAD
FOR
FIRST INDUSTRIAL

HAYWARD, CALIFORNIA

DATE	MAY, 2022
SCALE	AS SHOWN
DESIGNER	EYS
DRAWN BY	RAS
JOB NO.	A21609
SHEET	C5.0
OF	6 SHEETS