



MITIGATED NEGATIVE DECLARATION AND INITIAL STUDY CHECKLIST P22-0182

PROJECT NAME: Sunset Drive Townhomes Project

PROJECT LOCATION: 2112 Sunset Drive

APN(s): 166-450-39; 166- 450-40

PROJECT APPLICANT: Legacy Partners
5141 California Avenue, Suite 100
Irvine, California 92617

LEAD AGENCY: City of Vista
Community Development Department
Planning Division
200 Civic Center Drive
Vista, California 92084-6275
Contact: Christopher Winters, Associate Planner
760.643.5394

PUBLIC REVIEW

PERIOD: June 29, 2023 – July 28, 2023

This Mitigated Negative Declaration (MND) and Initial Study (IS) have been prepared pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000, et seq.) and the State CEQA Guidelines (California Code of Regulations, Section 15000, et seq.). It is available for a 20-day public review period as shown above.

Comments regarding this MND/IS must be made **in writing** and addressed to Mr. Christopher Winters, Planning Division, 200 Civic Center Drive, Vista, California 92084-6275, or sent by e-mail to cwinters@ci.vista.ca.us. Comments should focus on the sufficiency of the document in identifying and analyzing the potential impacts on the environment that may result from the proposed project, and the ways in which any significant effects are avoided or mitigated. All comments must be received in the Planning Division office no later than 5:00 p.m. on the last day of the public review period noted above. After public review of this Draft MND is complete, a final version of the MND will be prepared. The final version of the MND may contain revisions/clarifications to the text or in response to the comments received as part of the public review period of the Draft MND. Any revisions to be included in the final version of this MND will be made in tracking mode (strikeout/underline), so that the original and revised text may be compared. Public comments received on the Draft MND, and the City's responses to comments, will be included as part of the final MND.

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Chapter 1

INTRODUCTION

Overview

As part of the permitting process under the City of Vista's (City) Planning Division, the Sunset Drive Townhomes Project (or "proposed project"), which consists of a General Plan Amendment, Zone Change, Site Development Plan, Condominium Housing Permit, and Tentative Subdivision Map, is required to undergo an environmental review pursuant to the California Environmental Quality Act (CEQA). One of the main objectives of CEQA is to disclose to the public and decision makers the potential environmental effects of proposed activities. CEQA requires that the lead agency prepare an Initial Study (IS) to determine whether an Environmental Impact Report (EIR), Negative Declaration (ND), or a Mitigated Negative Declaration (MND) is needed. The City's Planning Division is the lead agency for the proposed project under CEQA, and it has prepared this MND/IS to evaluate the potential environmental consequences associated with the development of the Sunset Drive Townhomes Project.

Authority

The preparation of this MND/IS is governed by two principal sets of documents: CEQA (Public Resources Code Section 21000, et seq.) and the State of California (State) CEQA Guidelines (California Code of Regulations Section 15000, et seq.). Specifically, the preparation of an MND/IS is guided by the State CEQA Guidelines; Section 15063 describes the requirements for initial studies, and Sections 15070–15075 describe the process for the preparation of an MND. Where appropriate and supportive to an understanding of the issues, reference will be made to either the CEQA statute or State CEQA Guidelines. This MND/IS contains all of the contents required by CEQA, which includes a project description, a description of the environmental setting, potential environmental impacts, mitigation measures for any significant effects, consistency with plans and policies, and names of preparers.

Scope

This MND/IS evaluates the proposed project's effects on the following resource topics:

- aesthetics
- agricultural resources
- air quality
- biological resources
- cultural resources
- geology and soils
- greenhouse gas emissions
- hazards and hazardous materials
- hydrology and water quality
- land use planning
- mineral resources
- noise
- population and housing
- public services
- recreation
- transportation/traffic
- utilities and service systems

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Chapter 2

ENVIRONMENTAL SETTING AND PROJECT DESCRIPTION

Project Overview

The Project involves approval of a General Plan Amendment, Zone Change, Site Development Plan, Condominium Housing Permit, and Tentative Subdivision Map, to develop 38 two-story townhomes and associated improvements on a 4.32-acre site located at 2112 Sunset Drive in Vista, California (Figure 1). The Project site consists of three parcels (166-450-39; 166-450-40; 166-751-44). The project site is located on the west side of Sunset Drive/S. Emerald Drive and is split by an existing driveway that serves the Green Valley mobile home community (Figure 2). Of the 38 proposed townhomes, 24 units would be located north of the Green Valley mobile home driveway on 3.09 acres, and 14 units would be located south of the existing driveway on 1.18 acres (Figure 3). The 38 townhomes would be split amongst 10 buildings on-site.

The northern portion of the site is currently designated as General Commercial (GC) with an associated zoning designation of C-1 (Commercial) in the Vista *General Plan 2030* (City of Vista 2011). The project proposes the site be redesignated to Medium Density Residential (MD) with an associated zoning of Multifamily Residential (R-M (10)). The southern portion is currently designated Medium High Density Residential (MHD) which allows 15 dwelling units per acre (du/acre) and has an associated zoning of Multi-Family Residential (R-M (15)). The land use and zoning designation for the southern portion of the project would remain as is in proposed conditions, as the proposed 14 units on the southern portion of the site would be consistent with the current land use and zoning. The project would require a General Plan Amendment and Rezone for the northern portion of the project site, which would allow for the development of 24 residential units. Site access is proposed via one full access driveway serving the 24 units in the northern portion of the site, as well as two driveways serving the 14 units on the southern portion of the site. The southernmost access point for the southern portion of the site, closest to Sky Haven Lane, would serve as emergency access only, while the northern driveway would provide day to day access for the southern 14 units.

The project site currently features an existing residence and associated structures which would be demolished prior to project development.

Historic Uses of the Project Site

The *Negative Cultural resources Phase I Letter Report for the Sunset Drive Townhomes Project* (Appendix C) included an online review of historic aerial photographs of the Project site, which revealed that the site has undergone agricultural uses prior to 1938 and between 1946 and 1943. Additionally, by 1938 three structures had been constructed within the eastern portion of the Project site. The existing residence was constructed by 1986, and by 1994 additional ancillary structures had been constructed.

Existing Environmental Setting

CITY OF VISTA

Vista is a largely built-out, predominantly low-density residential community located seven miles inland from the Pacific Ocean in northern San Diego County. Clusters of urbanizing higher density developments are scattered throughout its central portion. The city is located in rolling topography of the western foothills of the San Marcos Mountains, with elevations ranging from approximately 200 feet to about 750 feet above mean sea level (AMSL). Pleasant views are found from various points throughout the city, with some higher elevations offering captivating vistas of the Pacific Ocean to the west. In addition to the pleasing topography of the mountains and hills, Vista is lushly vegetated from the low level creek beds to the steep slopes of the foothills, which also contributes to the overall beauty of the community. The city also has two major creeks that flow through its boundaries, Buena Vista Creek and Agua Hedionda Creek.

PROJECT SITE

The Project site is bisected “north” (northwest) to “south” (southeast) by an existing parking lot designated for the mobile homes west of the site. The southern portion of the Project site currently features an existing residence and associated structures, while the northern portion of the Project site features undeveloped, vacant land. The site is relatively flat with an elevation ranging from 211 in the north to 236 feet AMSL in the south.

Hydrologically, the site is within the Vista Subarea (904.22) of the Buena Vista Creek Hydrologic Area (904.20) of the Carlsbad Hydrological Unit. The Project site is relatively flat, and stormwater runoff flows northerly eventually discharging into existing stormwater facilities and Buena Vista Creek, which flows to Buena Vista lagoon, ultimately discharging to the Pacific Ocean. Additional information and analysis regarding drainage and water quality can be found in Chapter 3, Section IX – Hydrology and Water Quality in this document.

All required public utilities are available within the existing adjacent streets including sewer, water, stormwater, and electrical. There is an existing water line in South Emerald Drive that the Project would connect to. The Project would connect to existing sewer and stormwater infrastructure in South Emerald Drive.

Surrounding Land Uses

The site is bound by the existing Green Valley mobile home park to the west, and Santiago estates mobile park to the east across S Emerald Drive/Sunset Driver. To the north, the site is bound by open space including Buena Vista Creek and beyond that a commercial shopping center. The Project site is bound by Sky Haven Lane to the south.

North County Transit District’s (NCTD) BREEZE Bus Line operates service (Route #323) along South Emerald Drive and Sunset Drive, which connects the Project site to the Vista Transit Center, Oceanside Transit Center, and San Luis Rey Transit Center. Two bus stops are located immediately adjacent to the proposed project site, on the east and west sides of the S Emerald Drive/Sunset Drive connection.

The closest City of Vista park facility, Bub Williamson Park, is located approximately 1 mile to the north. The Calavera Trails and Oak Riparian Park are located approximately 0.70 mile southwest

and southeast, respectively. The closest Vista fire station is Fire Station No. 1 located at 175 North Melrose Drive, approximately 1.7 miles east of the project site. The closest San Diego County Sheriff's Department office is located approximately 1.4 miles to the east at 325 S. Melrose Drive. The closest airport to the Project site is the McClellan-Palomar Airport, which is located approximately 4 miles to the southwest in the City of Carlsbad.

Project Description

The applicant seeks approval of applications for a General Plan Amendment, Zone Change, Site Development Plan, Condominium Housing Permit, and Tentative Subdivision Map for development and construction of 38 two-story townhomes on a 4.32-acre site. As described above, the northern portion of the site is currently designated as General Commercial (GC) with an associated zoning designation of C-1 (Commercial) in the Vista *General Plan 2030* (City of Vista 2011). The project proposes the site be redesignated to Medium Density Residential (MD) with an associated zoning of Multifamily Residential (R-M (10)). The southern portion is currently designated Medium High Density Residential (MHD) which allows 15 dwelling units per acre (du/acre) and has an associated zoning of Multi-Family Residential (R-M (15)). The land use and zoning designation for the southern portion of the project would remain as is in proposed conditions, as the proposed 14 units on the southern portion of the site would be consistent with the current land use and zoning. The project would require a General Plan Amendment and Rezone for the northern portion of the project site, which would allow for the development of 24 residential units.

The various approvals are briefly summarized below.

- **Zone Change:** Per Chapter 18.04 of the Vista Development Code, this application is required for the proposed zone change from C-1 (Commercial) to R-M (10) (Multifamily Residential).
- **General Plan Amendment:** Per the City's General Plan, this amendment is required for the proposed land use designation change from GC (General Commercial) to MD (Medium Density Residential).
- **Site Development Plan:** Per Chapter 18.64 of the Vista Development Code, this plan is required for determining project consistency with the City's General Plan, Zoning Code, development standards, design guidelines, etc.
- **Condominium Housing Permit:** Per Chapter 18.60 of the Vista Municipal Code, this permit will be processed for the proposed rezoning of the site to R-M, in the same manner and concurrent with a tentative subdivision map application and accompanied by a site development plan application.
- **Tentative Subdivision Map:** Per Chapter 17.12 in the Vista Development Code, this map is required for the division and development of the 38 proposed townhomes, private roadways, and stormwater basins on the subject property.

OVERALL SITE PLAN

The overall design of the Project would be comprised of 38 townhomes with private garages, internal private streets, and open guest parking. Access for the Project would be located along South Emerald Drive and Sunset Drive. One full access driveway would be located along South Emerald Drive to provide access to the northern portion of the site and one full access driveway would be located along Sunset Drive to provide access to the southern portion of the site. The

emergency vehicle only driveway would be gated and located at the southernmost portion of the southern site along Sunset Drive (Figure 3).

The 38 proposed townhomes would provide 4 different floor plans/unit types, ranging in size from 1,440 to 1,780 square feet, and ranging in layout from 2 bedrooms plus a loft to 3 bedrooms plus a loft. A total of 110 parking spaces would be provided, including 76 garage spaces, and 34 guest spaces. Additionally, the development would provide 33,944 square feet of open space, which include both common open space and private patios. With a total of 38 proposed townhomes on the 4.32-acre site, the density of the project is 8.80 du/acre.

PROJECT COMPONENTS

Proposed Townhomes - As noted above, the residential units would consist of 38 two-story single-family homes and conform to the maximum permitted height of 35 feet. Unit sizes would be available in four plan types. Unit sizes would range from 1,440– 1,780 sq. ft. with two to three bedrooms, two-car garages, and private patios (see Figure 3, Conceptual Site Plan). Table 1 shows the proposed unit mixes.

Table 1. Unit mix

Plan	Square Footage (sq. ft.)	Bedrooms	Bathrooms	Number of Units
1	1,440	2 + Loft	2.5	14
2	1,540	3 + Loft	2.5	12
3	1,710	3	2.5	8
4	1,780	3 + Loft	2.5	4
Total				38

Source: SUMMA Architecture 2022

Proposed Architectural Design: The proposed two-story townhomes would be oriented to face an internal roadways and the Project's frontage along South Emerald Drive and Sunset Drive would be enhanced with entry signage, fencing and walls, and drought-tolerant landscaping. The proposed landscaping is designed to complement the Spanish style architecture of the townhomes.

The proposed architectural design would consist of Spanish and Monterey architectural styles, which would be enhanced with metal railings, pot shelves, shutters, corbels, and gable accents. Homes would be oriented to face the proposed internal roadways. The main colors of the building materials would be white and brown stucco, red and brown concrete tile rooves, and decorative metal. Please refer to Figure 6, Visual Simulations.

Vehicular Access and Parking: Vehicular access to the Project would be located off South Emerald Drive and Sunset Drive. Two full access Project driveways and one emergency vehicle driveway would be constructed. The northern portion of the site would include one full access driveway located along South Emerald Drive. The southern portion of the site would include one full access driveway and one emergency vehicle driveway both located along Sunset Drive. These access points would be controlled via two-stop controlled intersections. Onsite circulation would consist of a two-lane private roadways throughout both the northern and southern portions of the site.

The Project proposes to provide a total of 110 onsite parking spaces. The Project would include 76 garage spaces, and 34 guest spaces.

Pedestrian Access – Pedestrian pathways throughout the site would provide pedestrian access to both South Emerald Drive and Sunset Drive. The Project proposes the construction of a sidewalk along the western boundary of the site.

Residential Amenities – The Project proposes onsite open space areas. These areas would include community amenities such as outdoor dining, play area, passive lawn with benches, fire pit, and BBQ area.

Landscaping - The landscaping of the Project would consist of non-invasive and low water use/drought tolerant plants. A diverse range of textural and flowering species are proposed. Trees would be used to create shade throughout the development. The Project would provide 23,918 sf of common open space, and 10,026 sf of private open space, for a total of 33,944 sf of provided open space on-site for residents. The proposed biofiltration basin would be planted with various sedges and rushes. Plant selection is based on the Water Efficient Landscaping Ordinance in the City's Development Code, Chapter 18.56. Please refer to Figures 4a and 4b, Conceptual Landscape Plan.

Utilities - New water lines for potable drinking water and separate fire lines would be connected to existing Vista Irrigation District (VID) water mains in South Emerald Drive. The Project's private sewer line would connect with the existing Vista sewer mains located within South Emerald Drive. Sewer laterals from the private sewer main would connect to each of the buildings. Gas, electrical, cable and telephone connections would be made to existing facilities within or adjacent to the above noted streets.

Stormwater Features – Two biofiltration basins would be constructed within the project site, at the northeast and northwest corners of the southern portion of the site. Onsite stormwater runoff would be collected in proposed storm drains and conveyed to existing stormwater facilities. See Section IX - Hydrology and Water Quality for additional information on these issues.

Exterior Lighting - The electrical photometric plan includes LED (light-emitting diode) light poles placed along pedestrian pathways and parking areas within the Project site. There would also be continuous light strings and bollard lighting within usable open space areas. The final electrical photometric plan – including final light locations, wattages, styles, colors, and finishes – would be submitted with the final grading and site plans prior to obtaining a Grading Permit. As a Condition of Project Approval, they are required to meet all of the applicable requirements in Section 18.58.260 - Outdoor Lighting Facilities and/or Fixture in the Vista Development Code.

Retaining Walls, Fencing, and Signage – A 6-foot block wall would be built along the northern boundary of the site, and a 6-foot concrete masonry units (CMU) wall would be incorporated along the western perimeter of the site. A 6-foot split face wall would be built around the perimeter of the southern portion of the site.

Recycling and Trash Enclosures – Trash, recycling, and green waste storage would be provided onsite.

Adjacent Roadway Site Access Improvements - The Project would include the following adjacent roadway improvements that would be implemented simultaneously with onsite construction activities to ensure adequate access to the Project area and safety for vehicles and pedestrians. The Project would construct a sidewalk, curb, and gutter along the Project frontage.

PROJECT CONSTRUCTION

Construction of the Project is anticipated to take approximately 15 months to complete, according to the *Air Quality and Greenhouse Gas Analysis Report* prepared for the Project (Appendix A). Demolition of existing structures, grading and site preparation would be accomplished first, followed by building construction, paving and architectural coating.

In addition, as part of the Conditions of Project Approval, the Owner and/or Contractor would be required to prepare and implement a Construction Traffic Management Plan to the satisfaction of the City Traffic Engineer to avoid significant construction-related impacts to nearby streets and intersections, especially during peak hour times.

Site Preparation - The initial stage of site development would include the demolition and clearing of the existing developments onsite. In addition, existing vegetation and extraneous materials would be removed and the areas slated for construction would be grubbed.¹ The Project includes the demolition of all onsite structures, including the existing residence. Materials generated during stripping operations and/or site demolition would be exported from the site and are anticipated to be transported to a Materials Recovery Facility (MRF), such as the Palomar MRF in Carlsbad, to be recycled or disposed of in a landfill.

Grading - The next stage of site development would include mass grading the site. Standard equipment used on the site would include an excavator, graders, dozers and backhoes. The Project would involve 4,000 cubic yards (cy) of material import. See Section III - Air Quality, Section VII Greenhouse Gas Emissions, and Section XII - Noise in this document for additional information on potential impacts from grading.

ADDITIONAL APPROVALS REQUIRED FOR CONSTRUCTION

The Project would be required to obtain the following additional approvals for construction from the City: Landscape Construction Plan, Grading Permit, Building Permit, and Certificate of Occupancy. Other public agency approvals are cited on page 3-1.

TRIBAL CONSULTATION

California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to CEQA Statute § 21080.3.1 (i.e., Assembly Bill 52). City staff conducted consultation with California Native American Tribes per the requirements CEQA Statute § 21080.3.2). In compliance with Assembly Bill 52 (AB 52) and Senate Bill 18 (SB 18), the City, as lead agency, is responsible for conducting government to government consultation with pertinent tribal entities. Per the AB 52 and SB 18 notifications, the City held consultation with Rincon Band of Luiseño Indians on March 22, 2023; San Luis Rey Band of Mission Indians on April 6, 2023; and San Pasqual Band of Mission Indians on June 12, 2023. Rincon Band of Luiseño Indians submitted written confirmation of conclusion of consultation on April 29, 2023. Conclusion of consultation with San Luis Rey Band of Mission Indians and San Pasqual Band of Mission Indians is pending. The project would implement the City's Cultural Resources mitigation measures as outlined under MM-CR-1 through MM-CR-6 in Section V. below.

¹ Grubbed or grubbing is generally the removal of tree roots and stumps and other near-surface material that remain in the soil.

Chapter 3

INITIAL STUDY ENVIRONMENTAL CHECKLIST

Project Information

Project Title:	Sunset Drive Townhomes Project
Lead Agency Name and Address:	City of Vista Community Development Department Planning Division 200 Civic Center Drive Vista, California 92084-6275
Contact Person and Phone Number:	Christopher Winters, Associate Planner 760.643.5394
Project Location:	2112 Sunset Drive, just north of Sky Haven Lane
Project Applicant:	Legacy Partners
General Plan Designation:	Existing: MHD (Medium High Density Residential), General Commercial (GC) Proposed: MHD (Medium High Density), MD (Medium Residential)
Zoning Designation:	Existing: R-M (15) (Multi-Family Residential), C-1 (Commercial) Proposed: R-M (15) (Multi-Family Residential), R-M (10) (Multi-Family Residential)
Description of Project:	See Chapter 2, Project Description
Surrounding Land Uses and Setting:	See Chapter 2, Project Description
Other Public Agency Approvals:	Submittal of a Notice of Intent (NOI) to the Regional Water Quality Control Board (RWQCB) and preparation of a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Activities Permit

Environmental Factors Potentially Affected

Based upon the initial evaluation presented in the following IS, it is concluded that Project would not result in significant adverse environmental impacts.

Environmental Determination

On the basis of the initial evaluation of the attached Initial Study:

- ☐ I find the proposed project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the 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 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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



City Staff

6/22/2023

Date

The signature below signifies that the applicant has read and accepts the mitigation measures detailed in the final Mitigated Negative Declaration.



Applicant or Owner

6/22/2023

Date

Chapter 4

EVALUATION OF ENVIRONMENTAL IMPACTS

The following IS checklist provides analysis of the Project's potential to result in significant adverse environmental impacts. Section 15063(c) of the Guidelines indicates that the purpose of an IS is to:

1. Provide the Lead Agency (the City of Vista) with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration (ND);
2. Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a ND;
3. Assist the preparation of an EIR, if one is required, by:
 - a. Focusing the EIR on the effects determined to be significant;
 - b. Identifying the effects determined not to be significant;
 - c. Explaining the reasons why potentially significant effects would not be significant; and,
 - d. Identifying whether a program EIR, tiering, or another appropriate process can be used for analysis of the project's environmental effects.
 - e. Facilitating environmental assessment early in the design of a project.
 - f. Providing documentation of the factual basis for the finding in an ND that a project will not have a significant effect on the environment.
 - g. Eliminating unnecessary EIRs.
 - h. Determining whether a previously prepared EIR could be used with the project.

IMPACT TERMINOLOGY

The following terminology is used to describe the level of significance of impacts:

- A finding of no impact is appropriate if the analysis concludes that the project would not affect the particular topic area in any way.
- An impact is considered less than significant if the analysis concludes that it would not cause substantial adverse change to the environment and requires no mitigation.
- An impact is considered less than significant with mitigation incorporated if the analysis concludes that it would not cause substantial adverse change to the environment with the inclusion of environmental commitments that have been agreed to by the applicant.
- An impact is considered potentially significant if the analysis concludes that it could have a substantial adverse effect on the environment.

I. Aesthetics

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. NO IMPACT.

Scenic Vistas - The Project would not adversely affect existing views of scenic vistas. A scenic vista is typically defined as a panoramic view or vista from an identified view/vista point, public road, public trails, public recreational areas, or scenic highways. Potential scenic views from private properties are not under consideration in this analysis, as it is not required by the City. The City's *GP 2030 Update Program EIR (PEIR)* (2011b) identifies scenic resources within the City and its sphere of influence (SOI) such as the rugged San Marcos Mountains to the east and northeast; various ridgelines, hills, and valleys; creeks and streams; distant mountains to the north; public and private open space with native vegetation; the City's public parks; a network of hiking and horseback riding trails; various private and public recreation facilities (such as the Guajome Regional Park, a 557-acre County-owned park); and buildings of historical and cultural significance (such as Rancho Minerva, Rancho Buena Vista, and the Guajome Ranch House – a National Historic Landmark). Further, the *GP 2030 Update PEIR* (2011b) identifies two main view sheds that have been identified within the city and its sphere of influence based on general viewing areas: (1) the San Marcos Mountains to the east and northeast of the City, and (2) canyons in the southwestern portions of the City.

The 4.32-acre project site is bounded to the north by South Emerald Drive and an existing commercial shopping center, to the northeast/east by existing residential development, to the west by the existing Green Valley mobile home park, and to the south by Sky Haven Lane. The project site is located approximately 5.31 miles west of the San Marcos Mountains and approximately 3 miles north of Dawson Los Monos Canyon Reserve. The development of the proposed 38 two-story townhome units would not adversely affect scenic viewsheds of the San Marcos Mountains or Canyons due to the project's low profile among surrounding existing

development. The units would be two stories and conform to the maximum permitted height of 35 feet. As a result, no significant impacts would arise from project development.

b - d. LESS THAN SIGNIFICANT IMPACT.

Scenic Resources/Historic Buildings - The Project would not substantially damage scenic resources or historic buildings within a State scenic highway. The Project site is not located along a State scenic highway (Caltrans 2022). The nearest officially designated state scenic highway, State Route (SR) 52 as it travels adjacent to Mission Trails Regional Park (approximately Santo Road in San Diego to Mast Boulevard in Santee) is located approximately 24 miles to the south of the project site. Interstate (I) 5, approximately 4 miles to the west of the project site; and State Highway 76, approximately 3.7 miles to the north of the project site, are the nearest eligible state scenic highways to the project site (Caltrans 2022). Due to distance and intervening terrain, the project site is not visible from I-5, State Highway 76, or any other state scenic highway in San Diego County.

Additionally, The 4.32-acre project site is located in an urban area of the City with existing residential and commercial land uses. The eastern portion of the site is currently occupied by an existing residence and associated structures. As described in detail in Section V. Cultural Resources, below, there are three historic age structures located on the southern portion of the Project site. However, although the three existing structures on the Project site are over 45 years old, they are not currently listed in the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP). Furthermore, the existing structures on the southern portion of the site are not identified on the recorded historic resources list within Section 4.5.2.2.2 of the City's 2030 General Plan Update PEIR. Therefore, impacts are determined to be less than significant.

Visual Character - Implementation of the proposed project would alter the existing visual character of the project from a primarily vacant site to a developed site with 38 two-store townhomes. The visual character of the existing property is characterized by an existing residence and associated structures, and vacant, undeveloped land. The visual character of the surrounding area is a mixture of medium residential, medium high density residential, open space, and general commercial. The overall design of the Project would be comprised of 38 two-story townhome units with landscaping, guest parking, and various styles of walls and fencing. The project site would be bisected in the middle by an existing driveway. The proposed project would include landscaping throughout the project site, neutral tone buildings, and usable open space (please refer to Figures 4a, 4b, and 5). Although the proposed project would change the existing visual character of the site, the proposed development would be consistent with the surrounding residential development, and would not substantially effect the visual character of the area. Therefore, considering the existing site and surrounding area, development of the Project would have a less than significant impact on the visual character of the site and its surroundings.

Light/Glare - Sensitive receptors relative to lighting and glare include existing residents, motorists, and pedestrians. Glare can emanate from many different sources, some of which include direct sunlight, sunlight reflecting from cars or buildings, and bright outdoor lighting. The project site does not currently support any substantial sources of light or glare as it is primarily undeveloped. Existing sources of light and glare in the project area are generated from the surrounding residential uses, streetlights, exterior mounted lighting on building facades, and soft lighting coming through from interior spaces. Materials of the Project would generally be non-reflective and would not generate a substantial amount of glare. The installation of outdoor lighting would

be required to meet the requirements in Section 18.58.260, Outdoor Lighting Facilities and/or Fixture, of the City's Development Code. Compliance with this existing code would reduce the potential to generate glare from new lighting fixtures, which would be fully shielded and directed downward to minimize light trespass onto surrounding properties. The Project does not include large parking areas that could generate substantial sources of glare from windshields and building facades would be neutral in color. Additionally, the proposed landscaping would further reduce any potential for glare from the Project site to impact the surrounding land uses.

The Project would not create any new sources of substantial light or glare that differ from existing surrounding light sources that would affect day or nighttime views. Additionally, compliance with the City's Municipal Code, and implementation of project design features would ensure impacts related to light and glare would be less than significant.

II. Agriculture and Forestry Resources

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to nonagricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a – e. NO IMPACT. The 4.32-acre Project site is located within an urbanized area of the City. Although the project site has historical agricultural uses as described above, according to the State Farmland Mapping and Monitoring Program (California Department of Conservation) the property is located on land designated as Urban and Built-Up Land; and does not include land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2022a). Additionally, the Project site is not under a Williamson Act contract (DOC 2017). Furthermore, the site is not located in an area designated as forest land or timberland. As a result, Project development would not convert any farmland to non-agricultural use or forest land to non-forest use, or conflict with existing agricultural or timberland zoning or Williamson Act contracts; therefore, no impacts would occur.

III. Air Quality

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The discussion below is based on the analysis contained within the *Air Quality Technical Report* prepared for the Project by Dudek in August 2022. The *Air Quality Technical Report* is included as Appendix A of this MND.

DISCUSSION

a. LESS THAN SIGNIFICANT IMPACT. As described in Appendix A to this MND, the San Diego Air Pollution Control District (SDAPCD) and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) in the San Diego Air Basin (SDAB); specifically, the state implementation plan (SIP) and Regional Air Quality Strategy (RAQS)². The federal O₃ maintenance plan, which is part of the SIP, was adopted in 2020. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated every 3 years (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O₃. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. 1.18 acres (14 units) of the site currently has a land use designation of MHD (Medium High Density) and zoning of R-M (15) Multifamily Residential, and 3.09 acres (24 units) of the site currently has a land use designation

² For the purpose of this discussion, the relevant federal air quality plan is the O₃ maintenance plan (Appendix A). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

of GC (General Commercial) and zoning of C-1 Commercial. The GC portion of the Project would require a general plan amendment and zone change to medium density residential and R-M (10) (10 du/acre).

As stated above, the RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O₃. The air quality management plan (AQMP) is developed to attain ozone standards through control measures targeting VOC and NO_x emissions as precursors to ozone formation. The SDAPCD mobile source emissions projection and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the city. As such, the current RAQS assumptions would include 3.09 acres of the Project site based on general commercial land use VOC and NO_x emissions. Because the Project proposes a general plan amendment and zone change from general commercial to medium density residential, a comparison of emissions of NO_x and VOC (precursors to O₃) between existing zone buildout and the Project are performed to determine if the emissions resulting from the proposed Project are equal to or less than that which would have been accounted for in the SIP and RAQS. If the estimated emissions of the new zoning (RM-10) is equal to or less than the existing (GC) then the strategies propose in the AQMP are sufficient to capture the Project emissions and the Project would not be in conflict or obstruction of the AQMP. Per City of Vista General Plan, Table LUCI-1. Density and Intensity Standards and Population Projections (2030) per the Land Use Map, the maximum Density/Intensity for General Commercial is 0.75 Floor Area Ratio (FAR). Based on 0.75 FAR and a site of 3.09 acres, a general commercial building area of 100,950 square feet (SF) is estimated as the existing zone building out.

Table 5 in Appendix A provides a summary of the annual CalEEMod estimated VOC and NO_x emissions, of this existing scenario compared to the portion of the Project proposed within the 3.09 acres including 24 residential units. As shown in Table 5 of Appendix A to this MND, the proposed Project development of 24 residential units within the 3.09 area existing GC zoned land would result in a reduction of ozone precursors, VOC and NO_x, of 0.52 tons per year (TPY) and 0.44 TPY, respectively, compared to the buildout of the existing site as currently zoned. Therefore, the Project would not conflict with the SIP and RAQS and would result in a less than significant impact on air quality.

As presented in the May 2021, General Plan Housing Element, the most recent Regional Housing Needs Assessment (RHNA) from SANDAG stated that Vista's share of regional future housing needs is 2,561 new units between June 30, 2020, and April 15, 2029. As of June 30, 2020, 532 housing units have been planned or approved for development, with 2,029 units remaining needed to be developed in the City. The Project is expected to bring 38 units to market in 2025 which would be within SANDAG's growth projection for housing during the 6th Cycle planning horizon.

The proposed General Plan Amendment would change the existing the GC designation to RM-10 and is not anticipated to result in air quality impacts that were not envisioned in the growth projections and RAQS, and this minor increase in residential units (38 units) in the region would not obstruct or impede implementation of local air quality plans. The Project would be consistent at a regional level with the underlying growth forecasts emissions in the RAQS. Therefore, impacts would be less than significant.

b. LESS THAN SIGNIFICANT IMPACT. Air pollution is largely a cumulative impact. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as

nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project components, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the project would only be considered to have a significant cumulative impact if its contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a “cumulatively considerable contribution” to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions within the basin to ensure the SDAB continues to make progress toward NAAQS and CAAQS attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents on which the RAQS is based would have the potential to result in cumulative impacts if they represent development beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O₃ and a state nonattainment area for O₃, PM₁₀, and PM_{2.5}. PM₁₀ and PM_{2.5} emissions associated with construction generally result in near-field impacts. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. As outlined in Appendix A to this MND, the emissions of all criteria pollutants from the Project’s construction and operational activities would be below the significance levels. Construction would be short term and temporary in nature. Additionally, construction activities required for the implementation of Project components would be considered typical of a residential project and would not require atypical construction practices that would include high-emitting activities. Furthermore, the proposed Project would implement construction-related project design feature (PDF) AQ-1, intended to reduce emissions of criteria air pollutants and toxic air contaminants. PDF-AQ-1 is outlined as follows:

PDF-AQ-1: Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites two times per day, depending on weather conditions. Construction of Project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) that may be generated during grading and construction activities.

PDF-AQ-1 would be required as City-imposed Conditions of Approval to ensure they are implemented during construction and operation of the Project.

Once construction is completed, construction-related emissions would cease. Operational emissions generated by the Project would not result in a significant impact. As such, the Project would result in less than significant impacts to air quality relative to operational emissions.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and by the County as part

of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As discussed in Section 7.1 of Appendix A to this MND, the general plan amendment and zone change to medium density residential and R-M (10) is not anticipated to result in air quality impacts that were not envisioned in the growth projections and RAQS, and this minor increase in residential units (38 units) in the region would not obstruct or impede implementation of local air quality plans. The Project would be consistent at a regional level with the underlying growth forecasts emissions in the RAQS. Thus, it would be consistent at a regional level with the underlying growth forecasts in the SIP and RAQS.

As a result, the Project would not result in a cumulatively considerable contribution to regional O₃ concentrations or other criteria pollutant emissions. Cumulative impacts for construction and operation would be less than significant.

c. LESS THAN SIGNIFICANT IMPACT. The VOC and NO_x emissions, as described in detail in Section 7.3 of Appendix A to this MND, would minimally contribute to regional O₃ concentrations and the associated health effects. In addition to O₃, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO₂. As shown in Table 3 in Appendix A, the existing NO₂ concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the Project's operational NO_x emissions would result in exceedances of the NO₂ standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less than significant impact. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant. PM₁₀ and PM_{2.5} would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter and would not obstruct the SDAB from coming into attainment for these pollutants and would not contribute to significant health effects associated with particulates. Therefore, overall health impacts associated with criteria air pollutants would be considered less than significant.

d. LESS THAN SIGNIFICANT IMPACT. Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the Project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary and for the types of construction activities anticipated for Project components, would generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities. In addition to the odor source, the distance between the sensitive receptor(s) and the odor source, as well as the local meteorological conditions, are considerations in the potential for a project to frequently expose the public to objectionable odors. Although localized air quality impacts are focused on potential impacts to sensitive receptors, such as residences and schools, other land uses where people may congregate (e.g., workplaces) or uses with the intent to attract people (e.g., restaurants and visitor-

serving accommodations) should also be considered in the evaluation of potential odor nuisance impacts. The Project would include a residential development, which is not expected to produce any nuisance odors; therefore, operational impacts related to odors caused by the Project would be less than significant.

IV. Biological Resources

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The discussion below is based on the analysis contained within the *Biological Resources Due Diligence Memorandum* prepared for the Project by Dudek in July 2021. The *Biological Resources Due Diligence Memorandum* is included as Appendix B to this MND.

DISCUSSION

a - b. LESS THAN SIGNIFICANT IMPACT WITH MITIGATION. The project site is located within the planning area for the *Multiple Habitat Conservation Program Plan* (MHCP), which is one of several conservation planning efforts currently underway in San Diego County (Appendix B). The long-term goal of these planning efforts is to establish a regional reserve system that will protect native habitat lands and their associated biota in conformance with California's Natural Community Conservation Planning Act. The MHCP addresses the needs of multiple plant and animal species

in northwestern San Diego County and will contribute to the preserve system already established by the approved Multiple Species Conservation Plan in southwestern San Diego County.

The MHCP encompasses the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. Its goal is to conserve approximately 19,000 acres of habitat, of which roughly 8,800 acres (46%) are already in public ownership and contribute toward the habitat preserve system for the protection of more than 80 rare, threatened, or endangered species. The MHCP was adopted and certified by the San Diego Association of Governments (SANDAG) board of directors in March 2003 but is implemented through approved subarea plans and related implementing agreements.

Some of the jurisdictions are actively developing subarea plans in coordination with the Wildlife Agencies. Carlsbad is the only city that has an approved subarea plan. Draft subarea plans for the cities of Encinitas, Escondido, Oceanside, and San Marcos have been prepared. The City of Vista does not have an approved or draft MHCP Subarea Plan. In jurisdictions that do not have a subarea plan, it is important that current projects do not preclude the long-range planning for future subarea plans if they are prepared. The City of Vista is largely built out and is not actively pursuing approval of a subarea plan, and there is no draft subarea plan available for public review or implementing agreement for the MHCP. However, the City of Vista's General Plan (GP) includes goals and policies intended to implement the provisions of the MHCP. Because the proposed Project's entitlements must be consistent with the City's GP, the proposed project will address MHCP standards where appropriate.

The MHCP jurisdictions identified Focused Planning Areas (FPAs) within which some lands will be dedicated for open space and habitat conservation. The FPAs include "hardline" areas (lands to be conserved and managed primarily for biological resources) and "softline" planning areas, within which hardline preserve areas will ultimately be delineated based on further data and planning. The project site is not within a mapped FPA in the MHCP. Therefore, even though compliance with the MHCP is not required, development of the project site would not preclude eventual implementation of the MHCP. In addition, the functions and values of the site are fairly low due to surrounding urbanization in conjunction with the relatively small size of the site. The site is located adjacent to the Buena Vista Creek which is designated as an FPA.

As outlined in Appendix B to this MND, 5 vegetation communities and land cover types were identified within the biological study area. The 5 vegetation communities consist of Diegan Coastal Sage Scrub (MHCP Group C), Southern Arroyo Willow Riparian Forest (MHCP Group A), Disturbed Habitat (MHCP Group F), Developed (MHCP Group F), and Non-native Vegetation (MHCP Group F).

Diegan coastal sage scrub is a native vegetation community that is composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species—such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* spp.)—with scattered evergreen shrubs, including lemonade berry (*Rhus integrifolia*) and laurel sumac (*Malosma laurina*). The average height of coastal sage scrub reaches 3 to 4 feet (Appendix B). Diegan coastal sage scrub within the project site totals 0.39 acres and is comprised solely of patches of lemonade berry located in the northern parcel. Diegan coastal sage scrub is in the MHCP Group C habitat category. Since the proposed project is located outside of a focused planning area, impacts to this habitat would require mitigation at a 1:1 mitigation to impact ratio.

With incorporation of mitigation measures **MM-BIO-1** and **MM-BIO-2**, impacts to Diegan coastal sage scrub would be less than significant.

Southern arroyo willow riparian forest is a winter-deciduous riparian forest dominated by broad-leaved trees and arroyo willow (*Salix lasiolepis*). Typically, it consists of a moderately tall, closed, or nearly closed canopy, with an understory of shrubby willows (Appendix B). Southern arroyo willow riparian forest occurs in sub-irrigated and frequently overflowed areas along rivers and streams that are perennially wet (Appendix B). On-site the southern arroyo willow riparian forest is associated with the Buena Vista Creek and totals 0.91 acres. This vegetation community would be categorized as a MHCP Group A habitat category and would require no net loss in terms of mitigation. As shown on the Conceptual Landscape Plans and Open Space Plan (Figures 4a, 4b and 5), the project would incorporate a block wall to create separation between the proposed development and the adjacent Buena Vista Creek, and a buffer area with vegetation replanting is proposed as part of the project. Because the project would incorporate the necessary buffer area to prevent impacts to riparian habitat, the 3:1 mitigation ratio for Southern arroyo willow riparian forest would not be required. With incorporation of project design features as outlined in Figures 4a, 4b, and 5, impacts to Southern arroyo willow riparian forest would be less than significant.

Disturbed habitat occupies a total of 1.92 acres within the northern parcel. This parcel shows signs of regular tilling and mowing. On site, this community consists almost entirely of dead grasses with remnant orange trees. The MHCP does not consider disturbed habitat a sensitive resource and therefore no mitigation is required for impacts.

Developed lands refer to areas supporting man-made structures associated with dwellings or other permanent structures. The MHCP does not consider developed land a sensitive resource. On the project site, developed lands refer to the existing house and associated infrastructure within the southern parcel and totals 0.14 acres.

Non-native vegetation includes trees, shrubs, and herbs that are not native to California. Non-native vegetation often times consists of ornamental plantings along roadways or as part of fuel modification adjacent to homes that are not typically artificially irrigated and that receive water from precipitation or runoff. Within this project site, non-native vegetation is located in the southern parcel and consists of non-native plantings associated with the existing house. Non-native vegetation totals 1.2 acres of the southern parcel. The MHCP does not consider non-native vegetation a sensitive resource and therefore no mitigation is required for impacts.

As described in Appendix B to this MND, no special-status plant species were observed during the reconnaissance survey completed for the project site on July 8, 2021. Given the mostly developed/disturbed nature of the site, it is unlikely that rare plants would occur within the project area. Most vegetation observed on site was non-native or ornamental, and the few native species encountered are not considered rare or special status. Additionally, no special-status wildlife species were observed on the project site. No historic occurrences of special-status species were mapped on or near the Project site. Given the urban, partially developed, and frequently disturbed nature of the site, it is unlikely that special-status species would use the site for nesting, breeding, or foraging. While coastal sage scrub is the typical habitat for coastal California gnatcatchers (*Polioptila californica californica*), the coastal sage scrub identified on-site consists only of monotypic stands of lemonade berry. The project site has been in agricultural production since 1938 with the appearance of the lemonade berry shrubs potentially occurring around the late 1990's (Appendix B). Given the lack of adjacent habitat and urban development surrounding the

site, it is unlikely that coastal California gnatcatchers utilize the project site. Furthermore, no coastal California gnatcatchers calls, or observations were detected during the site visit. It should be noted that critical habitat for the species occurs along the Buena Vista Creek. However, the creek is comprised of wetland vegetation that is not typically utilized by the species, and therefore this portion of critical habitat would not be considered to support the physical and biological features required for the species.

In summary, implementation of the proposed project would result in impacts to 0.39-acre of sensitive upland vegetation (Diegan coastal sage scrub) which is designated as MHCP Group C. The Project would include a buffer area with landscaping of the riparian slope (approximately 14,465 sq. ft.), adjacent to the northernmost project boundary and outside the development footprint, with coastal shrubs, as shown on the Conceptual Landscape Plans (Figures 4a and 4b). Additionally, the project would incorporate a 6-foot block wall at the northernmost boundary of the development footprint to ensure daily residential operations do not encroach into the Buena Vista Creek water bank and Southern arroyo willow riparian forest. Furthermore, project implementation of mitigation measures **MM-BIO-1** and **MM-BIO-2** outlined below would reduce direct impacts to these sensitive vegetation communities. Therefore, impacts would be less than significant with mitigation.

c. LESS THAN SIGNIFICANT IMPACT. Jurisdictional aquatic resources include those features which are regulated by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) and/or California Department of Fish and Wildlife (CDFW) (collectively the “Regulatory Agencies”). Jurisdictional aquatic resources include non-wetland and wetland waters as regulated by USACE and RWQCB as well as streambed and associated riparian habitat as regulated by CDFW. Often these features overlap and thus are termed “jurisdictional aquatic resources”.

Outside of the Buena Vista Creek the site does not support jurisdictional aquatic resources. There is a relic ditch that was previously utilized as part of the old alignment of Sunset Drive before it was realigned in its current form. The ditch and associated culverts do not show signs of flow conveyance and are not connected to any other features. It appears that the culvert was abandoned once the crossing was removed and the road realigned. The applicant has consulted with the Regulatory Agencies, and design features have been incorporated into the project design to ensure potential impacts to wetlands, specifically the adjacent Buena Vista Creek, would not occur. The project would incorporate a 6-foot block wall at the northernmost boundary of the development footprint to ensure daily residential operations do not encroach into the Buena Vista Creek water bank and Southern arroyo willow riparian forest. Additionally, the project would landscape the adjacent Buena Vista Creek riparian slope with coastal shrubs, as shown on the Conceptual Landscape Plans (Figures 4a and 4b) and the Conceptual Open Space Plan (Figure 5).

It has been determined that implementation of the project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act, and proposed design features would further ensure potential impacts to Buena Vista Creek would not occur. Therefore, impacts would be less than significant.

d. LESS THAN SIGNIFICANT IMPACT. The proposed project site is surrounded by development, which limits movement of larger mammals. As discussed above and in Appendix B, no special-status wildlife species were observed on the project site. Given the urban, partially developed, and frequently disturbed nature of the site, it is unlikely that special-status species would use the site for nesting, breeding, or foraging. While coastal sage scrub is the typical habitat for coastal California gnatcatchers (*Poliophtila californica californica*), the coastal sage scrub consists only of

monotypic stands of lemonade berry. Given the lack of adjacent habitat and urban development surrounding the site, it is unlikely that coastal California gnatcatchers utilize the project site. In addition, no coastal California gnatcatchers calls, or observations were detected during the site visit. It should be noted that critical habitat for the species occurs along the Buena Vista Creek. However, the creek is comprised of wetland vegetation that is not typically utilized by the species and therefore this portion of critical habitat would not be considered to support the physical and biological features required for the species. No existing wildlife corridors were observed on-site during the field survey. For these reasons, it is determined that no direct impacts to wildlife corridors or habitat linkages would occur as a result of the proposed project.

e. LESS THAN SIGNIFICANT IMPACT. The proposed project would implement a Landscape Plan (Figures 4a and 4b) and Open Space plan (Figure 5) to be reviewed by the City during the final design stage, prior to project development. Per Section 18.34.100 of the City's Development Code, R-M zones shall include no less than 24-square feet of landscaping area containing at least one tree (minimum 15-gallon size) for every ten single-row and for every 20 double-row uncovered parking stalls, and for every 200 lineal feet of access to carport structures. As shown on the Conceptual Landscape Plan, 114 trees would be planted on-site, ranging in size from 15 gallons to 36' boxes. All trees within 5 feet of hardscape would be installed with deep root barriers. Additionally, the project would incorporate self-supporting vine plantings on the plantable walls with drip irrigation provided. As the final landscape plan would be reviewed and approved by the City, the project would not conflict with any of the City's landscape regulations nor any applicable tree ordinance, and impacts are determined to be less than significant.

f. LESS THAN SIGNIFICANT IMPACT. As described above, the project site is located within the planning area for the MHCP. The City of Vista does not have an approved or draft MHCP Subarea Plan. In jurisdictions that do not have a subarea plan, it is important that current projects do not preclude the long-range planning for future subarea plans if they are prepared. The City of Vista is largely built out and is not actively pursuing approval of a subarea plan, and there is no draft subarea plan available for public review or implementing agreement for the MHCP. However, the City of Vista's General Plan (GP) includes goals and policies intended to implement the provisions of the MHCP. Because the proposed Project's entitlements must be consistent with the City's GP, the proposed project will address MHCP standards where appropriate.

The MHCP jurisdictions identified Focused Planning Areas (FPAs) within which some lands will be dedicated for open space and habitat conservation. The FPAs include "hardline" areas (lands to be conserved and managed primarily for biological resources) and "softline" planning areas, within which hardline preserve areas will ultimately be delineated based on further data and planning. Although the project site is located adjacent to the Buena Vista Creek which is designated as an FPA, the project site is not within a mapped FPA in the MHCP. Therefore, even though compliance with the MHCP is not required, development of the project site would not preclude eventual implementation of the MHCP. In addition, the functions and values of the site are fairly low due to surrounding urbanization in conjunction with the relatively small size of the site. For these reasons, the proposed project would not conflict with the MHCP, and impacts would be less than significant.

MITIGATION MEASURES

MM-BIO-1 The applicant shall mitigate for impacts to Diegan coastal sage scrub at a 1:1 ratio through the purchase of coastal sage scrub credits at a local mitigation bank; or,

the project provides for restored coastal sage scrub along the Buena Vista Creek project buffer area at a 1:1 ratio.

- MM-BIO-2** The clearing and grubbing of, and construction adjacent to, sensitive habitats shall occur outside of the breeding season for general birds, including raptors (January 15 to September 15). The City may waive this condition, provided that the following additional avoidance measures are taken. If the construction activities cannot avoid the bird breeding season, a qualified biologist shall be retained to conduct a pre-construction nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed with the reassurance that no violation to the MBTA and CFGC would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location and within 300 feet for passerine birds and 500 feet for raptors shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Buffers may be reduced only at the discretion of the qualified biologist, depending on the bird species and construction/vegetation removal activities required in the vicinity of the active nest.

V. Cultural Resources

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The discussion below is based on the *Negative Cultural Resources Phase I Letter Report for the Sunset Drive Townhomes Project* (Cultural Report) prepared by Dudek in July 2022. The Cultural Report will be included as Appendix C to this MND.

DISCUSSION

a LESS THAN SIGNIFICANT IMPACT. Dudek conducted a records search for the proposed project including a surrounding one-mile radius buffer at the South Coastal Information Center (SCIC). The records search did not identify any cultural resources within the Project area; however, a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search was requested, and results were positive. The SCIC records search and the pedestrian survey did not identify cultural resources within the Project area.

In addition to the SCIC records search, Dudek conducted an on-line review of historic aerial photographs of the Project area and general vicinity, to help determine the possible development and land use of the Project area in the past. Historic aerial photographs of the Project area were available for 1938, 1946, 1947, 1953, 1964, 1967, 1978, 1980-1986, 1988-1991, 1993-

2000, 2002, 2003, 2005, 2009, 2010, 2012, 2014, 2016, and 2018 (Appendix C). The historic aerial from 1938 revealed that the Project area was utilized for agriculture. In addition, three structures appear within the eastern section of the Project area. A dirt road runs through the middle of the Project area from the northeastern corner to the midwestern section of the Project area. The current alignment of Sunset Drive/South Emerald Drive curves northwest from the east, however, in the 1938 aerial, the dirt road continues towards the west. The 1946 aerial reveals crops growing throughout the Project area. Sunset Drive appears more defined, and another dirt road cuts through in a north/south direction in the eastern section of the Project area, immediately east of the structures. The 1947-1953 aerials reveal no changes to the Project area. The 1964 aerial reveals some grading within the eastern section of the Project area, east of the structure and dirt road. The 1967 aerial reveals no changes to the Project area.

The 1978 aerial reveals a dirt road in the middle of the Project area, located south from Sunset Drive. In addition, a mobile home complex appears immediately south of the Project area. The 1980 aerial shows the current alignment of Sunset Drive, curving northwest from the east, and the roadway now appears to be paved with asphalt-concrete. Some slight grading can be observed, east of the new alignment of Sunset Drive, in the northern corner of the Project area. The 1981-1983 area reveals no changes to the Project area. The 1984 aerial shows two structures, immediately adjacent of the dirt road in the western section of the Project area and mass grading is observed north and west of the Project area. Grading in the northern section above the dirt road in the northwestern section of the Project area is observed in the 1985, and by 1986 a residential development is being constructed to the north of the Project area. The 1988-1993 aerials do not reveal any changes to the Project area. In the 1994 aerial, a structure appears in the northwestern corner of the Project area. The 1995-1996 aerial reveals no change to the Project area. The structure in the northwestern corner of the Project area is no longer observed on the 1997 aerial. The Project area has remained the same since 1998. A review of the historic aerials has revealed that the Project area has undergone extensive ground disturbance from agricultural activities, the construction of the single-family property and ancillary structures, and the development of Sunset Drive and South Emerald Drive. Based on the historic aerials, there are three historic age structures located within the eastern section of the Project area.

Historic topographic (topo) maps of the Project area were reviewed (earliest map available is 1893). Buena Vista Creek is observed on the topo maps in the western section of the Project area. The topo maps from 1949-1978 shows a structure in the eastern section of the Project area, with a roadway through the middle of the Project area running from the southeastern corner of the Project area to the midwestern section of the Project area. The topo maps from 2000 to 2018 do not show a structure but the new alignment of Sunset Drive/South Emerald Drive is observed.

Although the three existing structures on the Project site are over 45 years old, they are not currently listed in the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP). Furthermore, the existing structures on the southern portion of the site are not identified on the recorded historic resources list within Section 4.5.2.2.2 of the City's 2030 General Plan Update PEIR. Therefore, impacts are determined to be less than significant.

b. LESS THAN SIGNIFICANT WITH MITIGATION. A site records search and literature review for the Project site and a one-mile radius buffer was conducted at the South Coast Information Center (SCIC) on May 18, 2022. The records search results indicate that 74 previous cultural resources studies have been conducted within one-mile of the Project area. Of the 74 previous studies, five studies intersect the Project area. These studies consist of three cultural resources inventory reports, a historic resource survey, and a cultural resources evaluation for a master plan. The SCIC

records search did not identify any cultural resources within the Project area. The records search did identify 34 cultural resources within the one-mile search radius buffer of the Project area. Of the total 34 resources identified in the one-mile buffer, 21 are prehistoric resources, two are prehistoric isolates, and 11 are historic resources. The closest resource to the Project area is P-37-006841, a prehistoric habitation site located approximately 270 meters east from the Project area. No historic addresses are located within the Project area, however, one historic address is located within the one-mile search radius buffer.

Dudek's Phase I cultural resources inventory of the Project indicates that there is moderate sensitivity for identifying intact subsurface archaeological deposits during Project implementation. The SCIC records search and the pedestrian survey did not identify any cultural resources within the Project area. However, there are three historic age structures (e.g. single-family property, garage, and workshop/storage unit) located in the eastern section of the Project area. The review of historic aerial photographs reveals that a majority of the Project area has been disturbed by agricultural activities and the structures show up on the historic aerals. Due to the presence of historic age structures in the eastern section of the Project area, there is moderate potential for subsurface resources. Cultural resources monitoring with a qualified archaeologist and Luiseño Native American monitor during construction is recommended in the eastern section of the Project area. Additionally, the City's standard Cultural Resources Mitigation Measures **MM-CR-1** through **MM-CR-6** would be required for the project, as outlined below. With implementation of MM-CR-1 through MM-CR-6, impacts would be less than significant with mitigation incorporated.

c. LESS THAN SIGNIFICANT WITH MITIGATION. The Project site does not lie near any known cemeteries. It is possible, though, that construction activities could unearth previously unknown resources, including human remains, particularly given the moderate cultural sensitivity of the site. This would be considered a potentially significant impact. In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify the person or persons it believes to be the MLD from the deceased Native American. The MLD shall complete inspection within 48 hours of being granted access to the site and make recommendations for the treatment and disposition, in consultation with the property owner, of the human remains.

In addition to project compliance with Section 7050.5 of the California Health and Safety Code, **MM-CR-1** through **MM-CR-6** would be incorporated to further ensure potential impacts to human remains would not be significant. Therefore, impacts related to human remains would be less than significant with mitigation incorporated.

MITIGATION MEASURES

MM-CR-1 Cultural resource mitigation monitoring shall be conducted on the site to provide for the identification, evaluation, treatment, and protection of any cultural resources that are affected by or may be discovered during the construction of the proposed project. The monitoring shall consist of the full-time presence of a Qualified Archaeologist and a traditionally and culturally affiliated (TCA) Native American Monitor associated with a TCA tribe for, but not limited to, any clearing or grubbing

of vegetation, tree removal, demolition and/or removal of remnant foundations, pavements, abandonment and/or installation of infrastructure; grading or any other ground disturbing or altering activities, including the placement of any imported fill materials (note: all fill materials shall be absent of any and all cultural resources); and any related road improvements, including, but not limited to, the installation of infrastructure, realignments, and/or expansions to parking lots. Other tasks of the monitoring program shall include the following:

- a. The requirement for cultural resource mitigation monitoring shall be noted on all applicable construction documents, including demolition plans, grading plans, etc.
- b. The Qualified Archaeologist and TCA Native American Monitor shall attend at least one pre-construction meeting with the Contractor and/or associated Subcontractors (e.g., Grading Contractor) and a representative from the City of Vista's Engineering or Community Development departments to present the archaeological monitoring program as presented in these measures.
- c. The Qualified Archaeologist shall maintain ongoing collaborative consultation with the TCA Native American Monitor during all ground disturbing or altering activities, as identified above. The Contractor or Grading Contractor shall notify the Director of Community Development & Engineering, preferably through e-mail, of the start and end of all ground-disturbing activities.
- d. The Qualified Archaeologist and/or TCA Native American Monitor may halt ground-disturbing activities if archaeological artifact deposits or cultural features are discovered. In general, ground-disturbing activities shall be directed away from these deposits for a short time to allow a determination of potential significance, the subject of which shall be determined by the Qualified Archaeologist and the TCA Native American Monitor. If a determination is made that the unearthed artifact deposits or tribal cultural resources are considered potentially significant, the consulting TCA Tribe(s) shall be notified and consulted in regards to the respectful and dignified treatment of those resources. Ground disturbing activities shall not resume until the Qualified Archaeologist, in consultation with the TCA Native American Monitor, deems the cultural resource or feature has been appropriately documented and/or protected. At the Qualified Archaeologist's discretion, the location of ground disturbing activities may be relocated elsewhere on the project site to avoid further disturbance of cultural resources.
- e. The avoidance and protection of discovered unknown and significant cultural resources and/or unique archaeological resources is the preferable mitigation for the proposed project. If avoidance is not feasible, culturally appropriate treatment of those resources, including but not limited to funding an ethnographic or ethnohistoric study of the resource(s), and/or developing a data recovery plan may be authorized by the City as the Lead Agency under CEQA. If data recovery is required, then the consulting TCA Tribe(s) shall be notified and consulted in drafting and finalizing any such recovery plan.

MM-CR-2 Prior to the submission of a grading plan to City staff for review, the Applicant or Owner, and/or Contractor shall enter into a Pre-Excavation Agreement with a Traditionally and Culturally Affiliated Native American Tribe ("TCA Tribe"). A copy of the agreement shall be included in the grading plan submission. The purpose of this agreement shall be to formalize protocols and procedures between the Applicant or Owner, and/or Contractor, and the TCA tribe for the protection and treatment of,

including but not limited to, Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, traditional gathering areas and cultural items, located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, off-site infrastructure installation, grading, and all other ground disturbing activities.

- MM-CR-3** Prior to the release of the Grading Bond, a Monitoring Report and/or Evaluation Report, which shall comply with Government Code Section 6254(r), shall be submitted by the Qualified Archaeologist, along with the TCA Native American Monitor's notes and comments, to the City Planner for the project administrative record.
- MM-CR-4** All cultural materials that are associated with burial and/or funerary goods shall be repatriated to the Most Likely Descendant as determined by the Native American Heritage Commission (NAHC) per California Public Resources Code Section 5097.98.
- MM-CR-5** Recovered cultural material of historic significance, but not of tribal significance, shall be curated with accompanying catalog, photographs, and reports to a San Diego curation facility that meets federal standards per 36 CFR Part 79. Materials of Native American origin should be catalogued in the field by the archaeologist with the TCA monitor present. No materials are to leave the project site. The cultural material can then be returned to the Tribe(s) for reburial on the project site as detailed below. Recovered cultural material of tribal cultural significance shall be repatriated as stipulated in the pre-excavation agreement as described in CR-2. Onsite Resource Reburial: Upon completion of all ground-disturbing and grading activities on the Project site, the TCA monitor and representatives from the Tribe(s) will rebury any resources recovered from the Project site in an open space area that will remain free from any active recreational uses or any further excavation or ground disturbance. Any reburial site shall be culturally appropriate and explicitly approved in writing by the consulting Tribe(s). The reburial location will be covered first by a layer of geomat and then backfilled with clean fill dirt. Once reburial activities are completed, the site will be protected via a restrictive covenant or similar deed restriction that prohibits future excavation or disturbance of the reburial location.
- MM-CR-6** As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Coroner's office by telephone. No further excavation or disturbance of the discovery or any nearby area reasonably suspected to overlie adjacent remains (as determined by the Qualified Archaeologist and/or the TCA Native American monitor) shall occur until the Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98. If such a discovery occurs, a temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected (as determined by the Qualified Archaeologist and/or the TCA Native American monitor), and consultation and treatment could occur as prescribed by law. As further defined by State law, the Coroner would determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the

remains to be Native American, he or she shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission would then make a determination as to the Most Likely Descendant. If Native American remains are discovered, the remains shall be kept in situ (“in place”), or in a secure location in close proximity to where they were found, until after the Medical Examiner makes its determination and notifications, and until after the Most Likely Descendant is identified. The analysis of the remains shall only occur on-site in the presence of a Most Likely Descendant. The specific locations of Native American burials and reburials will be proprietary and not disclosed to the general public. According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). In the event that the project proponent and the MLD are in disagreement regarding the disposition of the remains, State law will apply, and the mediation process will occur with NAHC. In the event that mediation is not successful, the landowner shall rebury the remains at a location free from future disturbance (see Public Resources Code Section 5097.98(e) and 5097.94(k)).

VI. Energy

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. LESS THAN SIGNIFICANT IMPACT.

Construction of the Project is anticipated to take approximately 15 months to complete, according to the *Air Quality and Greenhouse Gas Analysis Report* prepared for the Project (Appendix A). Demolition of existing structures, grading and site preparation would be accomplished first, followed by building construction, paving and architectural coating. Heavy-duty construction equipment associated with construction activities would rely on diesel fuel, as would trucks associated with vendor and haul trips. Temporary electric power for as-necessary lighting and electronic equipment such as computers inside temporary construction trailers is not anticipated; however, electricity used for such activities would be less than that required for project operation and would have a minimal contribution to the project's overall energy consumption. Project construction would also involve use of non-renewable or slowly renewable resources used to create building materials including certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel, and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; and water. Construction would comply with all relevant energy-related regulations by conserving energy and natural resources to the extent feasible. The energy demands due to diesel and gasoline use during

construction would be small relative to statewide and local demands for fuel use, considering the size of the project. The energy consumption during project construction would be commensurate with typical construction projects and would not use energy wastefully or inefficiently.

Although the project would increase electricity, natural gas and petroleum use during operation, considering the size of the project, estimated use of these resources would be minimal relative to existing statewide and local demands. Energy consumption during project operation would be commensurate with typical residential projects and would not use energy wastefully or inefficiently. Furthermore, the project would include several sustainability design features to reduce potential energy and water usage, such as (but not limited to) electric vehicle (EV) parking, drought-tolerant landscaping and water efficient irrigation systems.

Given the considerations above, and detailed findings in the *Greenhouse Gas Emissions Analysis* (Appendix D), energy consumption associated with construction and operation of the project would not be considered wasteful, inefficient, or unnecessary consumption of energy resources and impacts would be less than significant.

b. LESS THAN SIGNIFICANT IMPACT.

The project would meet the Title 24 and CALGreen standards to reduce energy demand and increase energy efficiency. Title 24 of the California Code of Regulations contains energy efficiency standards for residential and nonresidential buildings based on a state mandate to reduce California's energy demand. Specifically, Title 24 addresses a number of energy efficiency measures that impact energy used for lighting, water heating, heating, and air conditioning, including the energy impact of the building envelope such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs.

Natural gas and electricity are supplied to the project site by SDG&E. The proposed project would result in an increased use of natural gas and electricity during operation compared with the existing conditions. However, the project would result in a nominal increase in natural gas and electricity over the City's typical annual natural gas and electricity consumption. Implementation of the project would not result in the reduction of substantial amounts of local or regional energy supplies compared to existing conditions. The resultant increase in energy demand would not exceed the available capacity of SDG&E servicing infrastructure to the site or beyond.

As described above, proposed sustainability design features to be incorporated into the project design include (but are not limited to) electric vehicle (EV) parking, drought-tolerant landscaping and water efficient irrigation systems. Therefore, it has been determined that the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

VII. Geology and Soils

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. 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 known fault? Refer to Division of Mines and Geology Special Pub 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion, or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a1 – a3. LESS THAN SIGNIFICANT IMPACT.

Fault Rupture – The purpose of the Alquist-Priolo Earthquake Fault Zoning Act (1972) is to mitigate the hazard of surface faulting by preventing the construction of buildings used for human occupancy over an area with known faults. Unlike damage from ground shaking, which can occur at great distances from the fault, impacts from fault rupture are limited to the immediate area of the fault zone where the fault breaks along the ground surface.

The project site is located within a seismically active region, as is all of Southern California. However, the project site is not located within an Alquist-Priolo Earthquake Fault Zone, and there are no known active or potentially active faults transecting or projecting toward the project site. The nearest active faults are the Rose Canyon and Newport Inglewood Faults located approximately 9 miles west of the project site. Therefore, ground rupture because of active faulting is not likely to occur on site due to the absence of known active faults. Cracking of building foundations and walls due to shaking from distant seismic events is not considered an existing significant hazard, although it is a possibility at any site in Southern California. Adherence to the California Building Code (CBC) requiring specific performance standards to address geologic hazards, would ensure impacts related to faulting and seismicity would remain less than significant.

Seismic Shaking - The Project area, like most of southern California, could be subject to such seismic events as strong ground shaking and seismically-induced settlement such as liquefaction, which could potentially expose people and/or structures to substantially adverse effects. The ground motion characteristics of any future earthquakes in the region would depend on the characteristics of the generating fault, the distance to the epicenter, the magnitude of the earthquake, and the site-specific geologic conditions. Major faults in the region could be a source of a strong seismic-related movement at the project site. Although the project site is located within southern California, a seismically active region, no active faults are known to transect the site (DOC 2022b). The nearest active faults are the Rose Canyon Fault and Newport-Inglewood Fault located approximately 9 miles west of the project site, and the Elsinore Fault Zone located approximately 19 miles east of the project site (DOC 2022b).

Because of the potential of seismic events to impact structures in the City and southern California in general, the proposed buildings are required to be constructed in compliance with the seismic safety standards set forth in the CBC in effect at the time grading and building permits are obtained. In general, compliance with the CBC would include the incorporation of: 1) seismic safety features to minimize the potential for significant effects as a result of earthquakes; 2) proper building footings and foundations; and 3) construction of the building structure so that it would withstand the effects of strong ground shaking. The City's Building Department would also review the building plans through building plan checks, issuance of a building permit, and inspection of the building during construction, which would ensure that all required CBC seismic safety measures are incorporated into the building. With project compliance with the CBC, and the City's Building Department's review process, project impacts related to seismic shaking would be less than significant.

Ground Failure or Liquefaction - Liquefaction is a phenomenon in which a saturated cohesionless soil causes a temporary transformation of the soil to a fluid mass, resulting in a loss of support. The Project site is not located within a liquefaction zone (DOC 2022b). However, the soils of the Project site consist of Salinas Clay Loam and loamy fine sand, both of which are susceptible to liquefaction and poses a geologic concern (USDA 2022). Compliance with the CBC; the Building

Department's review process, permit application, and inspections would ensure impacts related to liquefaction would be less than significant.

a4. NO IMPACT. The Project site is not located within a landslide hazard zone (DOC 2022b). Furthermore, the Project site is relatively flat and does not feature evidence of previous landslides. Therefore, it is determined that no impact would occur.

b. LESS THAN SIGNIFICANT IMPACT. The potential for erosion would increase during construction as a result of vehicles, heavy equipment, and general earth work accelerating the erosion process. Wind erosion could occur on bare soils or where vehicles and equipment cause dust. Project-related ground disturbance would comply with existing regulatory requirements and standards related to geology and soils, which would serve to limit the potential for erosion and loss of topsoil. This includes the preparation of a site-specific Storm Water Pollution Prevention Plan (SWPPP) to address potential pollutants and their sources, including sources of sediment and site erosion. Conditions of these existing regulations would include adherence to sediment and stormwater pollutant control best management practices (BMPs) to minimize potential for soil erosion and loss of topsoil. Operation of the Project would not affect soil erosion. Therefore, the Project would not result in substantial soil erosion, or the loss of topsoil and impacts would be less than significant.

c. LESS THAN SIGNIFICANT IMPACT. As previously discussed, the Project site is not located within a landslide or liquefaction zone, or near a known active fault zone (DOC 2022b). However, as previously discussed, soils on the Project site consist of Salinas Clay Loam and loamy fine sand, both of which are susceptible to liquefaction and poses a geologic concern (USDA 2022). The Project would continue through full project design, which would include a geotechnical investigation to inform final design and construction of the Project relative to minimization of potential geotechnical risks, including soil stability. Therefore, the Project is not expected to exacerbate geotechnical hazards related to unstable soils and impacts would be less than significant.

d. LESS THAN SIGNIFICANT IMPACT. Expansive soils are clay-based and tend to increase in volume due to water absorption and decrease in water volume due to drying. As previously discussed, soils on the Project site consist of Salinas Clay Loam and loamy fine sand, both of which are susceptible to liquefaction and poses a geologic concern (USDA 2022). The proposed Project would be required to comply with the CBC; the Building Department's review process, permit application, and inspections to limit potential effects. Furthermore, as described above, the Project would continue through full project design, which would include a geotechnical investigation to inform final design and construction of the Project relative to minimization of potential geotechnical risks, including determination of potential expansive soils. For these reasons, impacts related to expansive soils are determined to be less than significant.

e. LESS THAN SIGNIFICANT IMPACT. The Project would connect into existing City sewer infrastructure, avoiding the need to use septic tanks or alternative wastewater disposal systems on-site. Therefore, no impacts would occur.

f. LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The probability of discovering paleontological resources depends on the geologic formation being excavated and the depth and volume of the excavation. Sedimentary rocks, such as those found in coastal areas, usually contain fossils. Granite rocks, such as those found in inland areas, usually will not contain fossils. The Santiago Formation is known to underlie portions of northwestern San Diego County.

As discussed in Section 4.5.2.3 of the City's General Plan PEIR, Santiago Formation deposits have a high paleontological sensitivity. High sensitivity is assigned to geologic formations known to contain paleontological localities with rare, well-preserved, and/or critical fossil materials for stratigraphic or paleoenvironmental interpretation, and fossils providing important information about the paleobiology and phylogeny (evolutionary history) of wildlife and plant groups. Generally speaking, highly sensitive formations are known to produce, or have the potential to produce vertebrate fossils. As further discussed in Section 4.5.4.4.3 of the City's General Plan PEIR, substantial trenching or grading at depths greater than ten feet and a total cut amount of more than 1,000 cy within areas of moderate or high paleontological sensitivity could result in a significant impact on paleontological resources. Grading and excavation is required for Project construction, which could potentially lead to a significant impact on paleontological resources. Therefore, if excavations and/or grading exceeds depths greater than ten feet and cuts of more than 1,000 cy in soils composed of Santiago Formation, Mitigation Measure MM-GEO-1 would be implemented. With mitigation, this potentially significant impact would be reduced to a less than significant level.

MITIGATION MEASURES

- MM-GEO-1** Prior to the issuance of a Grading Permit, the City or Grading Contractor shall provide written evidence to the Director of Community Development that the Contractor has retained a City-approved Qualified Paleontologist to monitor all earth-disturbing activities within areas where the underlying formation consists of Santiago Formation. Prior to the release of the grading bond, a post-construction monitoring report shall be prepared and submitted to the Director of Community Development. All fossil materials recovered during mitigation monitoring shall be cleaned, identified, cataloged, and analyzed in accordance with standard professional practices. The results of the field work and laboratory analysis shall be included in the post-construction monitoring report (including a finding of no impact), and the entire collection transferred to an approved facility.

VIII. Greenhouse Gas Emissions

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The discussion below is based on the findings contained within the *Greenhouse Gas Emissions Analysis* prepared for the Project by Dudek in August 2022. The *Greenhouse Gas Emissions Analysis* is included as Appendix D to this MND.

DISCUSSION

a - b. LESS THAN SIGNIFICANT IMPACT. Global climate change is primarily considered a cumulative impact but must also be evaluated on a project-level under CEQA. A project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHG emissions. GHGs are gases that absorb infrared radiation in the atmosphere. Principal GHGs regulated under state and federal law and regulations include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). GHG emissions are measured in metric tons of CO₂ equivalent (MT CO₂e), which account for weighted global warming potential (GWP) factors for CH₄ and N₂O.

Construction of the Project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. As outlined in detail in Appendix D to this MND, the Project would generate operational GHG emissions from area sources (landscape maintenance), energy sources (electricity consumption), mobile sources (vehicle trips), water supply and wastewater treatment, and solid waste. Estimated annual Project-generated operational emissions in 2025, plus amortized Project construction emissions would be approximately 400 MT CO₂e per year.

The Project would be consistent with the City Climate Action Plan (CAP). The CAP is designed to reduce the City's GHG emissions and streamline environmental review of future development projects in the city in accordance with the California Environmental Quality Act (CEQA). As such, the Project is consistent with the statewide GHG reduction goals addressed in CARB's 2008 and 2017 Scoping Plans and SANDAG's 2021 Regional Plan. Therefore, the Project would be consistent with the statewide GHG reduction goals set forth in AB 32 and SB 32 and demonstrate progress toward attaining the 2050 reduction goals within EO S-3-05.

Furthermore, the Project would implement both construction-related and operational design features intended to reduce GHG emissions as follows:

- PDF-GHG-1:** Consistent with the CAP, the project will include at a minimum, three percent of total parking spaces required to have EV charging stations.
- PDF-GHG-2:** Consistent with the CAP, "emissions reductions in this strategy would be achieved through working with developers and fleet owners to phase out old, fossil fuel reliant equipment." The applicant will work with the project construction contractors to incorporate to the extent available electric and alternative fueled construction equipment.

For these reasons stated above, and as described in detail in Appendix D to this MND, project impacts related to GHG would be less than significant.

IX. Hazards and Hazardous Materials

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. LESS THAN SIGNIFICANT. Construction activities would entail routine transport of materials potentially hazardous to humans, wildlife, and sensitive environments. These materials include gasoline oil, solvents, cleaners, paint, and various other liquids and materials required for the operation of construction equipment. Direct impacts to human health and biological resources from transport, use, or disposal of these materials could occur as a result of project construction. However, existing federal and state standards are in place for the use, handling, storage, and transport of these materials and would be implemented during construction of the Project. These regulations include the Federal Chemical Accident Prevention Provisions (Part 68 of the Code of Federal Regulations); California Highway Patrol and California Department of Transportation container and licensing requirements for transportation of hazardous waste on

public roads; the International Fire Code; the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984; California's Hazardous Waste Control Law; the California Fire Code; California Health and Safety Code Hazardous Materials Release Response Plans and Inventory; the California Integrated Waste Management Act; regulations developed by California Occupations Safety and Health Administration; and the state Hazardous Waste Control Act.

Additionally, standard best management practices included in the SWPPP required for the Project and associated hazardous materials handling protocols would be prepared and implemented to ensure the safe storage, handling, transport, use, and disposal of all hazardous materials during the construction phase of the Project. Therefore, potential impacts related to the routine transport, use, or disposal of hazardous materials during project construction is determined to be less than significant.

Residential uses are not typically associated with the transport, use, or disposal of hazardous materials. Household goods used by residential homes that contain toxic substances are usually low in concentration and small in amount. Therefore, there is no significant risk to humans or the environment from the use of such household goods. Residents are required to dispose of household hazardous waste, including pesticides, batteries, old paint, solvents, used oil, antifreeze, and other chemicals, at a Household Hazardous Waste Collection Facility. Also, as of February 2006, fluorescent lamps, batteries, and mercury thermostats can no longer be disposed in the trash. The transport, use, and disposal of hazardous materials are fully regulated by the EPA, State of California, San Diego County, and/or the City. With mandatory regulatory compliance, potential hazardous materials impacts associated with long-term operation of the project would be less than significant.

b. LESS THAN SIGNIFICANT WITH MITIGATION. As described above, construction activities would entail transport, use, or disposal of potentially hazardous materials including but not limited to, diesel fuel, gasoline, equipment fluids, concrete, cleaning solutions and solvents, lubricant oils, adhesives, human waste, and chemical toilets. Spill or upset of these materials could have the potential to significantly impact surrounding land uses; however, federal, state, and local controls have been enacted to reduce the effects of such potential hazardous materials spills. The Vista Fire Department enforces city, state, and federal hazardous materials regulations for the City. City regulations include spill mitigation, and containment and securing of hazardous materials containers to prevent spills. Compliance with these requirements is mandatory as standard permitting conditions and would minimize the potential for the accidental release or upset of hazardous materials, thus ensuring public safety. Compliance with the above requirements such as Cal/OSHA requirements, the Hazardous Waste Control Act, CalARP Program, and the California Health and Safety Code would ensure potential impacts related to the release of hazardous materials would not be substantial.

However, as previously discussed, aerial photographs from of the Project site revealed that the site had been undergone agricultural uses prior to 1938 and between 1946 and 1943 (Appendix C). The historical agricultural use of the site would suggest that organochlorine pesticides could be present in soil onsite. Due to the historic agricultural use of the Project site, undocumented and undetectable hazards may be buried and discovered during project grading. Often, undocumented drums or fuel tanks are buried on farms and are undetectable during site reconnaissance. Should any unknown resources be discovered onsite, potentially significant impacts may occur; therefore,

Mitigation Measure **MM-HM-1** is provided to reduce potential impacts during construction to less than significant.

As stated in response to threshold a) above, operation of the project's proposed residential and commercial uses would only require the transport, use, or disposal of typical household hazardous materials. Residents of the residential development are required to dispose of household hazardous waste at a Household Hazardous Waste Collection Facility. In addition, operations would be required to comply with EPA, State of California, San Diego County, and/or the City regulations pertaining to household wastes. With mandatory regulatory compliance, the potential for an accidental release of hazardous materials associated with long-term operation of the project would be less than significant.

c. LESS THAN SIGNIFICANT. The project site is not located within 0.25 mile of an existing or proposed school. The nearest school to the project site is Bella Mente Montessori Academy Charter School located at 155 Emerald Drive in the City of Vista, approximately 0.35 mile north of the Project site. As stated above, operation of the project would not require the transport, use, or disposal of hazardous materials. Construction activities would comply with the above requirements such as Cal/OSHA requirements, the Hazardous Waste Control Act, CalARP Program, and the California Health and Safety Code. Compliance with these requirements is mandatory and would minimize the potential for an accidental release of hazardous materials; therefore, impacts to schools as a result of project implementation is determined to be less than significant.

d. LESS THAN SIGNIFICANT. According to the DTSC's EnviroStor database, there are no clean-up sites located within or near the project site (DTSC 2022). Other state and local government agencies are required to provide additional hazardous materials release information for the Cortese List. The SWRCB's GeoTracker database identifies leaking underground storage tanks, waste discharge sites, oil and gas sites, and other waste or cleanup sites. A review of GeoTracker did not identify any sites or facilities within or adjacent to the Project site. The nearest identified sites with open-site assessment statuses is Emerald Mobil (ID#: SLT19791404), a Cleanup Program Site, located approximately 0.3 miles west of the Project site. Due to distance this site is not considered a concern. Therefore, impacts are determined to be less than significant.

e. LESS THAN SIGNIFICANT. The nearest airport is the McClellan-Palomar Airport, located about 4.03 miles to the south of the Project site in the City of Carlsbad. The property is not located within the Airport Influence Area of the airport (*McClellan- Palomar Airport - Airport Land Use Compatibility Plan*, January 25, 2010). Due to distance, implementation of the Project would not affect the safe operation of the airport, and the Project would not be affected by noise created through airport operations. Therefore, project development would not result in a safety hazard or excessive noise for people residing on-site, and impacts would be less than significant.

f. LESS THAN SIGNIFICANT. The City of Vista is a participant in the Multi-Jurisdictional Hazard Mitigation Plan for San Diego County, which identifies risks by natural and human-made disasters and ways to minimize the damage from those disasters. The Project would provide residential uses that would be permitted and approved in compliance with existing safety regulations, such as the California Building Code and Uniform Fire Code to ensure that it would not conflict with implementation of the Multi-Jurisdictional Hazard Mitigation Plan.

The proposed project would be subject to applicable state and local building and fire codes, and final project plans would be reviewed by the City for consistency with both the Hazard Mitigation

Plan and applicable emergency response plans. Additionally, the final site plans for the project would be reviewed by City Fire to ensure adequate emergency access. For these reasons, implementation of the project would not impair or interfere with an adopted emergency repose plan or evacuation plan. Impacts are determined to be less than significant.

g. LESS THAN SIGNIFICANT. Per CAL FIRE, the Project site is located within a Local Responsibility Area (LRA) and is not located within a very High Fire Hazard Severity Zone (VHFHSZ) (CAL FIRE 2009). The Project site is relatively flat and does not feature other factors that would exacerbate wildfire risks. Considering the project site is surrounded on all sides by existing development and/or infrastructure, the potential for wildfire related impacts are considered low. As described above, the project would be required to comply with all applicable requirements in the CBC, and final project plans would be subject to review by City Fire. For these reasons, impacts related to wildfire are determined to be less than significant.

MITIGATION MEASURES

- MM-HM-1** During grading operations, observations shall be made by onsite construction personnel during any future ground disturbing activities for areas of possible contamination such as, but not limited to: the presence of underground facilities, buried debris, waste drums or tanks, or odorous soils. Should such materials be encountered, disposal shall occur in accordance with City, County of San Diego, and State and federal regulations.

X. Hydrology and Water Quality

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) result in a substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. LESS THAN SIGNIFICANT IMPACT. The Project proposes development of 38 two-story townhomes. Hydrologically, the site is situated in the Vista Hydrologic Subarea (904.22) within the Buena Vista Creek Hydrologic Area (904.20) of the Carlsbad Hydrologic Unit (904.0). The existing Project site is relatively flat with a gentle slope from south to north. The surface and groundwater receiving waters located closest to and downstream of the Project site include Buena Vista Creek, Buena Vista Lagoon, and Pacific Ocean. The designated beneficial uses of Buena Vista Creek include MUN (Municipal and Domestic Supply), AGR (Agricultural Supply), IND (Industrial Service Supply), REC1 (Contact Recreation), REC2 (Non-Contact Recreation), WARM (Warm Freshwater Habitat), and WILD (Wildlife Habitat) (SWRCB 1997). Buena Creek is 303(d) listed for Selenium and Sediment Toxicity.³

³ Per the Approved 2008-2010 303(d) List.

The pollutants of concern that could be generated by the development of the Project would include sediments, nutrients, heavy metals, organic compounds, trash and debris, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides. The conditions of concern would include the potential effects of a change to a priority Project site's hydrologic regime on downstream channels and habitat integrity. This can include impacts such as flooding, erosion, and scour.

To address potential water quality impacts due to project development, BMPs would be implemented during construction and operation in compliance with the *City of Vista Stormwater Standards Manual* (June 2015), which would reduce pollutants, as further described below.

Construction Impacts

Construction of the Project would require grading and excavation of soils, which would loosen sediment, and then have the potential to mix with surface water runoff and degrade water quality. Additionally, construction would require the use of heavy equipment and construction-related chemicals, such as concrete, cement, asphalt, fuels, oils, antifreeze, transmission fluid, grease, solvents and paints. These potentially harmful materials could be accidentally spilled or improperly disposed of during construction and, if mixed with surface water runoff could wash into and pollute waters.

These types of water quality impacts during construction of the Project would be prevented through implementation of a grading and erosion control plan that is required by the City's Grading Ordinance (Development Code Chapter 17.56) and the State General Permit to Discharge Storm Water Associated with Construction Activities (NPDES No. CAS000002), which requires preparation of a SWPPP by a Qualified SWPPP Developer. The grading and erosion control plan and SWPPP are required for plan check and approval by the Land Development Engineer, as well as the Planning Division, prior to provision of permits for the Project, and would include construction BMPs such as:

- Silt Fence, Fiber Rolls, or Gravel Bag
- Street Sweeping and Vacuuming
- Storm Drain Inlet Protection
- Stabilized Construction Entrance/Exit
- Vehicle and Equipment Maintenance, Cleaning, and Fueling
- Hydroseeding
- Material Delivery and Storage
- Stockpile Management
- Spill Prevention and Control
- Solid Waste Management
- Concrete Waste Management

Adherence to the existing requirements and implementation of the appropriate BMPs per the permitting process would ensure that potential water quality degradation associated with construction activities would be minimized, and impacts would be less than significant.

Operational Impacts

The Project would introduce residential uses to the Project site, which would introduce the potential for pollutants such as chemicals from household cleaners, pathogens from pet wastes, nutrients from fertilizer, pesticides and sediment from landscaping, trash and debris, and oil and grease from vehicles. These pollutants could potentially discharge into surface waters and result in degradation of water quality. As described above, Buena Vista Creek is listed as impaired on the EPA's 303(d) for Selenium and Sediment Toxicity. Therefore, operation of the Project could create new impairments or exacerbate existing impairments within this waterbody, which would result in a water quality impact.

However, in accordance with the City's SUSMP (Municipal Code Chapter 13.18, Stormwater Management and Discharge Control Program), as detailed in the *City of Vista Stormwater Standards Manual* and the requirements of the re-issued Municipal Storm Water Permit (San Diego RWQCB Order R9-2007-0001), all new and significant redevelopment projects that fall into one of 11 categories would be considered "priority" projects. Priority projects are required to incorporate post-construction (or permanent) Low Impact Development (LID) site design, source control, and treatment control BMPs into the project's design. The Project meets three of the 11 "priority project" categories - a housing subdivision of 10 or more dwellings; a project that creates 5,000 square feet of new paved surface; and a development project that results in the disturbance of one acre or more of land. As a result, the Project is classified as a priority project and is required to incorporate LID into the project site design. The LID site design would minimize impervious surfaces and provide infiltration of runoff into landscaped areas before it can leave the site.

In addition, source control BMPs are required per the City's SUSMP to minimize the introduction of pollutants that may result in water quality impacts; and treatment control BMPs would treat runoff before it discharges from the site. According to the City's *Stormwater Standards Manual*, treatment control BMPs are effective at minimizing pollutants of concern. Bio-retention basins remove coarse sediment, trash, and pollutants (i.e., sediments, nutrients, heavy metals, oxygen demanding substances, oil and grease, bacteria, and pesticides); and media filters (porous pavement) remove coarse sediment, trash, and fine particles. The types of BMPs that would be implemented for the Project include biofiltration basins, roof drain to landscaping, efficient irrigation, and drought tolerant landscape design.

With implementation of the operational BMPs that would be required by the City pursuant to the SUSMP and checked during the permitting and approval process of the Project, potential pollutants would be reduced to the maximum extent feasible. Development of the Project would not violate any water quality standards or waste discharge requirements, including but not limited to increasing pollutant discharges to receiving waters, and impacts would be less than significant.

b. LESS THAN SIGNIFICANT IMPACT. Vista Irrigation District (VID), which provides water supplies to the Project site, utilizes water supplies from the Warner Basin aquifer to supplement its local surface water supply, which is Lake Henshaw. VID's operational procedure is to use its surface water supply when available and conserve its groundwater for dry years when run-off is minimal and surface supplies are reduced. In dry years, groundwater is pumped from wells into Lake Henshaw and then utilized from the lake as needed. In wet years, surface water supply is used and groundwater pumping operations cease, which allows the basin to recharge. The groundwater basin acts as a water bank, allowing deposits in wet years and withdrawals in dry years (VID

2020). It is estimated that Warner Basin has approximately 150,000 acre-feet of usable water storage (VID 2020). The VID has historically averaged approximately 6,950 acre-feet per year of groundwater usage and anticipates utilizing the same amount annually through 2045. The increased demand for water as a result of the Project would equate to a negligible amount compared to the entire amount of groundwater used by the City annually; however, only a portion of the water supply needed for the Project would come from groundwater supplies. As described previously, groundwater is only utilized in dry years and recharged in wet years. Due to the limited increase in water demand that would be generated by the Project and the limited amount that would be obtained from the groundwater basin, the project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, and impacts would be less than significant.

c-i – c-iv. LESS THAN SIGNIFICANT IMPACT. Construction of the Project would require grading and excavation of soils, which would loosen sediment and could result in erosion or siltation. However, construction of the Project requires City approval of a grading and erosion control plan per the City's Grading Ordinance (Development Code Chapter 17.56) and the State General Permit to Discharge Storm Water Associated with Construction Activities (NPDES No. CAS000002), which requires preparation of a SWPPP by a Qualified SWPPP Developer. The grading and erosion control plan and SWPPP are required for plan check and approval by the Land Development Engineer, as well as the Planning Division, prior to provision of permits for the project, and would include construction BMPs to reduce erosion or siltation. Adherence to the existing requirements and implementation of the required BMPs per the permitting process would ensure that erosion and siltation associated with construction activities would be minimized. Construction BMPs described in the SWPPP may include, but are not limited to, measures minimizing exposed soils, silt fencing, soil binders, street sweeping, hydroseeding soils, and using sandbags, check dams or berms during rain events to direct flows. Surface drainage during project construction would be controlled through implementation of the SWQMP and SWPPP, and in accordance with NPDES regulations and provisions of the City's Grading and Erosion Control Ordinances.

Operation of the project would introduce impervious area to the primarily vacant site. The proposed buildings would have a drainage system to collect roof runoff and graded and disturbed areas would be re-vegetated and landscaped to minimize erosion. Post-construction the project site would have minimal risks of erosion occurring given property plant establishment and transport of sediments downstream would be significantly reduced by means of pretreatment and onsite biofiltration basins. As described above, the project would be subject to operational BMPs. Positive surface drainage would be provided to direct surface water on-site toward the street or suitable drainage facilities, planters would be designed with provisions for drainage to the storm drain system, and surface runoff would be controlled in a manner to avoid erosion and sedimentation in accordance with regulations and the project's SWQMP. Currently, stormwater runoff from the southern portion of the site flows to existing curb inlets located within South Emerald Drive. Post construction, onsite stormwater runoff would be collected in a proposed storm drain. The proposed storm drain system would reduce the potential for alteration of an existing drainage pattern that could result in substantial erosion or siltation.

In existing conditions, the project site has been previously graded but is currently primarily vacant. Existing runoff from the site is collected in the City's storm drain system. Project improvements would result in an increase in peak runoff flowrate within the project site. However, proposed drainage features would adequately control and release flows from the site post-development.

Due to the proposed drainage systems, the Project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site and the impact would be less than significant.

The existing municipal storm drain system has sufficient conveyance capacity to accept the proposed runoff from the site that would be reduced by the proposed drainage features. Although the project would result in an increase in impervious surfaces on-site that would generate additional stormwater runoff, implementation of the project would utilize adequate drainage points and would not substantially impede or redirect flows in comparison to existing conditions. Due to the proposed drainage design and improvements to the existing on-site drainage, the project would not exceed existing capacity of storm drain facilities, and impacts would be less than significant.

Construction of the Project would require grading and excavation of soils, which could temporarily alter the existing drainage pattern of the site or area and result in flooding on- or offsite. Additionally, the Project site is adjacent to Buena Vista Creek to the north and the northern portion of the Project site is located within a 100-year floodplain (FEMA 2022). However, as described above, Project construction requires preparation of a SWPPP by a Qualified SWPPP Developer, which would include construction BMPs to limit an increase in stormwater flows during construction and reduce the potential for construction related flooding to occur. Thus, with the implementation of a Project specific SWPPP, construction impacts would be less than significant.

The Project would include development of pervious surfaces from building pads, driveways, roadways, parking, sidewalks, and other such Project features, which would increase the amount of impervious surfaces within the Project site. Post construction, stormwater runoff would discharge to existing drainage facilities in South Emerald Drive. However, before runoff is discharged from the site, flows from roofs and other impervious surfaces would be directed into the proposed storm drain system.

d. LESS THAN SIGNIFICANT IMPACT. According to the FEMA National Flood Hazard Layer (NFHL) Viewer, a majority of the northern portion of the Project site is located within “Zone AO” which is an area located within a special flood hazard area (FEMA 2022). This is likely a result of the project site located adjacent to the Buena Vista Creek. Areas with a Zone AO designation are areas located within a 100-year flood plain with a 1% or greater chance of shallow flooding (FEMA 2022). As previously discussed, the Project would include the installation of a proposed storm drain system which would control the velocity and amount of runoff. Furthermore, the Project is surrounded by existing development located within a special flood hazard zone that are adequately served by existing stormwater facilities.

The Project site is not at risk for seiche or tsunami from area lakes or the Pacific Ocean. In addition, the Project site is not located within a tsunami hazard zone, is approximately 4.7 miles from the Pacific Ocean and is located at an elevation of 211-236 ft. ASML (DOC 2022c). As a result, the Project site is not at risk for tsunami inundation, and impacts would not occur.

In addition, the Project site does not have the potential to produce mudflows due to the relatively flat and gently sloped topography of the site and surrounding area. The City’s Development Code Section 16.48 requires that developments within or near slopes apply slope stabilization measures, which include (but are not limited to): hydroseeding and use of erosion control

blankets, silt fencing, fiber rolls, and gravel bags. As a result, impacts related to mudflows would not occur.

e. LESS THAN SIGNIFICANT IMPACT. Please refer to responses to thresholds a) and b) above. Implementation of the project would not conflict with any water quality control plan nor groundwater management plan. Impacts would be less than significant.

XI. Land Use and Planning

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. LESS THAN SIGNIFICANT IMPACT. The primarily vacant and previous disturbed 4.32-acre Project site is bound to the north by the Buena Vista Creek, and a commercial shopping center further north, existing mobile home communities to the east and west, and Sky Haven Lane to the south.

As described in Chapter 2 above, the Project involves approval of a General Plan Amendment, Zone Change, Site Development Plan, Condominium Housing Permit, and Tentative Subdivision Map, to develop 38 two-story townhomes and associated improvements. The project site is located on the west side of Sunset Drive/S. Emerald Drive and is split by an existing driveway that serves the Green Valley mobile home community (Figure 2). Of the 38 proposed townhomes, 24 units would be located north of the Green Valley mobile home driveway on 3.09 acres, and 14 units would be located south of the existing driveway on 1.18 acres (Figure 3).

The northern portion of the site is currently designated as General Commercial (GC) with an associated zoning designation of C-1 (Commercial) in the *Vista General Plan 2030* (City of Vista 2011). The project proposes the site be redesignated to Medium Density Residential (MD) with an associated zoning of Multifamily Residential (R-M (10)). The southern portion is currently designated Medium High Density Residential (MHD) which allows 15 dwelling units per acre (du/acre), and has an associated zoning of Multi-Family Residential (R-M (15)). The land use and zoning designation for the southern portion of the project would remain as is in proposed conditions, as the proposed 14 units on the southern portion of the site would be consistent with the current land use and zoning. The project would require a General Plan Amendment and Rezone for the northern portion of the project site, which would allow for the development of 24 residential units.

Although development of the proposed residential land uses would be inconsistent with a portion of the existing land use and zoning designations, the project site is located in an urban part of the City within close proximity to a range of existing infrastructure and development including commercial uses, parks, residential, and schools/educational facilities. The proposed project

would not incorporate new roads or require removal of roads that currently provide access to the area. Furthermore, due to the location of the project site, which is surrounded by existing roadways, no separation or disruption of surrounding uses would occur as a result of project implementation. Because the project site is surrounded on all sides by existing development, and is considered an infill site, it is determined that the proposed project would not divide an established community, and therefore this impact is considered less than significant.

b. LESS THAN SIGNIFICANT IMPACT. As stated above, the northern portion of the proposed project would conflict with the current General Plan and zoning designation for the site. The northern portion of the site is currently designated as General Commercial (GC) with an associated zoning designation of C-1 (Commercial) in the *Vista General Plan 2030* (City of Vista 2011). The project proposes the site be redesignated to Medium Density Residential (MD) with an associated zoning of Multifamily Residential (R-M (10)). Upon City approval of the GPA/Rezone, the proposed project would be required to comply with the allowable medium density/multi-family residential uses and development standards outlined in the City's Development Code.

Although the proposed project would amend the land use designation, the concurrent process of amending the General Plan designation does not necessarily equate to inconsistency with the document. Project implementation would not impede the City's ability to achieve goals and policies outlined in the General Plan. The proposed residential land for the northern portion of the project site would be consistent with the land use and zoning designation for the southern portion of the site, as well as adjacent residential land uses. Additionally, the MHD designation permits a maximum density of 15 du/acre and the MD designation permits a maximum density of 10.0 du/acre, while the project proposes a density of 8.80 du/acre.

State law requires jurisdictions to provide for their fair share of regional housing needs through income categories to accommodate the forecasted growth in the number of households. The Project would provide new housing opportunities within the City, consistent with the General Plan land use designation for the southern portion of the site, and in accordance with the goals and policy of the City's Housing Element. The Project would not conflict with the Housing Element of the General Plan.

While approval of the Project would establish development guidelines and standards central to the construction of the Project, the Project would be consistent with several applicable minimum development standards. The Project meets and exceeds the City's parking requirements by including 110 parking spaces. The landscaping of the Project would exceed the ten percent minimum by covering approximately 75,364 square feet of the site (not including riparian area and off-site planting). The distance and elevation of the buildings from the property line of the adjacent single-family residences (as well as the extensive landscaping of the slopes) provides ample buffers between the project and adjacent uses; and all walkway and street lighting would meet the outdoor lighting standards in Section 18.58.260 of the Development Code.

Although the project would require a portion of the site to need a GPA and zone change, project consistency with adjacent land uses and other City plans and policies would not result in a significant environmental impact. With approval of the requested GPA and rezone, impacts would be less than significant.

XII. Mineral Resources

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local Comprehensive Plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a - b. NO IMPACT. The City of Vista, including the project site, is located within a Mineral Resource Zone (MRZ) 3. An MRZ-3 includes areas containing known or inferred mineral occurrences of undetermined mineral resource significance (CGS 2017). Additionally, the City's *GP 2030 Update* (2011a) does not identify the project site as a locally important mineral resource recovery site. Therefore, development of the proposed project would not result in the loss of availability of a known mineral resource, and no impacts occur.

XIII. Noise

<i>Would the project result in:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The discussion below is based on the analysis contained within the Noise Technical Report prepared for the Project by Dudek in October 2022. The Noise Technical Report is included as Appendix G of this MND.

DISCUSSION

a. LESS THAN SIGNIFICANT WITH MITIGATION.

Construction Impacts

Construction noise and vibration are temporary phenomena, with emission levels varying from hour to hour and day to day, depending on the equipment in use, the operations performed, and the distance between the source and receptor. Equipment that would be in use during construction would include, in part, graders, backhoes, rubber-tired dozers, loaders, cranes, forklifts, pavers, rollers, and air compressors. The typical maximum noise levels at a distance of 50 feet from various pieces of construction equipment and activities anticipated for use on the proposed project site are presented in Table 6 of Appendix G to this EIR. It should be noted that the equipment noise levels presented in Table 6 of Appendix G are maximum noise levels. Usually, construction equipment operates in alternating cycles of full power and low power, producing average noise levels over time that are less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time. Table 7 of Appendix G summarizes the evaluation distances to the apparent closest noise-sensitive receptor for each of the seven sequential construction phases.

A Microsoft Excel-based noise prediction model emulating and using reference data from the Federal Highway Administration Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. Input variables for the predictive modeling consist of the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of time within a specific time period, such as an hour, when the equipment is expected to operate at full power or capacity and thus make noise at a level comparable to what is presented in Table 6 of Appendix G), and the distance from the noise-sensitive receiver. The predictive model also considers how many hours that equipment may be on site and operating (or idling) within an established work shift. Conservatively, no topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis, which is detailed in Appendix G of this EIR, and produce the predicted results displayed in Table 8 of Appendix G.

As presented in Table 8 of Appendix G to this EIR, the estimated construction noise levels are predicted to be nearly as high as 90 dBA L_{eq} over an 8-hour period at the nearest occupied property (as close as 15 feet away) when grading activities take place near the western project boundaries. Note that these estimated noise levels at a source-to-receiver distance of 15 feet are conservatively high, in that they presume the noted pieces of heavy equipment would each operate, on average at this distance, for a cumulative period of four hours a day. The reality of construction progress on-site would likely be different. By way of example, a grader might make multiple passes on site that are this close to a receiving occupied property; but, for the remaining time during the day, the grader may be sufficiently farther away and either performing work at a more distant location or simply not operating.

Under the studied conditions, construction activity noise levels associated with site preparation and grading phases are expected to exceed an 8 hour L_{eq} value of 75 dBA L_{eq} and thereby exceed the City's adopted daytime threshold for construction noise exposure at an occupied property.

Therefore, impacts would be considered significant prior to mitigation. The project would be required to implement mitigation measure **MM-NOI-1** (outlined at the end of this MND Section XIII. Noise) to reduce potential impacts to a less than significant level.

Although nearby occupied properties such as residential to the west would be exposed to elevated construction noise levels, the increased noise levels would typically be relatively short term. It is anticipated that construction activities associated with the proposed project would take place only within the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday, in compliance with the City's noise ordinance.

In summary, construction noise during allowable daytime hours would have the potential to exceed the 75 dbA L_{eq} 8-hour threshold at the adjacent property lines on occasion. Thus, temporary construction-related noise impacts would be considered potentially significant without implementation of MM-NOI-1 as part of the construction program. With implementation of MM-NOI-1, anticipated construction noise impacts would be reduced to a level of less than significant. Therefore, impacts are determined to be less than significant with mitigation incorporated.

Operational Impacts

The proposed project would result in the creation of additional vehicle trips on local arterial roadways (i.e., Melrose Drive), which could result in increased traffic noise levels at adjacent noise-sensitive land uses. According to Caltrans, a three-dBA change in sound is the beginning at which humans generally notice a barely perceptible change in sound, a five-dBA change is generally readily perceptible, and a 10-dBA increase is perceived by most people as a doubling of the existing noise level (Caltrans 2013a). Due to the existing and proposed urban setting of the project area, a readily perceptible change in noise (five dBA) would be the appropriate threshold to determine significant increases in traffic noise (Appendix G).

Potential noise effects from vehicular traffic were assessed using the Federal Highway Administration's Traffic Noise Model version 2.5 (FHWA 2004). Information used in the model included the roadway geometry, existing, and existing plus project traffic volumes and posted traffic speeds. Noise levels were modeled at representative noise-sensitive receivers ST1 through ST4, as shown in Figure 3 of Appendix G. The receivers were modeled to be 5 feet above the local ground elevation. The noise model results are summarized in Table 9 of Appendix G. Based on results of the model, implementation of the proposed project would not result in readily perceptible increases in traffic noise. Thus, a less-than-significant impact is expected for proposed project-related off-site traffic noise increases affecting existing residences in the vicinity.

Aside from exposure to aviation traffic noise, current CEQA noise-related guidelines at the state level do not require an assessment of exterior-to-interior noise intrusion, environmental noise exposure to occupants of newly-created project residences, or environmental noise exposure to exterior non-residential uses attributed to the development of the proposed project. Nevertheless, the City's General Plan and the California Building Code requires that interior background noise levels not exceed a CNEL of 45 dB within habitable rooms. As such, the following predictive analysis of traffic noise exposure at the exteriors of occupied residences and outdoor living areas is provided herein.

Future Ambient Noise Levels at Residential Facades are outlined in Table 10 of Appendix G. The results indicate that future traffic noise levels would not exceed 62 dBA CNEL. With the 45 dBA

CNEL interior background sound level limit, this means the minimum composite sound transmission class (STC) rating for the exterior shell separating the habitable interior space from the outdoor sound level should be at least 17. The composite STC rating for the portion of a building shell that separates an interior space from the outdoors is calculated from the area-dependent contributions of its elements: windows, wall assemblies, and doors.

This study assumes an exterior wall assembly includes: one layer of 5/8" gypsum wallboard (GWB) on the interior-facing side, 2"x4" wood studs, glass fiber batt insulation in the stud cavities, and a dual-layer of 5/8" GWB on the exterior-facing side. Acoustical transmission loss (TL) data is available on this representative assembly (Halliwell 1998) and is used as part of estimating the composite STC ratings reported herein. For purposes of this analysis, the dual-layer GWB on the exterior surface approximates the mass and solidity of what may be other approved material options as determined by the Project architect, such as cement fiber siding panels, brick masonry veneer, or cement plaster attached to layers of fiberglass mat sheathing and plywood sheathing. With respect to windows, dual-pane glazing systems are commonplace in the construction of modern homes and characterized by two 1/8"-thick glass panes separated by a 3/8" wide airgap. Viracon data indicates that such glazing should demonstrate, on its own and assuming no air leaks or gaps, an STC rating of 31 (Viracon 2019). Similarly, panels of sliding doors are typically constructed with a similar assembly so as to help maintain expected levels of thermal insulation; hence, these two would reasonably feature the same STC rating on their own (and when fully closed) as a sound-insulating element of a larger façade area to be evaluated for net STC performance. Using the above wall and window component assumptions, Table 11 in Appendix G summarizes the calculated noise levels after applying the STC ratings for a set of sample occupied room facades that are anticipated to be exposed to predicted exterior noise levels greater than 60 dBA CNEL. An open window greatly compromises the sound insulation performance of the façade wall assembly, as presented for the sample units appearing in Table 11 of Appendix G. However, when such windows and doors are closed, all facades are anticipated to exhibit a predicted STC rating of at least 35, and thus would provide sufficient exterior-to-interior sound insulation from outdoor traffic noise to yield interior background sound levels that are less than 45 dBA CNEL and thus compliant with the City and state standards.

Finally, for purposes of this analysis, each of the new occupied residential units would be expected to feature a split-system type air-conditioning unit, with an air-cooled refrigeration (3-ton capacity) condenser unit. Assuming each condenser unit has an SPL of 68 dBA at 3 feet based on available data from a likely manufacturer (Carrier 2012), and the units would generally be installed at grade near the apparent "front porch" areas. Therefore, the closest existing noise-sensitive residential receptor to the west of the proposed project's eastern unit would be as close as 30 horizontal feet to the nearest of these condenser units. The predicted sound emission level from the combination of all 38 operating condenser units as received by this offsite single-family home would be 45 dBA L_{eq} and thus be compliant with the City's nighttime threshold of 45 dBA hourly L_{eq} . Under such conditions, the operation of residential air-conditioning units would result in a less-than-significant noise impact. No mitigation would be required to address operational noise from the project.

b. LESS THAN SIGNIFICANT IMPACT. Construction activities may expose persons to excessive groundborne vibration or groundborne noise, causing a potentially significant impact. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2013b). Information from Caltrans indicates that continuous vibrations with a PPV of approximately 0.2 ips is considered "annoying." For context, heavier pieces of construction equipment, such as a

bulldozer that may be expected on the project site, have peak particle velocities of approximately 0.089 ips or less at a reference distance of 25 feet (DOT 2006).

Groundborne vibration attenuates rapidly—even over short distances. And when groundborne vibration encounters a building foundation, a coupling loss occurs depending on its mass and design. For typical wood-framed houses, like those near the proposed project, this coupling loss is expected to be 5 vibration velocity decibels (VdB) according to FTA guidance (FTA 2006).

The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. By way of example, for a front-end loader operating onsite and as close as the eastern project boundary (that is 15 feet from the nearest receiving sensitive land use) the estimated groundborne vibration velocity level would be 0.15 ips as received by the residential structure, and would be compliant with the 0.3 ips PPV threshold per Caltrans guidance with respect to building damage risk.

Then, the foundation of this residential structure would, per the coupling loss, cause a reduction in the vibration as received by the building occupant. Hence, instead of the 92 VdB received at the interface of the structure foundation and the surrounding soil/strata, the occupant would experience 87 VdB (i.e., 5 VdB less) that equates to a PPV level of 0.089 ips that is less than the Caltrans guidance threshold for annoyance. Therefore, vibration-induced annoyance to occupants of nearby existing homes would be considered less than significant (Appendix G).

Once operational, the proposed project would not be expected to feature major producers of groundborne vibration. Anticipated mechanical systems like heating, ventilation, and air-conditioning units are designed and manufactured to feature rotating (fans, motors) and reciprocating (compressors) components that are well-balanced with isolated vibration within or external to the equipment casings. On this basis, vibration due to proposed project operation should be less than significant.

c. LESS THAN SIGNIFICANT. There are no private airstrips within the vicinity of the project site. The closest airport to the proposed project site is the McClellan-Palomar Airport, approximately 3.7 miles south of the site and would therefore not expose people residing or working in the project area to excessive noise levels. Impacts would be less than significant.

MITIGATION MEASURES

MM-NOI-1 Implementation of the following multi-part mitigation measure shall be required to reduce potential construction period noise impacts:

- Administrative controls (e.g., reduce operating time of equipment and/or prohibit usage of equipment type[s] within certain distances).
- Engineering controls (upgrade noise controls, such as install better engine exhaust mufflers).
- Install noise abatement on the site boundary fencing (or within, as practical and appropriate) in the form of sound blankets or comparable temporary barriers (e.g., stacked sheets of plywood supported with framing) to occlude construction noise emission between the site (or specific equipment operation as the situation may define) and offsite noise-sensitive receptor(s) of concern.

- At the outset of a project construction activity, an unattended noise level monitor might be deployed onsite to measure and document that noise exposure levels attributed to project construction activity at adjacent offsite sensitive receptors are in conformance with the 75 dBA 8 hour Leq threshold.

XIV. Population and Housing

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through an extension of roads or other infra-structure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. LESS THAN SIGNIFICANT IMPACT. The Project involves approval of a General Plan Amendment, Zone Change, Site Development Plan, Condominium Housing Permit, and Tentative Subdivision Map, to develop 38 two-story townhomes and associated improvements on a 4.32-acre site. As of 2020, the City's persons per household estimate was 3.20 (SANDAG 2020). Using this household ratio, development of 38 units at the project site would generate approximately 121 people. Although not all residents of the development would be new to the City, residential development on the project site would still result in unplanned growth for the City, as the northern portion of the site is not designated for residential land use, and thus was not accounted for in the City's General Plan since the project site is zoned for General Commercial.

Development of the project is unlikely to directly induce further population growth in the area. This is because the area surrounding the project site is already developed. Further, because the proposed project site is in an infill area with existing roads and utilities, no indirect impacts associated with the extension or construction of roads or expansion of public utilities are expected to occur as a result of the proposed project.

Additionally, as outlined in Section III. Air Quality, as presented in the May 2021 General Plan Housing Element, the most recent Regional Housing Needs Assessment (RHNA) from SANDAG stated that Vista's share of regional future housing needs is 2,561 new units between June 30, 2020, and April 15, 2029. As of June 30, 2020, 532 housing units have been planned or approved for development, with 2,029 units remaining needed to be developed in the City. The Project is expected to bring 38 units to market in 2025 which would be within SANDAG's growth projection for housing during the 6th Cycle planning horizon.

Approval and development of the Project and the associated generation of approximately 121 residents is not expected to significantly increase population growth in the area due to the project location in an urban area of the City surrounded by existing development and infrastructure. For the reasons stated above, impacts are determined to be less than significant.

b. LESS THAN SIGNIFICANT IMPACT. The Project site currently features an existing residence and additional structures within the southern portion of the project site. The existing residence is currently vacant and would be demolished during Project construction. Therefore, development of the Project would not displace any people or necessitate the construction of replacement housing. Therefore, impacts would be less than significant.

XV. Public Services

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
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:				
1. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a1 - 5. LESS THAN SIGNIFICANT IMPACT. The Project would result in less than significant impacts to fire protective services, police services, schools, roads and other public facilities. The Project involves the construction and occupancy of 38 two-story townhomes on an approximately 4.32-acre Project site in the western portion of the City. Potential impacts on each public service is discussed below.

Fire Protection Services

The Project would be constructed in accordance with all applicable fire codes set forth by the State Fire Marshall, the Vista Fire Department (VFD), and the City's building code. Development of the Project may result in an incremental increase in the demand for emergency services; however, the size and location of the Project would not place an undue hardship on the fire department since they are presently servicing the area. Fire protection services would be available from Fire Station No. 1 located at 175 North Melrose Drive approximately 1.66 miles to the east.

Prior to final Project approval, the City's Fire Marshall would verify that the Project has been designed to conform to code, including the emergency access gate on Sunset Drive. Also, applicable development impact fees would help to ensure funding continues to be provided to the

VFD. Therefore, development of the Project would not exceed the capacity of the VFD to serve the site or other areas with existing fire protection services and resources and would result in less-than-significant impacts.

Police Protective Services

The San Diego County Sheriff's Department is contracted by the City to provide law enforcement in the City and the surrounding unincorporated areas. The San Diego County Sheriff's Department office on S. Melrose Drive is located approximately 1.4 miles to the east at 325 S. Melrose Drive. The Department's services include general patrol, traffic enforcement, criminal investigation, juvenile services, communications and dispatch, and various management support services. Law enforcement services are available 24 hours a day, seven days a week, and include Community Service Officers, canine handlers, and narcotics and gang investigators.

Similar to fire services, applicable development impact fees would help to ensure funding continues to be provided to the Sheriff's Department for necessary resources in the City. While development of the project site would place a slight increase in demand on police protection services, it is not anticipated that the project would result in the need for construction or expansion of existing police facilities to accommodate new police personnel or equipment. The project is expected to be adequately served by existing police department stations, and impacts related to police protection are determined to be less than significant.

Schools

The Vista Unified School District (VUSD) provides school facilities and services to students within the project area and City of Vista. The schools that serve the Project area include the following:

- Breeze Hill Elementary School, 1111 Melrose Way. In the 2020-21 school year, Breeze Hill had 786 students (VUSD 2022). The projected number of resident students in 2023 is 1,074 (VUSD 2020).
- Madison Middle School is located at 4930 Lake Boulevard, Oceanside CA. In the 2020-21 school year Madison had 1,044 students (VUSD 2022). The projected number of resident students in 2023 is 1,271 (VUSD 2020).
- Rancho Buena Vista High School is located at 1601 Longhorn Drive. In the 2020-2021 school year, Rancho Buena Vista had 1,987 students (VUSD 2022). The projected number of resident students in 2023 is 2,362 (VUSD 2020).

As described in the *GP 2030 Update PEIR* (2011b), VUSD uses the student generation factors that are listed in Table PS-1. As shown below, it is anticipated that approximately 21 total students would be generated from build out of the Project.

Table PS-1. Students Generated by Project

Type of School	Grades Served	Student Generation Rates*	Number of Students Generated by Project
Elementary	K-5	0.2382	9
Middle	6-8	0.1200	5
High School	9-12	0.1760	7
Total	K-12		21

Source: Vista GP 2030 Update PEIR, 2011

Note: * Generation rates are per the total single-family units of the Project - 38

The generation of approximately 21 students is expected to be adequately served by VUSD. However, review of the project and a will-serve letter from VUSD would be required for the project prior to development. Additionally, it should be considered that not all students residing at the project site would be new to the City or VUSD. Students generated by the project would be subject to VUSD's Open Enrollment School of Choice, which accepts students on a space available basis. Of the 25 total schools within the VUSD (not including private schools), it is determined that the number of students generated by the project would be adequately served by existing facilities.

Furthermore, the project applicant would be subject to City development impact fees, as applicable, as well as applicable VUSD development impact fees. Developer fees allows school districts to impose mitigation fees on new development as a method of addressing increased enrollment. SB 50 states that the fees imposed by school districts shall constitute the exclusive method of considering and mitigating impacts on school facilities caused by a development project. Such payment shall provide "full and complete mitigation of the impacts of any legislative or adjudicative act...on the provision of adequate school facilities" (Government Code Section 65995(h)). As such, contribution of required development fees would ensure impacts to schools as a result of students generated by the project would be less than significant.

Parks

The project site is currently vacant, and an increase of approximately 121 people could result in the potential for increased use of existing neighborhood and regional parks.

Parks within two miles of the project site include Bub Williamson Park and Breeze Hill Park. Additional parks and trails are provided throughout the City, and throughout the region. In addition to the abundance of parks in the City and surrounding Cities of Carlsbad, Oceanside, and San Marcos, the Project proposes onsite open space which would include an outdoor play area, outdoor dining area, passive lawn with benches, fire pit, and BBQ area for residents. Within the R-M zone, a minimum of 125 sq. ft. of common open space is required per bedroom. Thus, a total of 12,500 sq. ft. of common open space, and a total of 3,800 sq. ft. of private open space is required for the Project. As designed, the project would provide 23,918 sf of common open space, and 10,026 sf of private open space, for a total of 33,944 sf of provided open space on-site for residents.

Although the Project would potentially increase the utilization of existing parks and recreational facilities within the City; it is determined that the combination of proposed on-site recreational amenities and private open space, existing public park and recreational facilities in the project vicinity, and proposed future recreational facilities within the City would adequately serve future residents of the project site. Additionally, the project developer would be responsible to pay applicable development and park impact fees. Such fees for new residential development within the City go towards facilities such as (but not limited to) parks, public facilities, and schools. Therefore, it is determined that implementation of the Project would have a less-than-significant impact on existing park facilities.

Other Public Facilities

The Project may result in an incremental increase in the use of libraries, senior centers, and other public facilities. However, with a projected total of approximately 121 people occupying the townhomes at full build out, project development is not expected to substantially increase the

demand of these services such that construction of new or expanded facilities is required. Maintenance of public roads in the vicinity of the site (e.g., Sunset Drive and South Emerald Drive) is provided by the City. Due to the size and scope of the Project, and associated vehicular traffic and required street improvements, Project development is not anticipated to increase roadway maintenance on local roads above normal levels. As a result, less-than-significant impacts on maintenance of public facilities would occur with project implementation.

XVI. Recreation

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. LESS THAN SIGNIFICANT IMPACT. Existing City park facilities that are located within two miles of the project site include:

- Bub Williamson Park, 530 Grapevine Lane, 0.94 miles to the north
- Breeze Hill Park, 645 S. Melrose Drive, 1.45 miles to the east

The Project involves the construction and occupancy of 38 two-story townhomes on a 4.32-acre site. When fully occupied, these townhomes are anticipated to house approximately 121 residents, assuming 3.2 persons per household (per SANDAG).

The Project design includes onsite open space which would include an outdoor play area, outdoor dining area, passive lawn with benches, fire pit, and BBQ area for residents. Within the R-M zone, a minimum of 125 sq. ft. of common open space is required per bedroom. Thus, a total of 12,500 sq. ft. of common open space is required for the Project. As designed, the Project would provide 23,918 sq. ft. of common open space for residents.

A slight increase in demand on the existing public recreational resources could occur from the additional 121 residents that would be generated from the Project. However, impacts from the Project are anticipated to be minimal due to the inclusion of the open space and recreational amenities on-site, and due to the number of existing park and recreation facilities that are in the vicinity of the Project. The slight increase in demand for public recreation facilities that could occur would be spread amongst the existing facilities. Therefore, the Project would not result in a substantial increase in 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. Impacts would be less than significant.

b. LESS THAN SIGNIFICANT IMPACT. As described above, the Project would common open space area and community amenities within the site. A demand on existing recreational resources may be anticipated with any new residential development within the city. Although the number of residents housed by the proposed project may result in an incremental increase on existing recreational resources within the city, the impact is anticipated to be nominal given the availability of recreational amenities in the City and the region, as well as the proposed unit count and associated population generation. Therefore, the expansion of existing recreational facilities or the construction of new recreational facilities is not anticipated, and impacts would be less than significant.

XVII. Transportation/Traffic

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The following discussion is based on the *Local Transportation Assessment* prepared for the Project by Linscott, Law, and Greenspan (LLG) on August 2, 2022. The *Local Transportation Assessment* is included as Appendix E to this MND.

DISCUSSION

a. LESS THAN SIGNIFICANT IMPACT.

The Local Transportation Assessment (Appendix E) was prepared for the project to cover existing traffic conditions, trip generation/distribution/assignment, near-term conditions, project access, and active transportation. Per the City of Vista Transportation Impact Analysis Guidelines, an LTA is required for projects generating 200 to 400 Average Daily Trips (ADT) and will analyze existing conditions and existing conditions plus the project in order to determine the project specific traffic effects within the study area. The study area intersections are calculated to operate acceptably at LOS D or better during the AM and PM peak hours under the Existing, Existing+Project, and Existing + Project + Cumulative scenarios with the exception of the Emerald Drive / SR 78 WB Ramps which is calculated to operate at LOS F during the AM peak hour. Based on the City of Vista's improvement thresholds, no substantial effects are identified as the proposed project adds less than 2 seconds of average vehicle delay. Therefore, improvements are not required under this scenario.

Traffic calming measures would be incorporated into the project design. As described in Appendix E, the 85th percentile speed exceeds the posted speed limit by approximately 10% and 23% in the northbound and southbound direction, respectively. Based on existing conditions and the speed survey data, traffic calming features such as additional signage and marking to strategically

reduce vehicular speed are recommended. This includes speed feedback signs and advanced warning signs. The speed feedback sign is recommended to be mounted on the same support below the speed limit (R2-1) sign to provide proper notification to drivers traversing along Emerald Drive and Sunset Drive between Emerald Hollow Drive and Sky Haven Lane to improve traffic conditions and slow traffic. The project site is currently fronting a two-lane undivided roadway that primarily serve residents. It is recommended that the project construct a two-way left-turn lane as part of its frontage improvements to allow for left turn access to each project driveway and the Green Valley Mobile Home driveway outside of the thru lanes.

Regarding pedestrian mobility, Emerald Drive / Sunset Drive currently provides contiguous sidewalks on the east side between Hacienda Drive and approximately 200 feet north of Sky Haven Lane. There is approximately 200 feet of contiguous sidewalk on the west side south of Hacienda Drive. No sidewalks are provided in the remaining portions between Hacienda Drive and Sky Haven Lane. The nearest signalized intersection is less than $\frac{1}{4}$ mile north of the Project site, at the Emerald Drive / Hacienda Drive intersection, and provides a controlled crossing location with pedestrian push buttons and crosswalks. As mentioned in Section 9.0, the recently approved Cielo Living project proposes to signalize the Sunset Drive / Sky Haven Lane intersection which would also provide a controlled crossing location. Crosswalks with pedestrian phase are provided on the east, south, and west legs of the Emerald Drive / Hacienda Drive intersection. ADA curb ramps are provided as well. Based on the *City of Vista General Plan*, no sidewalk improvements are planned within $\frac{1}{2}$ mile of the Project site. In addition, the Cielo Living project proposes to provide crosswalks with pedestrian phases on the west and south legs of the Sunset Drive / Sky Haven Lane intersection as part of their improvements.

A bicycle network inventory was conducted for the study area. A Class II bike lane is provided along Hacienda Drive east of Emerald Drive within the study area. A Class III bike route with sharrows are provided along Hacienda Drive west of Emerald Drive. There are currently no bike lanes or bike routes provided on Emerald Drive, Sunset Drive and Sky Haven Lane within the study area. Based on the *City of Vista General Plan*, a Class III Bicycle Route is planned to be constructed along Hacienda Drive north of the Project site.

The nearest bus stops (one northbound and one southbound on Sunset Drive) are located near the Project site. There is also a bus stop on Emerald Drive, south of Hacienda Drive. These stops are served by NCTD bus route 323 which runs from Marron Road and Quarry Creek Center to Oceanside Boulevard and Avenida Del Oro. NCTD bus route 323 runs along Lake Boulevard, Sky Haven Lane, Sunset Drive, Emerald Drive, Oceanside Boulevard, Rancho Del Oro, Mesa Drive, Old Grove Road, and Avenida Del Oro. Weekday service begins at 5:45 AM with 30-minute headways and ends at 5:44 PM. Route 323 is not operational on the weekends.

As described in detail in Appendix E to this MND, the project is calculated to generate approximately 304 ADT. Therefore, based on the VMT recommendations per the City's TIA Guidelines for projects inconsistent with the Adopted General Plan, a VMT analysis would not be required as the project would generate less than 500 ADT and VMT impacts is presumed less than significant.

Implementation of the project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. The project would implement traffic calming measures and include circulation and frontage

improvements in the immediate vicinity as part of its design. For the reasons stated above and in Appendix E to this MND, impacts are determined to be less than significant.

b. LESS THAN SIGNIFICANT IMPACT. An assessment was conducted to determine the impacts on Vehicle Miles Traveled (VMT) for the project. This assessment utilizes methodologies presented within the Governor's Office of Planning and Research (OPR) Technical Advisory developed to assist with implementation of Senate Bill 743 (SB 743), which resulted in a shift in the measure of effectiveness for determining transportation impacts from Level of Service (LOS) and vehicular delay to VMT. VMT analyses are required in all California Environmental Quality Act (CEQA) documents as of July 1, 2020.

As outlined in the LTA (Appendix E), per the City of Vista Transportation Impact Analysis Guidelines (dated December 2020), a VMT analysis for CEQA purposes will be required if a project equals to or exceeds 1,000 average daily trips (ADT) and is consistent with the adopted General Plan. If a project is inconsistent with the adopted General Plan, a VMT analysis would be required if the project is 500 or more ADT. The project is calculated to generate approximately 304 ADT. Therefore, based on the VMT recommendations per the City's TIA Guidelines for projects inconsistent with the Adopted General Plan, a VMT analysis would not be required as the project would generate less than 500 ADT and VMT impacts is presumed less than significant.

c. LESS THAN SIGNIFICANT IMPACT. The Project includes solely residential uses and does not include any incompatible uses. Access for the Project would be provided via driveways on South Emerald Drive and Sunset Drive. Three driveways would be constructed. One full access driveway would be located on South Emerald Driveway to provide access to the northern portion of the Project site, and two driveways would be located on Sunset Drive to provide access to the southern portion of the Project site (the southernmost access point would be for emergency access only). The Project would construct a two-way left-turn lane as part of its frontage improvements to allow for turn access to each Project driveway. Onsite circulation would consist of a two-lane (one lane per direction) private roads through both the northern and southern portions of the Project site. Additionally, as described in detail in Appendix E, the project would incorporate traffic calming measures, including traffic calming signage and marking to reduce vehicular speed that may be associated with the project. The Project would not result in any hazards related to designs features and impacts would be less than significant.

d. LESS THAN SIGNIFICANT IMPACT. Access for the Project would be located along South Emerald Boulevard and Sunset Drive. Two full access driveways and one emergency vehicle only driveway would be constructed. One full access driveway would serve the northern portion of the Project site. The northernmost driveway of the southern portion of the Project site would provide full access while the southernmost driveway would provide access to emergency vehicles only (Figure 3). The Project has been designed to incorporate all required Vista Fire Department standards to ensure that its implementation would not result in hazardous design features, or inadequate emergency access to the site or areas surrounding the site. Meeting these standards would be verified upon plan check, prior to receipt of building permits. Therefore, impacts related to inadequate emergency access would be less than significant.

XVIII. Tribal Cultural Resources

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a-i) – a-ii). LESS THAN SIGNIFICANT WITH MITIGATION. As described in Section V. above, Dudek conducted a records search for the proposed project including a surrounding one-mile radius buffer at the South Coastal Information Center (SCIC). The records search did not identify any cultural resources within the Project area; however, a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search was requested, and results were positive. The SCIC records search and the pedestrian survey did not identify cultural resources within the Project area, however, there are three historic age structures located in the eastern section of the Project area. The structures are considered as built environment resources. Due to the presence of three historic age structures in the Project area, it is recommended that a Built Environment Report is prepared for the Project to evaluate the structures for eligibility for inclusion on the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP). The review of aerial photographs also reveals that a majority of the Project area has been disturbed by agricultural activities. However, due to the presence of historic age structures in the eastern section of the Project area, there is moderate potential for subsurface resources. Cultural resources monitoring with a qualified archaeologist and Luiseño Native American monitor during construction is recommended within the eastern section of the Project area.

Dudek requested a Native American Heritage Commission (NAHC) search of the Sacred Lands File (SLF) on May 11, 2022, for the Project area. The SLF consists of a database of known Native American resources. These resources may not be included in the SCIC database. The NAHC replied on June 13, 2022, with positive results, however, the response does not state if Tribal Cultural Resources (TCRs) are located within the Project area or the search buffer (Appendix C).

The NAHC additionally provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in this area.

Outreach letters were mailed on June 15, 2022, to all Native American group representatives included on the NAHC contact list (Appendix C). These letters attempted to solicit additional information relating to Native American resources that may be impacted by the Project. Native American representatives were requested to define a general area where known resource intersect the Project area. Three responses have been received to date. The Pechanga Band of Indians responded in a letter on June 29, 2022, stating that the Project area is located within their Ancestral Territory, its placement within an expansive Ancestral Village, its nearness to a second Luiseño Placename, and its adjacency to Buena Vista Creek. The Rincon Band of Luiseño Indians responded on July 15, 2022, stating that the Project may impact tangible Tribal Cultural Resources (TCRs), Traditional Cultural Landscapes (TCLs), and potential Traditional Cultural Properties (TCPs) and recommends conducting an archaeological/cultural resources study. The San Pasqual Band of Mission Indians responded on August 18, 2022, stating that the Project is not within the boundaries of their reservation, but is within the boundaries of their Traditional Use Area.

California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to CEQA Statute § 21080.3.1 (i.e., Assembly Bill 52). In compliance with Assembly Bill 52 (AB 52) and Senate Bill 18 (SB 18), the City, as lead agency, is responsible for conducting government to government consultation with pertinent tribal entities. Per the AB 52 and SB 18 notifications, the City held consultation with Rincon Band of Luiseño Indians on March 22, 2023; San Luis Rey Band of Mission Indians on April 6, 2023; and San Pasqual Band of Mission Indians on June 12, 2023. The project would implement the City's Cultural Resources mitigation measures as outlined under MM-CR-1 through MM-CR-6 in Section V. above.

While the Project site has been previously disturbed, and no resources were identified on-site, it is possible that ground-disturbing activities associated with construction of the Project may uncover unknown buried subsurface archaeological or tribal cultural resources (i.e., inadvertent discovery). In the event that subsurface archaeological or tribal cultural resources are encountered during construction, such resources could potentially be damaged or destroyed, resulting in a significant impact. As such, the Project would implement Mitigation Measures **MM-CR-1** through **MM-CR-6** outlined in Section V. above, to reduce potential impacts to unknown archaeological resources. Therefore, impacts would be less than significant with mitigation incorporated.

XIX. Utilities and Service Systems

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a determination by the waste water 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. LESS THAN SIGNIFICANT IMPACT.

Water - Development of the Project site, which is currently vacant, would increase the demand for potable water that is needed to serve the proposed 38 townhomes. Water service for the Project would be provided by the Vista Irrigation District (VID) with a connection to existing mains. The District is a member agency of the San Diego County Water Authority (SDCWA). VID imports approximately 70 percent of its potable water supply from SDCWA, who in turn buys it from the Metropolitan Water District of Southern California (MWD). The remaining 30 percent of VID's supply is from Lake Henshaw, which is fed through precipitation from the San Luis Rey watershed. The average daily demand of potable water for the Project would be approximately 15,841 gpd.

Water facilities within the area surrounding the project adequately serve existing development. the proposed project's water demand would not require additional improvements to the existing water system. The project would connect to available existing water utilities with on-site systems to serve the project. The proposed connections to existing water facilities would be designed and constructed in accordance with the guidelines, standards, and approved materials of the City of Vista. No relocation or construction of new or expanded water facilities would be required to provide adequate service to the project (Appendix F). Therefore, impacts related to water demand and service would be less than significant.

Wastewater - The City of Vista operates and maintains both its own sanitary collection system and the Buena Sanitation District's sanitary collection system. Each sewer collection system is a distinct legal entity and both convey sewage for treatment at the Encina Wastewater Authority (EWA). Both are gravity systems, although there are four lift stations shared between the City of Vista and the Buena Sanitation District, including: Raceway Pump Station located at 2685 South Melrose Drive; Buena Creek Pump Station located at 2080 South Melrose Drive; Buena Vista Pump Station located at Buena Vista Lagoon at 2140 Jefferson Street, Carlsbad; and Agua Hedionda Pump Station located at Agua Hedionda Lagoon northeast of SDG&E power plant 4698 Carlsbad Boulevard, Carlsbad.

All lift stations are operated by the Encina Wastewater Agency under various MOUs and agreements and are covered under the EWA SSMP. The Buena Vista and Agua Hedionda Pump Stations are under shared ownership with the City of Vista and the City of Carlsbad; the City of Vista is the majority owner of both pump stations. The City of Vista's sanitary collection system consists of approximately 215 miles of public pipelines, serving approximately 16,000 parcels, and conveys an annual average flow of 5.3 million gallons per day (City of Vista 2009).

Based on the City's Sewer Master Plan Update (January 2008), the Project would be expected to generate approximately 11,392 gallons per day (gpd) (4.32 acres x 2,625 gpd per acre) of wastewater. The Project's private sewer lines would connect with the City's existing sewer mains within South Emerald Drive. The Vista system has an average flow of 4.59 million gallons per day (mgd) (City and BSD 2017).⁴ Wastewater from the Project would be treated by the Encina Water Pollution Control Facility. Wastewater generation from the Project would not exceed the capacity of the Encina facility to treat it. Therefore, the Project's contribution of wastewater would not require new water/wastewater facilities to be built or existing facilities to expand; therefore, impacts would be less than significant.

Stormwater - As described in the Hydrology and Water Quality section of this document, the Project would include development of pervious surfaces from building pads, driveways, roadways, parking, pathways, and other such Project features. The Project would be developed to include stormwater drainage that would outlet to existing drainage facilities. The proposed drainage would provide pollutant control and hydromodification management flow control that would mitigate for the flow increases associated with project implementation. The use of the proposed drainage on-site would control the velocity and amount of runoff to ensure that runoff does not exceed pre-development conditions. Implementation of the Project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, and impacts would be less than significant.

Please refer to Section VI for an analysis on electric power, natural gas, and telecommunications facilities.

b. LESS THAN SIGNIFICANT IMPACT. As described above, water service for the Project would be provided by the Vista Irrigation District (VID) with a connection to existing mains. VID imports approximately 70 percent of its potable water supply from SDCWA, who in turn buys it from MWD. The remaining 30 percent of VID's supply is from Lake Henshaw, which is fed through

⁴ The combined average measured flow total for Vista Sanitation District and Buena Sanitation District in 2015 was 6.87 mgd (City and BSD, 2017).

precipitation from the San Luis Rey watershed. The average daily demand of potable water for the Project would be approximately 15,768 gpd (4.32 acres x 3,650 gpd per acre).⁵

According to VID's 2020 Urban Water Management Plan (VID's UWMP), VID will use local water resources whenever possible; however, if there is a shortfall they would rely on SDCWA supplies. In the analysis of a normal water supply year, as described in VID's 2020 UWMP, SDCWA, MWD, and VID supplies were developed as planned and SBX 7-7 conservation targets were achieved. Thus, no shortages are anticipated within VID's service area in a normal through 2045. That would mean that the District's entire projected potable water supply would meet the entire projected SBX 7-7 water demand of 21,728 Acre Feet in 2045. In the analysis of a single-dry year through 2045, VID's 2020 UWMP, findings indicated that if SDCWA, MWD and VID supplies are developed as planned and SBX 7-7 conservation targets are achieved, no shortages are anticipated within VID's service area. However, for multiple-dry year reliability analyses, the conservative planning assumption used in VID's 2020 UWMP expects that MWD would be allocating supplies to its member agencies. As a result, some level of shortage could be potentially experienced. As stated above, when shortages occur in VID's resources, the SDCWA would use various measures to cover the shortfall.

On the local level, additional water conservation for new developments in Vista would be achieved through compliance with the Water Efficient Landscaping Ordinance in the City's Development Code, Chapter 18.56. An Estimated Total Water Use Worksheet for the Project would be required to be submitted in the application for a Grading Permit, which would have to be under the Maximum Applied Water Allowance. Accordingly, staff review of the worksheet would require the Project to be in compliance with the Vista Water Efficient Landscaping Ordinance.

The existing public water system would provide the necessary flow and pressure for the proposed project and for fire flow available to the project site. Considering the capacity of the City's existing facilities, water demand generated by project implementation is expected to be adequately served. It has been determined that sufficient water supply would be available to serve the project during normal, dry, and multiple dry years, and therefore, impacts related to water supply are considered to be less than significant.

c. LESS THAN SIGNIFICANT IMPACT. As described above, wastewater is collected and treated by the City's Wastewater Maintenance Division of the Public Works Department, who is responsible for the maintenance of sewer mains and manholes within the City's sewer system and the Buena Sanitation District. The Buena Sanitation District, which is an entity of the City, owns and operates 101 miles of sewer collection pipelines and one large capacity pump station. Both collection systems convey sewage to the Encina Water Pollution Control Facility (EWPCF) in the city of Carlsbad for treatment. The City of Vista and Buena Sanitation District are required by the State Water Resources Control Board Order No. 2006-003 to manage, operate, and maintain the sanitary sewer system in a manner that prevents a sanitary sewer overflow which can endanger public health and safety. Major components of the Order require the City and Buena to have a Sewer System Management Plan (SSMP), Rehabilitation and Replacement (R&R), and Capacity Assurance Plans.

⁵ Based on the unit demand factor of 3,650 gpd/acre for multi-family residential development (Appendix F, Water Supply Study).

As previously discussed above, the Project would be expected to generate approximately 11,209 gpd of wastewater. The VSD system has an average sewage flow of 4.59 mgd, which is part of the total 36 mgd wastewater treated at the Encina Wastewater Authority's facility. The District, through its Sewer Master Plan Update prepared in collaboration with the Buena Sanitation District, is restoring and upgrading the capacity and condition of the existing sanitary sewer conveyance system over a 20-year period. The additional wastewater contribution from the Project would be considered negligible in relation to the current or future treatment capacities at the Encina Facility and the conveyance capacity of District's system.

The sanitation district and wastewater treatment facility operate in accordance with applicable wastewater treatment requirements of the San Diego Regional Water Quality Control Board, and the Project's wastewater system has been designed to comply with these treatment requirements. For the reasons stated above, wastewater generated by the proposed project would be adequately served by existing wastewater infrastructure in the City, and impacts are determined to be less than significant.

d. LESS THAN SIGNIFICANT IMPACT. Solid waste collection and disposal is provided by the City through EDCO, a family owned and locally operated waste collection and recycling company. Solid waste generated by the Project would either be hauled to Sycamore Landfill in San Diego, which has a permitted capacity of 5,000 tons per day (tpd) or disposed of at the Palomar Waste Transfer Station in Carlsbad, which has a permitted daily capacity of 2,250 tpd (CalRecycle 2022). Either of these solid waste facilities would be able to accommodate the solid waste generated by the Project. The solid waste generated during construction would primarily consist of discarded materials and packaging generated by the construction process. The proposed project would adhere to California Green Building Standards Code (CALGreen) Section 5.408.1, which requires a minimum of 65% of non-hazardous construction waste to be recycled or salvaged for reuse.

Operation of the proposed project would result in ongoing solid waste generation at the site. The proposed project includes 38 townhomes, which would have the potential to house approximately 121 people. The anticipated operational solid waste generation from the proposed project was estimated using CalRecycle's Estimated Solid Waste Generation Rates (CalRecycle 2019). It is estimated that the project (38 units) would generate approximately 465 pounds of solid waste per day (12.23 pounds per household). This does not consider any waste diversion through recycling. The project would be required to comply with applicable state and local regulations related to solid waste, waste diversion and recycling at the time of development. Sycamore Landfill or Palomar Waste Transfer Station's daily throughput and estimated remaining capacity is expected to sufficiently serve the proposed project's estimated daily waste. Additionally, the project would participate in the City's recycling programs, which would further reduce solid waste sent to servicing landfills. For these reasons, it is determined that the project would result in less than significant impacts related to solid waste.

e. LESS THAN SIGNIFICANT IMPACT. As previously stated, implementation of the Project would not generate solid waste in excess of the capacity of local infrastructure. The project would comply with applicable City requirements related to solid waste and recycling disposal. The project would also comply with California AB 341 directing mandatory recycling for all business generating four or more cubic yards of waste and multi-family projects with five or more units. Additionally, the project would comply with California AB 1826 which requires public entities and multi-family projects to recycle organic waste. The proposed project commercial and residential areas would comply with the state and City regulations, providing enclosures with adequate space for

collection, storage, and separation of all recyclable materials in full compliance with City standards. The proposed project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste and project impacts related to solid waste would be less than significant.

XX. Wildfire

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. LESS THAN SIGNIFICANT IMPACT. The Project site is located within a Local Responsibility Area (LRA) and is not located within a very High Fire Hazard Severity Zone (VHFHSZ) (CAL FIRE 2022). The project would not conflict with the regional or city emergency response plans, and the project site would have adequate emergency access. Final site plans for the project would be subject to review by the Vista Fire Department, prior to project development. The Project would provide one access point specifically for emergency responders at the southeast corner of the project site from Sunset Drive. The Project would not require the full closure of any public or private streets or roadways during construction or operations and would not impede access of emergency vehicles to the project site or any surrounding areas. Further, the project would provide all required emergency access in accordance with the requirements of the Vista Fire Department. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan and, therefore, impacts are determined to be less than significant.

b. LESS THAN SIGNIFICANT IMPACT. The project site is relatively flat and located in an urban and developed area of the City and is not located within or adjacent to a VHFHSZ. Due to existing development in the vicinity, the area surrounding the project site is relatively flat and does not feature factors that would exacerbate wildfire risks. The preliminary site plans and emergency access for the Project is subject to review and approval by City Fire, and is required to be in compliance with the Fire Code. It has been determined that the project would not exacerbate wildfire risks, exposing occupants to pollutants, and therefore, impacts would be less than significant.

c. LESS THAN SIGNIFICANT IMPACT. The project would require the installation of water sources and other underground utilities typical of a new residential development. The project would not require installation of new roads, emergency water sources, power lines, or any overhead utility lines. Due to the project location surrounded by existing development and roads, fuel breaks are not required. Project development and associated on-site infrastructure would not substantially exacerbate fire risks. As described previously, the project is not located within or adjacent to a VHFHSZ. The project would not require the installation or maintenance of such infrastructure which would exacerbate fire risk, and therefore, impacts are determined to be less than significant.

d. LESS THAN SIGNIFICANT IMPACT. As previously discussed, the project is not located in a VHFHSZ and risk of wildfire is considered low. Due to the project site location and topography, the project would not be subject to downhill flooding or landslides resulting from a fire in the project area. The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, impacts are determined to be less than significant.

XXI. Mandatory Findings of Significance

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a. Does the project have the potential to 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 plant or wildlife community, reduce the number or restrict the range of rare or endangered plant or wildlife or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited, but cumulatively considerable (<i>"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</i>)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

a. LESS THAN SIGNIFICANT WITH MITIGATION. As described in Section IV above, no special-status plant or wildlife species occur on-site. However, implementation of the proposed project would potentially result in impacts to 0.39-acre of sensitive upland vegetation (Diegan coastal sage scrub), and 0.91-acre of sensitive wetlands/riparian habitat (Southern arroyo willow riparian forest), which are designated as MHCP Group C, and Group A, respectively. Project implementation of mitigation measures **MM-BIO-1** and **MM-BIO-2**, and implementation of the proposed block wall and landscaping would reduce direct impacts to these sensitive vegetation

communities. Therefore, impacts to biological resources would be less than significant with mitigation.

As discussed in Section V. Cultural Resources it is possible that ground-disturbing activities associated with construction of the Project may uncover unknown buried subsurface archaeological or tribal cultural resources. In the event that these subsurface resources are encountered during construction, such resources could potentially be damaged or destroyed, resulting in a significant impact. However, with implementation of Mitigation Measures **MM-CR-1** through **MM-CR-6**, the Project's potential to eliminate important examples of major periods of California history or prehistory would be reduced to a level of less-than-significant.

b. LESS THAN SIGNIFICANT IMPACT. Implementation of the proposed project, when combined with other approved and proposed projects in the City and outlying areas, could potentially contribute to cumulative degradation of the environment as a result of potential impacts related to air quality, cultural resources, geology and soils (including paleontological resources), greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use, noise, population and housing, public services, transportation, tribal cultural resources, and utilities and services systems. However, all resource topics associated with the Project have been analyzed in accordance with CEQA and the State CEQA Guidelines and were found to pose no impacts, less-than-significant impacts, or less than significant impacts with mitigation. Cumulative projects would be required to complete applicable technical studies and CEQA documentation to address associated impacts and mitigate as required.

c. LESS THAN SIGNIFICANT IMPACT. The Project proposes the construction and occupancy of 38 townhomes on a previously disturbed 4.32-acre site. Implementation of the proposed project could result in environmental effects which could cause substantial adverse effects on human beings, either directly or indirectly, as a result of project impacts related to air quality, greenhouse gas emissions, water quality and noise. However, as analyzed throughout Chapter 4 of this MND, project impacts were determined to result in no impacts, less-than-significant impacts, or less than significant impacts with mitigation. Project design features (PDFs) and mitigation measures will be implemented to ensure potential impacts are reduced to less than significant levels.

Chapter 5

REFERENCES AND LIST OF PREPARERS

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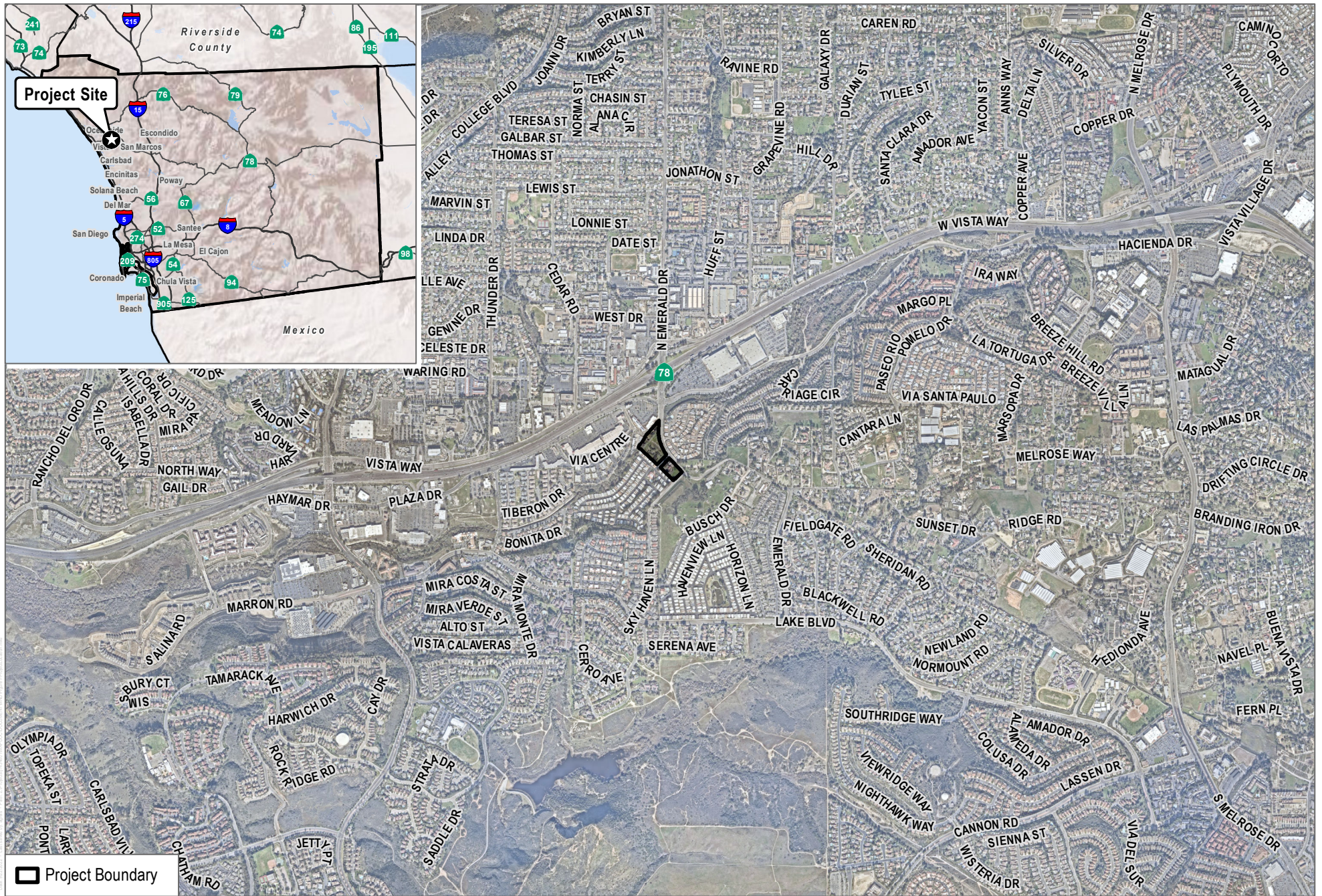
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Figures

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SOURCE: SANGIS 2020, 2022

DUDEK



0 1,000 2,000
Feet

FIGURE 1

Project Location

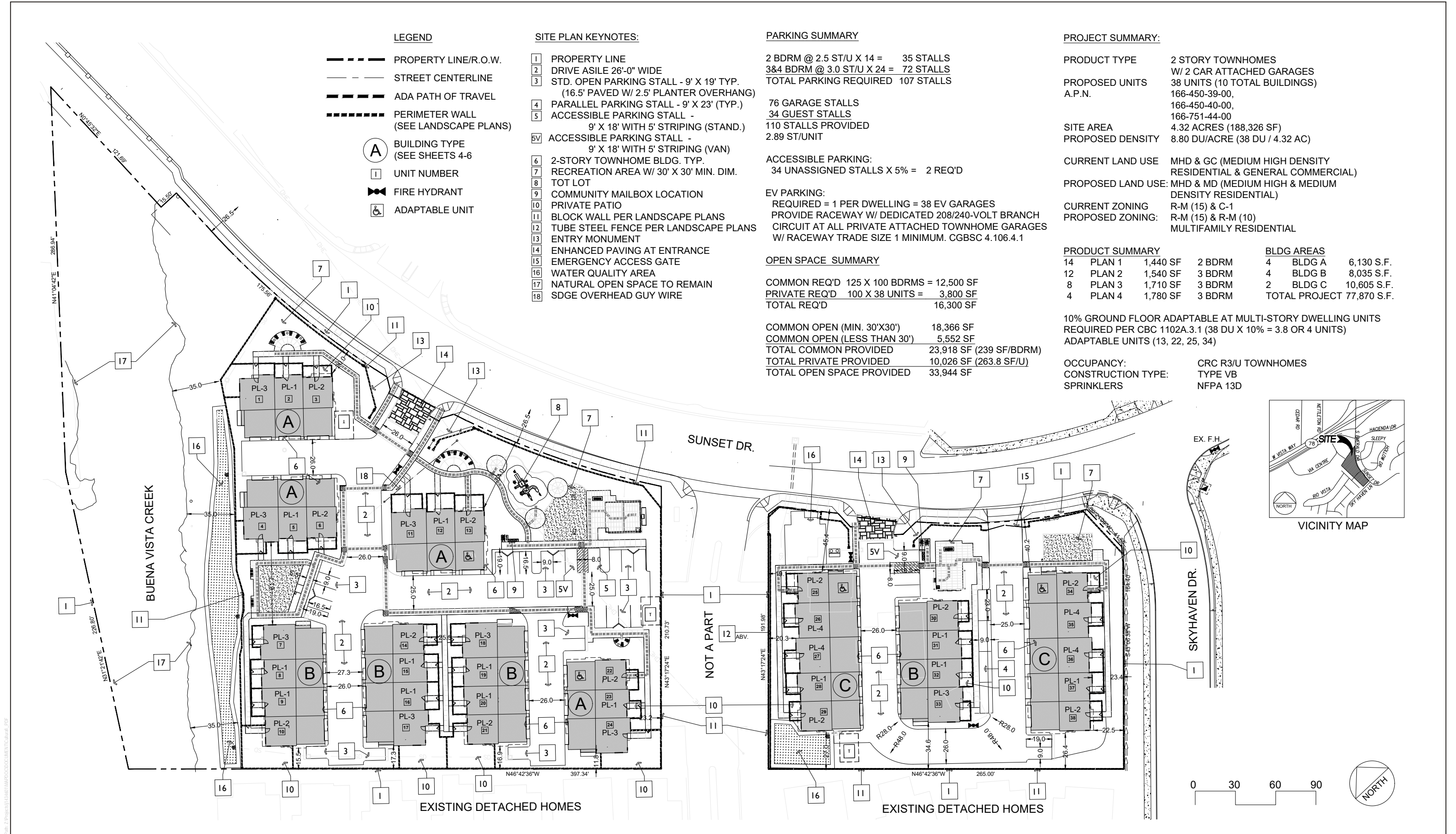
Sunset Drive Townhomes

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SOURCE: SANGIS 2020, 2022

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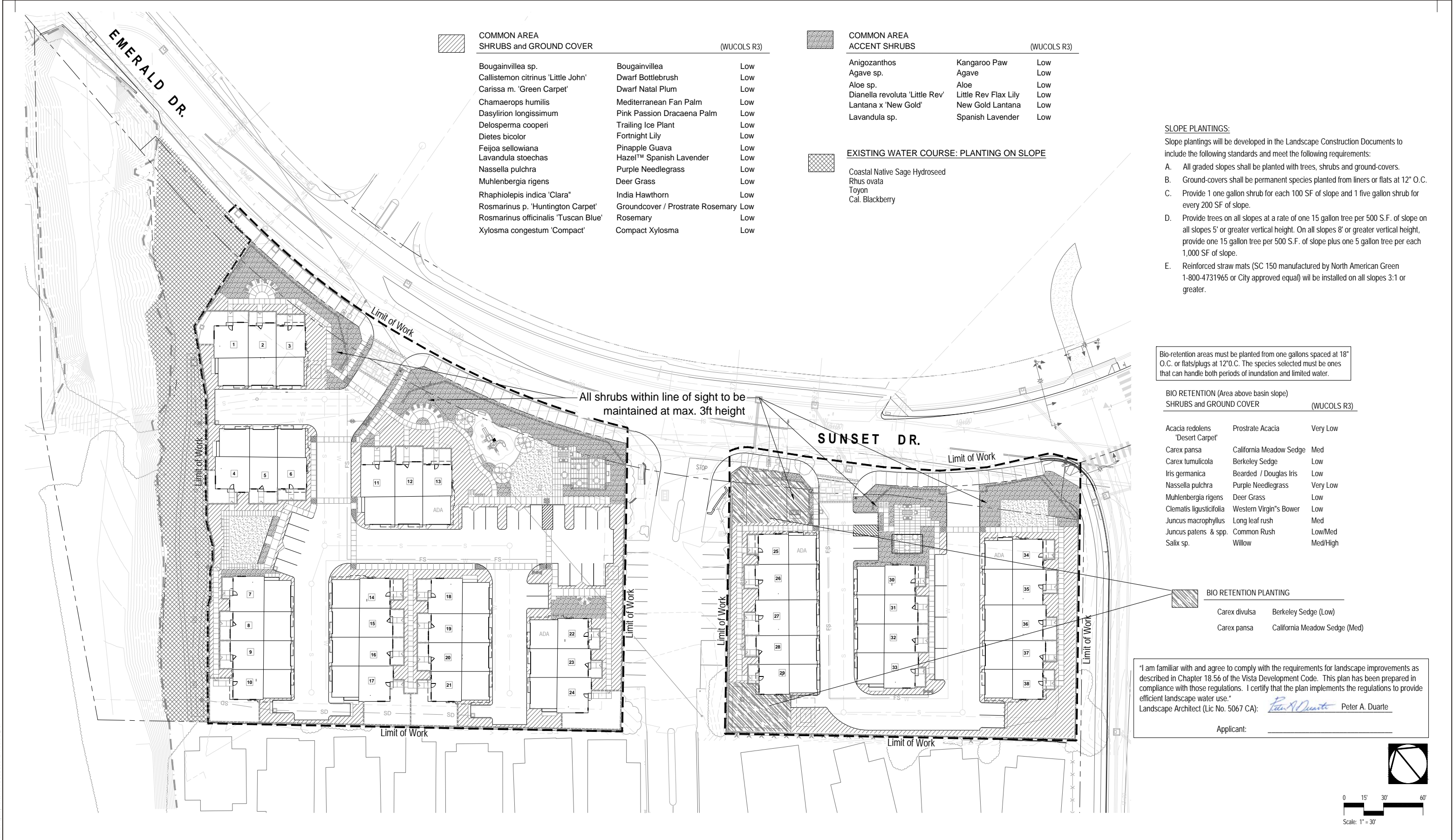


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SOURCE: studio PAD Landscape Architecture, 2023

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OPEN SPACE LEGEND		
SYMBOL	NOTES	QTY
	USABLE (PROGRAMMED) OPEN SPACE (MIN. 30' X 30')	18,366 sf
	USABLE (PROGRAMMED) OPEN SPACE (LESS THAN 30' DIM.)	5,552 sf
	PRIVATE PATIO/YARD (MIN. 8' DIM.)	10,026 sf
	COMMON LANDSCAPE AREA (HOA MAINTAINED)	26,955 sf
	MITIGATION PLANTING ON RIPARIAN SLOPE	14,465 sf
	RIPARIAN AREA (UNDISTURBED)	37,505 sf
	OFF - SITE PLANTING	48 sf

Smallest Patio Area: 131 SF
Largest Patio Area: 964 SF

Provided	Required
Common Usable O.S. = (18,366+ 5,552)sf 23,918 sf.	12,500 sf. (125 x 100) 125 sf per bedroom
Private Open Space = 10,026 sf. 263.8 sf per unit	3,800 sf. (38 x 100) 100 sf per unit
Other Landscape Area = (26,955 + 14,465)sf 41,420 sf. (22%)	26,472.4 sf. (15% of the overall project area)
Riparian Area= 37,505 sf	

Total Project Area = 188,326 sf.

TOTAL LANDSCAPE AREA : 75,364 sf
*Not including Riparian Area (Undisturbed Areas) and Off-Site Planting

COMMON USABLE OPEN SPACE:

North Site:

- Reading Nook 1 =** 4,274 sq ft.
 - Adirondacks
 - Side Tables
- Reading Nook 2 =** 1,635 sq ft.
 - Adirondacks
 - Side Tables
- Play Area #1 =** 5,678 sq ft.
 - Totlot
 - Benches
 - Tables & Chairs
 - Natural Lawn
 - Cornhole
- Play Area #2 =** 2,873 sq ft.
 - Natural Lawn
 - Bench
- Picnic Area #1 =** 2,764 sq ft.
 - BBQ Island
 - Shade Structure
 - Dining Furniture
 - Lounge Furniture
 - Fire-pit
- Reading Nook 3 =** 1,210 sq ft.
 - Adirondacks
 - Side Tables

South Site:

- Picnic Area #2 =** 2,839 sq ft.
 - BBQ Island
 - Shade Structure
 - Dining Furniture
 - Lounge Furniture
 - Fire-pit
- Play Area #3 =** 2,645 sq ft.
 - Natural Lawn
 - Bench

TOTAL: 23,918 sq ft.

SOURCE: studio PAD Landscape Architecture, 2023

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SOURCE: Summa Architecture 2022

FIGURE 6
Visual Simulations
Sunset Drive Townhomes

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APPENDICES

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APPENDIX A

Air Quality Technical Report

Air Quality Technical Report

Sunset Drive Townhomes Project City of Vista, California

AUGUST 2022

Prepared for:

LEGACY PARTNERS

5141 California Ave, #100
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Prepared by:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CO	carbon monoxide
DPM	diesel particulate matter
EPA	U.S. Environmental Protection Agency
g/L	grams per liter
HAP	hazardous air pollutant
kWh	kilowatt-hour
LOS	level of service
NAAQS	National Ambient Air Quality Standards
NO	nitric oxide
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen
O ₃	ozone
PM _{2.5}	fine particulate matter
PM ₁₀	coarse particulate matter
RAQS	Regional Air Quality Strategy
SANDAG	San Diego Association of Governments
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric Company
SIP	state implementation plan
SO ₂	sulfur dioxide
SO _x	sulfur oxides
TAC	toxic air contaminant
VOC	volatile organic compound

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Executive Summary

The purpose of this technical report is to assess the potential air quality impacts associated with implementation of the Sunset Drive Townhomes Project (Project). This assessment uses the significance thresholds in Appendix G of the California Environmental Quality Act Guidelines.

Project Overview

The project includes a 38 multi-family 2--story townhomes development located on a 4.34-gross acre parcel in the City of Vista at 2112 Sunset Drive. 1.18 acres (14 units) of the site currently has a land use designation of MHD (Medium High Density) and zoning of RM 15 Multifamily Residential, and 3.09 acres (24 units) of the site currently has a land use designation of GC (General Commercial) and zoning of C-1 Commercial. The GC portion of the project will require a general plan amendment and zone change to medium density residential and RM-10. The Project will include 111 parking spaces of which 76 are garage spaces and 35 guest parking spaces.

Project Design Features

The Project would implement both construction-related and operational design features intended to reduce emissions of criteria air pollutants and toxic air contaminants. Specific to construction-related PDF's, the proposed Project would implement PDF-AQ-1 as follows:

PDF-AQ-1: Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites two times per day, depending on weather conditions. Construction of Project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) that may be generated during grading and construction activities.

Air Quality

The air quality impact analysis evaluated the potential for adverse impacts to air quality due to construction and operational emissions resulting from the Project. Impacts were evaluated for their significance based on the San Diego Air Pollution Control District (SDAPCD) mass daily criteria air pollutant thresholds of significance. Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards (criteria) for outdoor concentrations to protect public health. Criteria air pollutants include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM_{2.5}), and lead. Pollutants that are evaluated include volatile organic compounds (VOCs) (also referred to as reactive organic gases), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), PM₁₀, and PM_{2.5}. VOCs and NO_x are important because they are precursors to O₃.

Air Quality Plan Consistency

If a project proposes development that is greater than that anticipated in the local plan and the growth projections set by the San Diego Association of Governments (SANDAG), the project might be in conflict with the State

Implementation Plan and Regional Air Quality Strategy, and therefore may contribute to a potentially significant cumulative impact on air quality. The general plan amendment and zone change to medium density residential, and RM-10 is not anticipated to result in air quality impacts that were not envisioned in the growth projections and RAQS, and this minor increase in residential units (38 units) in the region would not obstruct or impede implementation of local air quality plans. The Project would be consistent at a regional level with the underlying growth forecasts emissions in the RAQS. Impacts would be **less than significant**.

Construction Criteria Air Pollutant Emissions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Maximum daily construction emissions would not exceed the SDAPCD significance thresholds for VOCs, NO_x, CO, SO_x, PM₁₀, or PM_{2.5} during construction. Therefore, the Project would have a **less than significant** impact.

Operational Criteria Air Pollutant Emissions

The analysis herein assumed an operational year of 2025. Operation of the Project would generate operational criteria air pollutants from mobile sources (vehicles), area sources (consumer product use, architectural coatings, and landscape maintenance equipment), and energy (natural gas). Maximum operational emissions would not exceed the SDAPCD operational significance thresholds for VOCs, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}.

Cumulative Impacts

The potential for a project to result in a cumulatively considerable impact, per the SDAPCD guidance and thresholds, is based on the project's potential to exceed the project-specific daily thresholds. Because maximum construction and operational emissions would not exceed the SDAPCD significance thresholds for VOCs, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}, the Project would not result in a cumulatively considerable increase in criteria air pollutants.

Exposure of Sensitive Receptors

Maximum daily PM₁₀ or PM_{2.5} emissions generated by construction equipment operation and haul-truck trips during construction, which is based on exhaust and fugitive dust generated by equipment operation and vehicle travel, would be well below the significance thresholds. Moreover, total construction of the Project would last approximately 15 months, after which Project-construction TAC emissions would cease. Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 30-year exposure period. Regarding long-term TAC emissions, the residential Project would result in a minimal increase in daily truck traffic on the roadway network and would not require stationary sources (such as diesel emergency generators). Therefore, the exposure of Project-related TAC emission impacts to proximate sensitive receptors would be **less than significant**.

The Project includes 38 residential units and based on CalEEMod modeling is expected to generate a maximum of 304 daily vehicle trips. The associated peak-hour trips would from the Project would be 24 and 30 for AM and PM peak hour trips, respectively. Therefore, it would not cause a measurable impact to any nearby intersections in the study area. In addition, the nearest signalized intersection to the project is located at Hacienda Dr and S Emerald Dr approximately 560 feet from the nearest entrance to the Project site along S Emerald Dr. Therefore, no hotspot analysis would be required based on the location of the project in relation to nearby intersections. As such, potential Project-generated impacts associated with CO hotspots would be less than significant.

Other Emissions

Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application, which would disperse rapidly from the Project site and generally occur at magnitudes that would not affect substantial numbers of people. Impacts associated with odors during construction would be less than significant. The Project would be a residential development that would not include land uses with sources that have the potential to generate substantial odors, and impacts associated with odors during operation would be less than significant.

1 Introduction

1.1 Report Purpose and Scope

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) emissions impacts associated with construction and operation of the Sunset Drive Townhomes Project (Project). This analysis uses the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) and the emissions-based significance thresholds recommended by the San Diego Air Pollution Control District (SDAPCD) and other applicable thresholds of significance.

This introductory chapter provides a description of the Project and the Project location. Chapter 2 describes existing air-quality-related conditions and Chapter 3 provides a background on criteria and non-criteria air pollutants and effects. A summary of the regulatory setting is provided in Chapter 4, and regional and local air quality conditions are described in Chapter 5. Chapter 6 presents the thresholds of significance applied in the impact analysis contained in Chapter 7. Lastly, Chapter 8 includes a list of the references cited.

1.2 Project Description

The approximate 4.34-acre Project site is located within the City of Vista (City), California, within San Diego County, California. The project is a multi-family 2-story townhomes development located on a 4.34- gross acre parcel in the City of Vista at 2112 Sunset Drive (See Figure 1 and Figure 2.) 1.18 acres (14 units) of the site currently has a land use designation of MHD (Medium High Density) and zoning of RM 15 Multifamily Residential, and 3.09 acres (24 units) of the site currently has a land use designation of GC (General Commercial) and zoning of C-1 Commercial. The GC portion of the project will require a general plan amendment and zone change to medium density residential and RM-10. The Project will include 111 parking spaces of which 76 are garage spaces and 35 guest parking spaces.

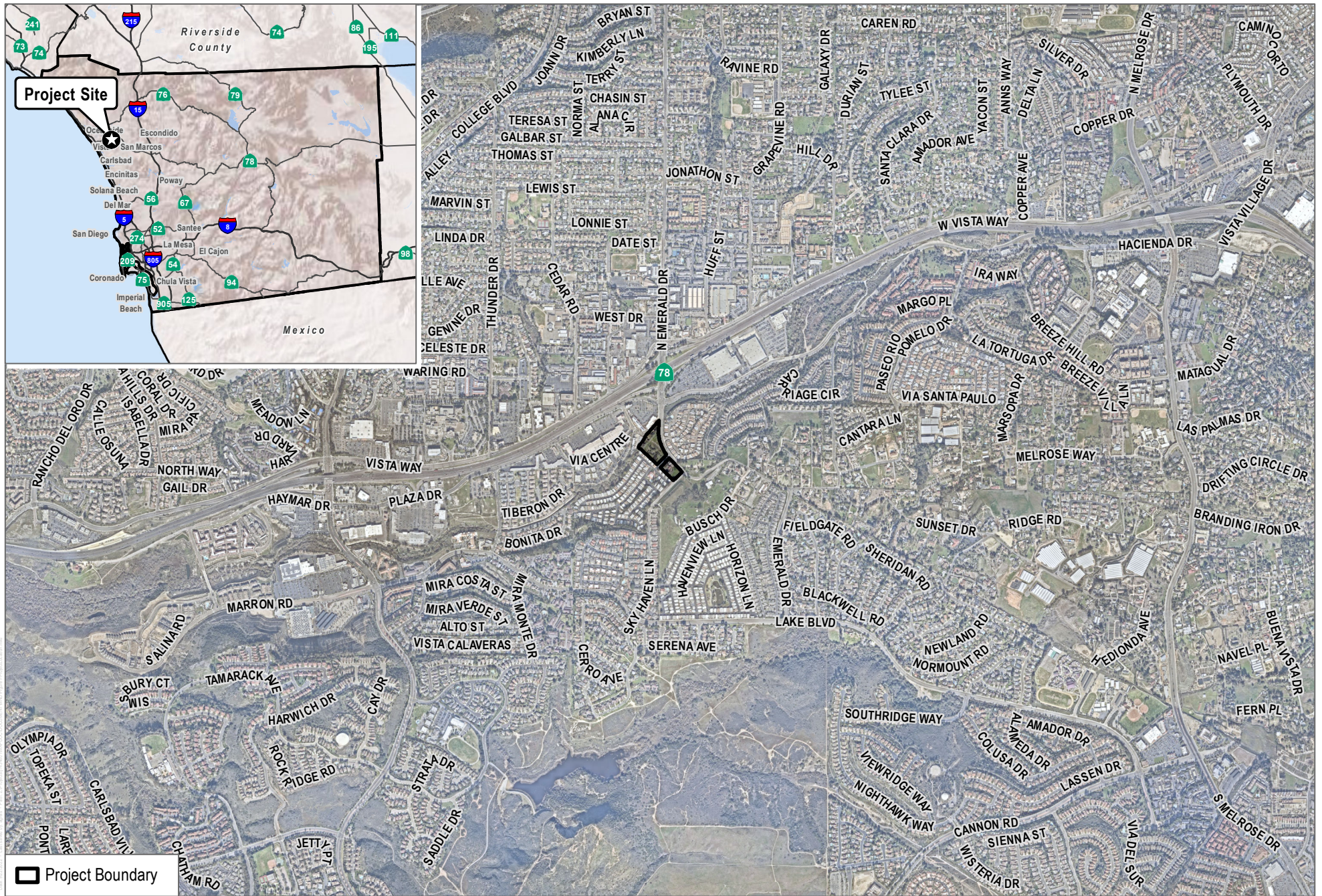
1.3 Project Design Features

The Project would implement construction-related and operational design features intended to reduce emissions of criteria air pollutants and toxic air contaminants. Specific to construction-related PDF's, the proposed project would implement PDF-AQ-1 as follows:

PDF-AQ-1 Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites two times per day, depending on weather conditions. Construction of Project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) that may be generated during grading and construction activities

PDF-AQ-1 would be required as City-imposed Conditions of Approval to ensure they are implemented during construction and operation of the Project.

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SOURCE: SANGIS 2020, 2022

FIGURE 1
Project Location
Sunset Drive Townhomes

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SOURCE: SANGIS 2020, 2022

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2 Existing Conditions

2.1 Climate and Topography

The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges (in degrees Fahrenheit) from the mid-40s to the high 90s. Most of the region's precipitation falls from November to April, with infrequent (approximately 10%) precipitation during the summer. The average seasonal precipitation along the coast is approximately 10 inches; the amount increases with elevation as moist air is lifted over the mountains (WRCC 2016).

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east; along with local meteorology, it influences the dispersal and movement of pollutants in the basin. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers.

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

2.2 San Diego Air Basin Climatology

The Project area is located within the San Diego Air Basin (SDAB) and is subject to the SDAPCD guidelines and regulations. The SDAB is one of 15 air basins that geographically divide the State of California. The SDAB is currently classified as a federal nonattainment area for ozone (O_3) and a state nonattainment area for particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and O_3 .

The SDAB, which lies in the southwest corner of California and comprises the entire San Diego region, covers 4,260 square miles and is an area of high air pollution potential. The SDAB experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O_3 , which contributes to the formation of smog. Smog is a combination of smoke and other particulates, O_3 , hydrocarbons, oxides of nitrogen (NO_x) and other chemically reactive compounds which, under certain conditions of weather and sunlight, may result in a murky brown haze that causes adverse health effects (CARB 2017).

Light daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and NO_x emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO

levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the SDAB are associated with heavy traffic. Nitrogen dioxide (NO₂) levels are also generally higher during fall and winter days.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O₃ concentrations, as measured at air pollutant monitoring stations within San Diego County. The transport of air pollutants from Los Angeles to San Diego has also occurred within the stable layer of the elevated subsidence inversion, where high levels of O₃ are transported.

2.3 Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed sensitive receptors are the most serious hazards of existing air quality conditions in the area.

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by the California Air Resources Board (CARB), include children, older adults, and people with cardiovascular and chronic respiratory diseases. Sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest sensitive receptor to the Project site would be residences located less than 100 feet south of the site.

3 Pollutants and Effects

3.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O₃, NO₂, CO, sulfur dioxide (SO₂), PM₁₀, PM_{2.5}, and lead. These pollutants are discussed in the following paragraphs.¹ In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone (O₃). O₃ is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O₃ precursors. These precursors are mainly NO_x and VOCs. The maximum effects of precursor emissions on O₃ concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O₃ formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O₃ exists in the upper atmosphere O₃ layer (stratospheric O₃) and at the Earth's surface in the troposphere (O₃).² The O₃ that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O₃ is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O₃. Stratospheric, or "good," O₃ occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O₃ layer, plant and animal life would be seriously harmed.

O₃ in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide (NO₂). NO₂ is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO₂ in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O₃. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

¹ The following descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the U.S. Environmental Protection Agency's "Six Common Air Pollutants" (EPA 2017) and the California Air Resources Board's "Glossary of Air Pollutant Terms" (CARB 2017) published information.

² The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

NO₂ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016a).

Carbon Monoxide (CO). CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the Project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide (SO₂). SO₂ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels.

SO₂ is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO₂ can injure lung tissue and reduce visibility and the level of sunlight. SO₂ can also yellow plant leaves and erode iron and steel.

Particulate Matter (PM). Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. Coarse particulate matter (PM₁₀) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter (PM_{2.5}) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate

deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM₁₀ and PM_{2.5} (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including IQ performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Volatile Organic Compounds (VOCs). Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O₃ are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry-cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O₃ and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered toxic air contaminants (TACs). There are no separate health standards for VOCs as a group.

3.2 Non-Criteria Pollutants

Toxic Air Contaminants (TACs). A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, AB 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter (DPM). DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of PM_{2.5} (CARB 2016a). DPM is typically composed of carbon particles (“soot,” also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016a). CARB classified “particulate emissions from diesel-fueled engines” (i.e., DPM) as a TAC in August 1998 (17 CCR 93000). DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of PM_{2.5}, DPM also contributes to the same non-cancer health effects as PM_{2.5} exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016a). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as “Valley Fever,” is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The fungus is very prevalent in the soils of California’s San Joaquin Valley, particularly in Kern County. Kern County is considered a highly endemic county (i.e., more than 20 cases annually of Valley Fever per 100,000 people) based on the incidence rates reported through 2016 (California Department of Public Health 2017). The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils.

San Diego County (the County) is not considered a highly endemic region for Valley Fever, as the latest report from the County of San Diego Health and Human Services Agency Public Health Services indicated the County has 8.3

cases per 100,000 people (County of San Diego 2019). In the zip code area of the Project site, the case rate is reported as less than 5 cases per 100,000 people (County of San Diego 2019).

4 Regulatory Setting

4.1 Federal

4.1.1 Criteria Pollutants

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the CAA, including the setting of National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant (HAP) standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O₃ protection, and enforcement provisions.

NAAQS are established by the EPA for “criteria pollutants” under the CAA, which are O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The CAA requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

4.1.2 Hazardous Air Pollutants

The 1977 CAA Amendments required the EPA to identify national emission standards for hazardous air pollutants to protect the public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

4.2 State

4.2.1 Criteria Pollutants

The California Clean Air Act was adopted in 1988 and establishes the state’s air quality goals, planning mechanisms, regulatory strategies, and standards of progress. Under the California Clean Air Act, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB is responsible for ensuring implementation of the California Clean Air Act, responding to the federal CAA, and regulating emissions from motor vehicles and consumer products. Pursuant to the authority granted to it, CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS.

The NAAQS and CAAQS are presented in Table 1.

Table 1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
O ₃	1 hour	0.09 ppm (180 µg/m ³)	—	Same as primary standard ^f
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³) ^f	
NO ₂ ^g	1 hour	0.18 ppm (339 µg/m ³)	0.100 ppm (188 µg/m ³)	Same as primary standard
	Annual arithmetic mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	
CO	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	None
	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	
SO ₂ ^h	1 hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m ³)
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^g	—
	Annual	—	0.030 ppm (for certain areas) ^g	—
PM ₁₀ ⁱ	24 hours	50 µg/m ³	150 µg/m ³	Same as primary standard
	Annual arithmetic mean	20 µg/m ³	—	
PM _{2.5} ⁱ	24 hours	—	35 µg/m ³	Same as primary standard
	Annual arithmetic mean	12 µg/m ³	12.0 µg/m ³	15.0 µg/m ³
Lead ^{j, k}	30-day average	1.5 µg/m ³	—	—
	Calendar quarter	—	1.5 µg/m ³ (for certain areas) ^k	Same as primary standard
	Rolling 3-month average	—	0.15 µg/m ³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)	—	—
Vinyl chloride ⁱ	24 hours	0.01 ppm (26 µg/m ³)	—	—
Sulfates	24- hours	25 µg/m ³	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016b.

Notes: O₃ = ozone; ppm = parts per million by volume; µg/m³ = micrograms per cubic meter; NO₂ = nitrogen dioxide; CO = carbon monoxide; mg/m³ = milligrams per cubic meter; SO₂ = sulfur dioxide; PM₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

- ^a California standards for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, suspended particulate matter (PM₁₀, PM_{2.5}), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- ^b National standards (other than O₃, NO₂, SO₂, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.
- ^c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 °Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 °C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- ^d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- ^e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- ^f On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- ^g To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- ^h On June 2, 2010, a new 1-hour SO₂ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
- ⁱ On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.
- ^j CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- ^k The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

4.2.2 Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. TAC emissions from individual facilities are quantified and prioritized. “High-priority” facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-

Ignition (Diesel) Engines and Equipment program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. Several Airborne Toxic Control Measures that reduce diesel emissions including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

This section of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

4.3 Local

San Diego Air Pollution Control District

While CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The Project site is located within the SDAB and is subject to the guidelines and regulations of SDAPCD.

In San Diego County, O₃ and particulate matter are the pollutants of main concern, since exceedances of CAAQS for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM₁₀, PM_{2.5}, and O₃ standards. The SDAB is also a federal O₃ attainment (maintenance) area for 1997 8-hour O₃ standard, a O₃ nonattainment area for the 2008 8-hour O₃ standard, and a CO maintenance area (western and central part of the SDAB only). The Project area is in the CO maintenance area (western and central part of the SDAB only).

Federal Attainment Plans

In December 2016, the SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County (2008 O₃ NAAQS). The 2016 Final Eight-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O₃ standard (1997 O₃ NAAQS) by 2018 (SDAPCD 2016b). In this plan, SDAPCD relies on the Regional Air Quality Strategy (RAQS) to demonstrate how the region will comply with the federal O₃ standard. The RAQS details how the region will manage and reduce O₃ precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these pollutants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

Currently, the County is designated as moderate nonattainment for the 2008 O₃ NAAQS and maintenance for the 1997 O₃ NAAQS. As documented in the 2016 Final Eight-Hour Ozone Attainment Plan for San Diego County, the County has a likely chance of obtaining attainment due to the transition to low emission cars, stricter new source review rules, and continuing the requirement of general conformity for military growth and the San Diego

International Airport. SDAPCD will also continue emission control measures including ongoing implementation of existing regulations in ozone precursor reduction to stationary and area-wide sources, subsequent inspections of facilities and sources, and the adoption of laws requiring Best Available Retrofit Control Technology for control of emissions (SDAPCD 2016b).

State Attainment Plans

SDAPCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The RAQS for the SDAB was initially adopted in 1991 and is updated every 3 years, most recently in 2016 (SDAPCD 2016c). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O₃. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans (SANDAG 2017a, 2017b).

In December 2016, SDAPCD adopted the revised RAQS for the County. Since 2007, the San Diego region has reduced daily VOC emissions and NO_x emissions by 3.9% and 7.0%, respectively; SDAPCD expects to continue reductions through 2035 (SDAPCD 2016c). These reductions were achieved through implementation of six VOC control measures and three NO_x control measures adopted in SDAPCD's 2009 RAQS (SDAPCD 2009a); in addition, SDAPCD is considering additional measures, including three VOC measures and four control measures to reduce 0.3 daily tons of VOCs and 1.2 daily tons of NO_x, provided they are found to be feasible region-wide. In addition, SDAPCD has implemented nine incentive-based programs, has worked with SANDAG to implement regional transportation control measures, and has reaffirmed the state emission offset repeal.

In regard to particulate matter emissions reduction efforts, in December 2005, SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill 656 in San Diego County (Senate Bill 656 required additional controls to reduce ambient concentrations of PM₁₀ and PM_{2.5}) (SDAPCD 2005). In the report, SDAPCD evaluated the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

SDAPCD Rules and Regulations

As stated previously, SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations apply to all sources in the jurisdiction of SDAPCD:

- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits any activity causing air contaminant emissions darker than 20% opacity for more than an aggregate of 3 minutes in any consecutive 60-minute time period. In addition, Rule 50 prohibits any diesel pile-driving hammer activity causing air contaminant emissions for a period or periods aggregating more than 4 minutes during the driving of a single pile (SDAPCD 1997).

- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1976).
- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009b).
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015).

5 Regional and Local Air Quality

5.1 SDAB Attainment Designation

Pursuant to the 1990 CAA Amendments, EPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “nonattainment” for that pollutant. As previously discussed, these standards are set by EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable.”

The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as “attainment” or “nonattainment,” but based on the CAAQS rather than the NAAQS.

Table 2 summarizes SDAB’s federal and state attainment designations for each of the criteria pollutants.

Table 2. SDAB Attainment Designation

Pollutant	Federal Designation	State Designation
O ₃ (1-hour)	Attainment (maintenance) ^a	Nonattainment
O ₃ (8-hour – 1997) (8-hour – 2008)	Attainment (maintenance) Nonattainment (moderate)	Nonattainment
CO	Unclassifiable/attainment ^b	Attainment
PM ₁₀	Unclassifiable/attainment	Nonattainment
PM _{2.5}	Unclassifiable/attainment	Nonattainment
NO ₂	Unclassifiable/attainment	Attainment
SO ₂	Not designated ^c	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen sulfide	(No federal standard)	Unclassified
Visibility-reducing particles	(No federal standard)	Unclassified
Vinyl chloride	(No federal standard)	No designation

Sources: EPA 2021 (federal); CARB 2016b (state).

Definitions: attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

Notes: SDAB = San Diego; O₃ = ozone; CO = carbon monoxide; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; NO₂ = nitrogen dioxide; SO₂ = sulfur dioxide.

^a The federal 1-hour standard of 0.12 parts per million (ppm) was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in SIPs.

^b The western and central portions of the SDAB are designated attainment, while the eastern portion is designated unclassifiable/attainment.

^c Federal designations for SO₂ are on hold by EPA (EPA 2016b).

5.2 Air Quality Monitoring Data

SDAPCD operates a network of ambient air monitoring stations throughout the County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. SDAPCD monitors air quality conditions at 10 locations throughout the basin. The Camp Pendleton monitoring station represents the closest monitoring station to the Project site for concentrations for O₃, PM_{2.5}, and NO₂. The Escondido monitoring station is the closest monitoring station for CO. The closest monitoring station for SO₂ is the El Cajon monitoring station. The San Diego–Kearny Villa Road monitoring station is the closest station monitoring for PM₁₀. Ambient concentrations of pollutants from 2016 through 2018 are presented in Table 3. The number of days exceeding the O₃, PM₁₀, and PM_{2.5} CAAQS and NAAQS is shown in Table 3. Air quality within the Project region was in compliance with both CAAQS and NAAQS for NO₂, CO, and SO₂ during this monitoring period.

Table 3. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2018	2019	2020	2018	2019	2020
Ozone (O ₃)										
Camp Pendleton	ppm	Maximum 1-hour concentration	State	0.09	0.084	0.075	0.094	0	0	0
	ppm	Maximum 8-hour concentration	State	0.070	0.069	0.064	0.074	0	0	3
			Federal	0.070	0.068	0.063	0.062	0	0	0
Nitrogen Dioxide (NO ₂)										
Camp Pendleton	ppm	Maximum 1-hour concentration	State	0.18	0.048	0.053	0.058	0	0	0
			Federal	0.100	0.048	0.053	0.058	0	0	0
	ppm	Annual concentration	State	0.030	0.006	0.006	0.006	0	0	0
			Federal	0.053	0.006	0.005	0.006	0	0	0
Carbon Monoxide (CO)										
Escondido-Rancho Carmel Drive	ppm	Maximum 1-hour concentration	State	20	1.9	4.1	3.3	0	0	0
			Federal	35	1.9	4.1	3.3	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	1.4	2.5	1.7	0	0	0
			Federal	9	1.4	2.5	1.7	0	0	0
Sulfur Dioxide (SO ₂)										
El Cajon	ppm	Maximum 1-hour concentration	Federal	0.075	0.004	—	—	0	0	0
	ppm	Maximum 24-hour concentration	State	0.04	0.0004	—	—	0	0	0
			Federal	0.140	0.0004	—	—	0	0	0
	ppm	Annual concentration	Federal	0.030	0.0001	—	—	—	—	—

Table 3. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2018	2019	2020	2018	2019	2020
Coarse Particulate Matter (PM ₁₀) ^b										
San Diego–Kearny Villa Road	µg/m ³	Maximum 24-hour concentration	State	50	38	—	—	0 (0)	—	—
			Federal	150	38	—	—	0 (0)	—	—
	µg/m ³	Annual concentration	State	20	18.4	—	—	—	—	—
Fine Particulate Matter (PM _{2.5}) ^b										
Camp Pendleton	µg/m ³	Maximum 24-hour concentration	Federal	35	30.5	13.8	61.1	0 (0)	0 (0)	0 (0)
			State	12	—	—	—	—	—	—
	µg/m ³	Annual concentration	Federal	12.0	—	—	9.5	—	—	—

Sources: CARB 2022; EPA 2022.

Notes: ppm = parts per million; — = not available or applicable; µg/m³ = micrograms per cubic meter; ND = insufficient data available to determine the value.

Data taken from CARB iADAM (<http://www.arb.ca.gov/adam>) and EPA AirData (<http://www.epa.gov/airdata/>) represent the highest concentrations experienced over a given year.

Exceedances of federal and state standards are only shown for O₃ and particulate matter. Daily exceedances for particulate matter are estimated days because PM₁₀ and PM_{2.5} are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O₃, annual PM₁₀, or 24-hour SO₂, nor is there a state 24-hour standard for PM_{2.5}.

The Camp Pendleton monitoring station is located at 21441-W B Street, Oceanside, California.

The Escondido monitoring station is located at 600 East Valley Pkwy, Escondido, California.

The El Cajon monitoring station is located at 10537 Floyd Smith Drive, El Cajon, California.

The San Diego–Kearny Villa monitoring station is located at 6123A Kearny Villa Road, San Diego, California.

The San Diego – Rancho Carmel Drive monitoring station is located at 11403 Rancho Carmel Drive, San Diego, California.

^b Measurements of PM₁₀ and PM_{2.5} are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

6 Thresholds of Significance

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provides guidance that a project would have a significant environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. 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.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether a project would have a significant impact on air quality.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the Project would have a significant impact on air quality. As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources. The SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4 are exceeded.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that the Project's total emissions would or would not result in a significant impact to air quality.

Table 4. SDAPCD Air Quality Significance Thresholds

Construction Emissions			
Pollutant	Total Emissions (Pounds per Day)		
Coarse particulate matter (PM ₁₀)	100		
Fine particulate matter (PM _{2.5})	55		
Oxides of nitrogen (NO _x)	250		
Sulfur oxides (SO _x)	250		
Carbon monoxide (CO)	550		
Volatile organic compounds (VOCs)	137*		
Operational Emissions			
Pollutant	Total Emissions		
	Pounds per Hour	Pounds per Day	Tons per Year
Coarse particulate matter (PM ₁₀)	—	100	15

Table 4. SDAPCD Air Quality Significance Thresholds

Fine particulate matter (PM _{2.5})	—	55	10
Oxides of nitrogen (NO _x)	25	250	40
Sulfur oxides (SO _x)	25	250	40
Carbon monoxide (CO)	100	550	100
Lead and lead compounds	—	3.2	0.6
Volatile organic compounds (VOCs)	—	137 ^a	13.7

Source: SDAPCD 2016a.

Notes: SDAPCD = San Diego Air Pollution Control District.

^a VOC threshold based on the significance thresholds recommended by the Monterey Bay Unified Air Pollution Control District for the North Central Coast Air Basin, which has similar federal and state attainment status as the SDAB for O₃.

The thresholds listed in Table 4 represent screening-level thresholds that can be used to evaluate whether Project-related emissions would cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. In the event that emissions exceed these thresholds, modeling would be required to demonstrate that the Project's total air quality impacts result in ground-level concentrations that are below the CAAQS and NAAQS, including appropriate background levels. For non-attainment pollutants, if emissions exceed the thresholds shown in Table 4, the Project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person (SDAPCD 1976). A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

7 Impacts

7.1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Analysis

As stated in Section 4.3, Local, SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the NAAQS and CAAQS in the SDAB; specifically, the SIP and RAQS.³ The federal O₃ maintenance plan, which is part of the SIP, was adopted in 2020. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated every 3 years (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O₃. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. 1.18 acres (14 units) of the site currently has a land use designation of MHD (Medium High Density) and zoning of RM 15 Multifamily Residential, and 3.09 acres (24 units) of the site currently has a land use designation of GC (General Commercial) and zoning of C-1 Commercial. The GC portion of the Project will require a general plan amendment and zone change to medium density residential and RM-10 (10 dwelling units per acre).

As stated above, the RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O₃. The air quality management plan (AQMP) is developed to attain ozone standards through control measures targeting VOC and NO_x emissions as precursors to ozone formation. The SDAPCD mobile source emissions projection and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the city. As such, the current RAQS assumptions would include 3.09 acres of the Project site based on general commercial land use VOC and NO_x emissions. Because the Project proposes a general plan amendment and zone change from general commercial to medium density residential, a comparison of emissions of NO_x and VOC (precursors to O₃) between existing zone buildout and the proposed Project are performed to determine if the emissions resulting from the proposed Project are equal to or less than that which would have been accounted for in the SIP and RAQS. If the estimated emissions of the new zoning (RM-10) is equal to or less than the existing (GC) then the strategies propose in the AQMP are sufficient to capture the Project emissions and the Project would not be in conflict or obstruction of the AQMP. Per City of Vista General Plan, Table LUCI-1. Density and Intensity Standards and Population Projections (2030) per the Land Use Map, the maximum Density/Intensity for General Commercial is 0.75 Floor Area Ratio (FAR). Based on 0.75 FAR and a site of 3.09 acres, a general commercial building area of

³ For the purpose of this discussion, the relevant federal air quality plan is the O₃ maintenance plan (SDAPCD 2016b). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

100,950 square feet (SF) is estimated as the existing zone building out. Table 5 provides a summary of the annual CalEEMod estimated VOC and NO_x emissions, of this existing scenario compared to the portion of the Project proposed within the 3.09 acres including 24 residential units.

Table 5. Estimated Annual Operational Ozone(O₃) Precursor Emissions

Source	VOC	NO _x
	Tons per Year	
Existing General Commercial (3.09 acres)		
Area	0.51	<0.01
Energy	0.02	0.16
Mobile	0.38	0.40
Total	0.91	0.56
Proposed Project (3.09 acres 24 Units)		
Area	0.30	0.01
Energy	<0.01	0.01
Mobile	0.09	0.10
Total	0.39	0.12
Difference (Proposed Project - Existing)	-0.52	-0.44

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen
See Appendix A for complete results.

As shown in Table 5, the proposed Project development of 24 residential units within the 3.09 area existing GC zoned land would result in a reduction of ozone precursors, VOC and NO_x, of 0.52 tons per year (TPY) and 0.44 TPY, respectively, compared to the buildout of the existing site as currently zoned. Therefore, the proposed project would not conflict with the SIP and RAQS and would result in a less than significant impact on air quality.

As presented in the May 2021, General Plan Housing Element, the most recent Regional Housing Needs Assessment (RHNA) from SANDAG stated that Vista's share of regional future housing needs is 2,561 new units between June 30, 2020, and April 15, 2029. As of June 30, 2020, 532 housing units have been planned or approved for development, with 2,029 units remaining needed to be developed in the City. The Project is expected to bring 38 units to market in 2025 which would be within SANDAG's growth projection for housing during the 6th Cycle planning horizon.

Conclusion

The general plan amendment and zone change to medium density residential and RM-10 is not anticipated to result in air quality impacts that were not envisioned in the growth projections and RAQS, and this minor increase in residential units (38 units) in the region would not obstruct or impede implementation of local air quality plans. The Project would be consistent at a regional level with the underlying growth forecasts emissions in the RAQS. Impacts would be **less than significant**.

7.2 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?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SDAPCD develops and implements plans for future attainment of the NAAQS and CAAQS. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether the Project’s individual emissions would have a cumulatively significant impact on air quality.

Construction Impacts

Analysis

Construction of the Project components would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site vendor trucks delivering construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions.

Emissions from the construction phase of Project components were estimated using the California Emissions Estimator Model (CalEEMod) Version 2020.4.0⁴. For the purposes of modeling, it was assumed that construction of the Project would begin in June 2023 and would last approximately 15 months.

Table 6 provides the construction timeline, potential phasing, construction equipment mix, and vehicle trips assumed for estimating Project-generated construction emissions. The construction schedule has been developed based on available information provided by the Project applicant, typical construction practices, and best engineering judgment. Construction phasing is intended to represent a schedule of anticipated activities for use in estimating potential Project-generated construction emissions.

Table 6. Construction Scenario Assumptions

Construction Phase (Duration)	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Demolition	16	4	18	Concrete/Industrial Saws	1	8

⁴ CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including SDAPCD, use CalEEMod to estimate greenhouse gas emissions in accordance with CEQA Guidelines Section 15064.4(a)(1).

Table 6. Construction Scenario Assumptions

Construction Phase (Duration)	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Site preparation	18	4	0	Excavator	3	8
				Rubber-tired dozers	2	8
				Rubber-tired dozers	3	8
				Tractors/loaders/backhoes	4	8
Grading/Trenching/Site Work	16	4	338	Excavators	1	8
				Graders	1	8
				Rubber-tired dozers	1	8
				Tractors/loaders/backhoes	3	8
Building construction	60	18	0	Forklifts	3	8
				Cranes	1	7
				Generator sets	1	8
				Tractors/loaders/backhoes	3	7
				Welders	1	8
Paving	20	0	0	Pavers	1	8
				Paving equipment	2	6
				Rollers	2	6
				Tractors/Loaders/Backhoes	1	8
				Cement Mortar Mixers	2	6
Architectural coating	12	0	0	Air compressors	1	6

Note: See Appendix A for additional details.

The equipment mix assumptions were based on Project design documents, review of related documents, and CalEEMod default equipment, where appropriate. The equipment mix is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it is generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 6 days per week. Default assumptions provided in CalEEMod were used to determine worker trips and vendor truck trips for each potential construction phase. The default CalEEMod trip distance for all construction vehicles was assumed.

Implementation of the Project would generate criteria air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coatings, and asphalt pavement application. Based on Project specific information, 2,700 cubic yards of material import is expected from the construction of the Project and included in the modeling analysis. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM₁₀ and PM_{2.5} emissions. Construction of Project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) that may be generated during grading and construction activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites two times per day, depending on weather conditions.

Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, NO_x, CO, PM₁₀, and PM_{2.5}. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SDAPCD Rule 67.0.1 for Architectural Coatings.

Table 7 shows the estimated maximum unmitigated daily construction emissions associated with the conceptual construction phases of the Project. Complete details of the emissions calculations are provided in Appendix A of this document.

Table 7. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Pounds per Day					
2023	2.71	27.74	20.14	0.04	10.29	5.76
2024	33.88	14.35	17.78	0.03	1.24	0.75
<i>Maximum</i>	33.88	27.74	20.14	0.04	10.29	5.76
<i>SDAPCD threshold</i>	137	250	550	250	100	55
Threshold exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.

See Appendix A for complete results.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. These estimates reflect control of fugitive dust required by SDAPCD Rule 55, Fugitive Dust Control.

Conclusion

As shown in Table 7, daily construction emissions for the Project would not exceed SDAPCD's significance thresholds for VOCs, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}. Therefore, the Project would result in a **less than significant** impact.

Operational Impacts

Analysis

Area

The area source category calculates direct sources of air pollutant emissions located at the Project site, including consumer product use, architectural coatings, and landscape maintenance equipment. This does not include the emissions associated with natural gas usage in space heating, water heating, and stoves as these are calculated in the building energy use module. The Project will not have fireplaces or woodstoves. CalEEMod defaults were used for operational hours and number of days per year for all sources other than fireplace and woodstoves as they were not included in the modeling analysis.

Consumer products are various solvents used in non-industrial applications which emit VOCs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics and toiletries. Consumer product VOC emissions are estimated in CalEEMod based on the floor area of residential and nonresidential buildings and on the default factor of pounds of VOC per building square foot per day. For parking lot land uses, CalEEMod estimates VOC emissions

associated with use of parking surface degreasers based on a square footage of parking surface area and pounds of VOC per square foot per day. The CalEEMod default utilization rates and emission factors were assumed.

This VOC emissions associated with the reapplication rate and coating for each building surface type and parking surface was also estimated using CalEEMod. The reapplication rate is the percentage of the total surface area that is repainted each year. A default of 10% is used, meaning that 10% of the surface area is repainted each year (i.e., all surface areas are repainted once every 10 years). Daily emissions divide the annual rate by 365 days per year. It was assumed that the Project would comply with SDAPCD Rule 67.0.1 for Architectural Coatings.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers, as well as air compressors, generators, and pumps. The emissions associated from landscape equipment use were estimated using CalEEMod. The emission factors are multiplied by the number of summer days that represent the number of operational days.

Energy

As represented in CalEEMod, energy sources include emissions associated with natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gases in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site. CalEEMod default values for energy consumption for each land use were applied for the Project analysis. The energy use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Survey (CAPCOA 2021).

Mobile Sources (Motor Vehicles)

Following the completion of construction activities, the Project would generate VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} emissions from mobile sources (vehicular traffic) as a result of the 86 additional residential units. The CalEEMod Version 2020.4.0 was used to estimate daily emissions from proposed vehicular sources (refer to Appendix A). CalEEMod default data, including temperature, trip characteristics, variable start information, emissions factors, and trip distances, were conservatively used for the model inputs. Project specific trip rates was utilized from the City of Vista Project Information Form (PIF), SANDAGs Brief Guide of Vehicular Traffic Generation Rates, April 2002. Emission factors representing the vehicle mix and emissions for 2025 were conservatively used to estimate emissions associated with vehicular sources. The 2025 operational year represents the first full year the Project would be operational.

Table 8 presents the maximum daily emissions associated with the operation of the Project after all phases of construction have been completed. Complete details of the emissions calculations are provided in Appendix A of this document. Emissions represent maximum of summer and winter. “Summer” emissions are representative of the conditions that may occur during the O₃ season (May 1 to October 31), and “winter” emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30).

Table 8. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Source	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Pounds per Day					
Area	5.80	0.14	7.91	0.01	0.67	0.67
Energy	0.02	0.13	0.05	<0.01	0.01	0.01
Mobile	0.84	0.91	7.73	0.02	1.84	0.5
Total	6.66	1.18	15.69	0.03	2.52	1.18
<i>SDAPCD threshold</i>	<i>137</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
Threshold exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SDAPCD = San Diego Air Pollution Control District. <0.01 = reported value is less than 0.01.

See Appendix A for complete results.

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 8, the maximum daily operational emissions would not exceed SDAPCD's thresholds for VOCs, CO, NO_x, SO_x, PM₁₀, or PM_{2.5} during the operation of the Project.

Table 9 shows the annual operational emissions estimated for the Project.

Table 9. Estimated Annual Operational Criteria Air Pollutant Emissions

Source	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Tons per Year					
Area	0.44	0.01	0.48	<0.01	0.03	0.03
Energy	<0.01	0.02	0.01	<0.01	<0.01	<0.01
Mobile	0.15	0.16	1.38	<0.01	0.33	0.09
Total	0.59	0.19	1.87	<0.01	0.36	0.12
<i>SDAPCD threshold</i>	<i>13.7</i>	<i>40</i>	<i>100</i>	<i>40</i>	<i>15</i>	<i>10</i>
Threshold exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SDAPCD = San Diego Air Pollution Control District. <0.01 = reported value is less than 0.01.

See Appendix A for complete results.

As shown in Table 9, the annual operations emissions for the Project do not exceed SDAPCD's significance thresholds for VOCs, CO, NO_x, SO_x, PM₁₀, or PM_{2.5}.

Conclusion

In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project components, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the project would only be considered to have a significant cumulative impact if

its contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a “cumulatively considerable contribution” to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions within the basin to ensure the SDAB continues to make progress toward NAAQS and CAAQS attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents on which the RAQS is based would have the potential to result in cumulative impacts if they represent development beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O₃ and a state nonattainment area for O₃, PM₁₀, and PM_{2.5}. PM₁₀ and PM_{2.5} emissions associated with construction generally result in near-field impacts. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. As shown in Tables 7 through 9, the emissions of all criteria pollutants from the Project’s construction and operational activities would be below the significance levels. Construction would be short term and temporary in nature. Additionally, construction activities required for the implementation of Project components would be considered typical of a residential project and would not require atypical construction practices that would include high-emitting activities. Once construction is completed, construction-related emissions would cease. Operational emissions generated by the Project would not result in a significant impact. As such, the Project would result in less than significant impacts to air quality relative to operational emissions.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and by the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As discussed in Section 7.1 of this report, The general plan amendment and zone change to medium density residential and RM-10 is not anticipated to result in air quality impacts that were not envisioned in the growth projections and RAQS, and this minor increase in residential units (38 units) in the region would not obstruct or impede implementation of local air quality plans. The Project would be consistent at a regional level with the underlying growth forecasts emissions in the RAQS. Thus, it would be consistent at a regional level with the underlying growth forecasts in the SIP and RAQS.

As a result, the Project would not result in a cumulatively considerable contribution to regional O₃ concentrations or other criteria pollutant emissions. Cumulative impacts for construction and operation would be **less than significant** for the Project.

7.3 Would the Project expose sensitive receptors to substantial pollutant concentrations?

Carbon Monoxide Hotspots

Analysis

Mobile-source impacts occur on two basic scales of motion. Regionally, Project-related travel will add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, Project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-Project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the basin is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the Project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. The County's CO hotspot screening guidance (County of San Diego 2007) was followed to determine whether the Project would require a site-specific hotspot analysis. Per guidance, any project that would place receptors within 500 feet of a signalized intersection operating at or below LOS E (peak-hour trips exceeding 3,000 trips) must conduct a "hotspot" analysis for CO. Likewise, projects that will cause road intersections to operate at or below a LOS E (with intersection peak-hour trips exceeding 3,000) will also have to conduct a CO "hotspot" analysis. The nearest signalized intersection to the project is located at Hacienda Dr and S Emerald Dr approximately 560 feet from the nearest entrance to the Project site along S Emerald Dr. Therefore, no hotspot analysis would be required based on the location of the project in relation to nearby intersections. The County recommends that a quantitative analysis of CO hotspots be performed for intersections that are operating at or below LOS E and have peak-hour trips exceeding 3,000 trips. The Project includes 38 residential units and based on CalEEMod modeling is expected to generate a low number of daily traffic and peak hour trips, more specifically, a maximum of 304 daily vehicle trips. The associated peak-hour trips would from the Project would be 24 and 30 for AM and PM peak hour trips, respectively. Therefore, it would not cause a measurable impact to the nearby intersections in the study area. The project would not create any significant traffic impacts, and a comprehensive traffic impact analysis for the proposed project would not be warranted.

Based on these considerations, the proposed project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. Therefore, no CO hotspots analysis is required. Based on these considerations, the Project would result in a **less than significant** impact to air quality with regard to potential CO hotspots.

Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as TACs or hazardous air pollutants. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as

TACs, including the federal hazardous air pollutants, and is adopting appropriate control measures for sources of these TACs. The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks and the associated health impacts to sensitive receptors. The following measures are required by state law to reduce DPM emissions:

Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-use Off-road Diesel Vehicles (13 CCR 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.

All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends an incremental cancer risk threshold of 10 in a million (SDAPCD 2015b). “Incremental cancer risk” is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology (OEHHA 2015). The Project would not require the extensive operation of heavy-duty construction equipment, which is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce diesel particulate emissions and would not involve extensive use of diesel trucks, which are also subject to a CARB Airborne Toxics Control Measure.

As shown in Table 6, maximum daily PM₁₀ or PM_{2.5} emissions generated by construction equipment operation and haul-truck trips during construction, which is based on exhaust and fugitive dust generated by equipment operation and vehicle travel, would be well below the significance thresholds. Moreover, total construction of the Project would last approximately 15 months, after which Project-construction TAC emissions would cease. Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 30-year exposure period. Regarding long-term TAC emissions, the residential Project would result in a minimal increase in daily truck traffic on the roadway network and would not require stationary sources (such as diesel emergency generators). Therefore, the exposure of Project-related TAC emission impacts to proximate sensitive receptors would be **less than significant**.

Health Effects of Criteria Air Pollutants

Analysis

Construction and operation of the Project would not result in emissions that exceed SDAPCD’s emission thresholds for any criteria air pollutants. The SDAPCD thresholds are based on the SDAB complying with the NAAQS and CAAQS which are protective of public health; therefore, no adverse effects to human health would result from the Project. The following provides a general discussion of criteria air pollutants and their health effects.

Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of which would not result in exceedances of SDAPCD’s thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

In addition, VOCs and NO_x are precursors to O₃, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by EPA as an attainment area for the 1-hour O₃ NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O₃, as discussed in Section 3.1, Criteria Air Pollutants, are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O₃ concentrations is the result of complex photochemistry. The increases in O₃ concentrations in the SDAB due to O₃ precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O₃ concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O₃ NAAQS and CAAQS tend to occur between April and October, when solar radiation is highest.

The holistic effect of a single project's emissions of O₃ precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with Project construction could minimally contribute to regional O₃ concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in coastal San Diego areas, health impacts would be considered less than significant.

Similar to O₃, construction of the Project would not exceed thresholds for PM₁₀ or PM_{2.5} and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. The Project would also not result in substantial DPM emissions during construction and operation and therefore would not result in significant health effects related to DPM exposure. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant.

Regarding NO₂, according to the construction emissions analysis, construction of the Project would not contribute to exceedances of the NAAQS and CAAQS for NO₂. As described in Section 3.1, NO₂ and NO_x health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term, and the Project would be required to comply with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction. Additionally, off-road construction equipment would be operating on various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the Project would not require any stationary emission sources that would create substantial, localized NO_x impacts.

Therefore, health impacts from Project-related criteria air pollutant emissions would be considered less than significant.

Conclusion

The VOC and NO_x emissions, as described previously, would minimally contribute to regional O₃ concentrations and the associated health effects. In addition to O₃, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO₂. As shown in Table 3, the existing NO₂ concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the Project's operational NO_x emissions would result in exceedances of the NO₂ standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less than significant impact. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant. PM₁₀ and PM_{2.5} would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter and would not obstruct the SDAB from coming into attainment for these pollutants and would

not contribute to significant health effects associated with particulates. Therefore, overall health impacts associated with criteria air pollutants would be considered **less than significant**.

7.4 Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Construction Impacts

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the Project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary and for the types of construction activities anticipated for Project components, would generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered **less than significant**.

Operational Impacts

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities. In addition to the odor source, the distance between the sensitive receptor(s) and the odor source, as well as the local meteorological conditions, are considerations in the potential for a project to frequently expose the public to objectionable odors. Although localized air quality impacts are focused on potential impacts to sensitive receptors, such as residences and schools, other land uses where people may congregate (e.g., workplaces) or uses with the intent to attract people (e.g., restaurants and visitor-serving accommodations) should also be considered in the evaluation of potential odor nuisance impacts. The Project would include a residential development, which is not expected to produce any nuisance odors; therefore, impacts related to odors caused by the Project would be **less than significant**.

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Appendix A

CalEEMod Outputs and Estimated Emissions

Appendix A

- A. Criteria 1 Modeling, Conflict with or Obstruct implementation of applicable air quality plan
- B. Project CalEEMod Modeling Files

A. Criteria 1 Modeling, Conflict with or Obstruct implementation of applicable air quality plan

2112 Sunset Drive Townhomes 3.09 Acre Portion only - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2112 Sunset Drive Townhomes 3.09 Acre Portion only****San Diego County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	100.95	1000sqft	2.32	100,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing General Commercial Land use emissions only

Construction Phase - Per applicant provided information. 6 days per week.

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Trips and VMT - Default values rounded up to even values to include both arrival and departure of vehicles. Demolition, site preparation and grading include vendor trucks for watering vehicles.

Demolition - Per applicant provided information 3,000 sqft for buildings and 1,000 sqft for surfaces, total 4,000 sqft.

2112 Sunset Drive Townhomes 3.09 Acre Portion only - San Diego County, Annual

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

Grading - per applicant provided information

Architectural Coating - As provided by applicant, low-VOC coatings to be used for the project.

Vehicle Trips - CalEEMod default

Woodstoves - Project includes 2 outdoor grills and 2 outdoor fire pits, represented by 2 propane burning and 2 wood burning fireplaces. Wood mass set equal to half the default value as there are only 2 wood burning fire pits compared to the default value of 3.8.

Consumer Products - Default values

Area Coating - Default

Landscape Equipment - Default values

Energy Use - Default values

Water And Wastewater - Default values

Solid Waste - Default values

Construction Off-road Equipment Mitigation -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	HaulingTripNumber	0.00	338.00

2.0 Emissions Summary

2112 Sunset Drive Townhomes 3.09 Acre Portion only - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3434	1.8646	1.9199	3.9300e-003	0.0713	0.0800	0.1513	0.0233	0.0763	0.0996	0.0000	338.2328	338.2328	0.0562	7.8000e-003	341.9632
2024	1.0537	5.5300e-003	8.7200e-003	2.0000e-005	2.2000e-004	2.8000e-004	4.9000e-004	6.0000e-005	2.8000e-004	3.3000e-004	0.0000	1.3147	1.3147	7.0000e-005	0.0000	1.3178
Maximum	1.0537	1.8646	1.9199	3.9300e-003	0.0713	0.0800	0.1513	0.0233	0.0763	0.0996	0.0000	338.2328	338.2328	0.0562	7.8000e-003	341.9632

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	0.3434	1.8646	1.9199	3.9300e-003	0.0572	0.0800	0.1372	0.0173	0.0763	0.0936	0.0000	338.2325	338.2325	0.0562	7.8000e-003	341.9629
2024	1.0537	5.5300e-003	8.7200e-003	2.0000e-005	2.2000e-004	2.8000e-004	4.9000e-004	6.0000e-005	2.8000e-004	3.3000e-004	0.0000	1.3147	1.3147	7.0000e-005	0.0000	1.3178
Maximum	1.0537	1.8646	1.9199	3.9300e-003	0.0572	0.0800	0.1372	0.0173	0.0763	0.0936	0.0000	338.2325	338.2325	0.0562	7.8000e-003	341.9629

2112 Sunset Drive Townhomes 3.09 Acre Portion only - San Diego County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	19.71	0.00	9.28	25.52	0.00	5.96	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	1-2-2023	4-1-2023	0.5402	0.5402
2	4-2-2023	7-1-2023	0.5274	0.5274
3	7-2-2023	10-1-2023	0.5332	0.5332
4	10-2-2023	1-1-2024	0.8142	0.8142
5	1-2-2024	4-1-2024	0.8406	0.8406
		Highest	0.8406	0.8406

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	0.5113	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-003	1.8000e-003	0.0000	0.0000	1.9200e-003
Energy	0.0175	0.1588	0.1334	9.5000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	547.4128	547.4128	0.0262	5.9400e-003	549.8390
Mobile	0.3768	0.4039	3.4088	7.0900e-003	0.7808	5.5500e-003	0.7863	0.2084	5.1700e-003	0.2136	0.0000	655.8589	655.8589	0.0486	0.0306	666.1863
Waste						0.0000	0.0000		0.0000	0.0000	19.0568	0.0000	19.0568	1.1262	0.0000	47.2124
Water						0.0000	0.0000		0.0000	0.0000	5.6922	87.1465	92.8388	0.5900	0.0145	111.8943
Total	0.9056	0.5627	3.5430	8.0400e-003	0.7808	0.0176	0.7984	0.2084	0.0172	0.2256	24.7490	1,290.4200	1,315.1690	1.7910	0.0510	1,375.1339

2112 Sunset Drive Townhomes 3.09 Acre Portion only - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5113	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-003	1.8000e-003	0.0000	0.0000	1.9200e-003
Energy	0.0175	0.1588	0.1334	9.5000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	547.4128	547.4128	0.0262	5.9400e-003	549.8390
Mobile	0.3768	0.4039	3.4088	7.0900e-003	0.7808	5.5500e-003	0.7863	0.2084	5.1700e-003	0.2136	0.0000	655.8589	655.8589	0.0486	0.0306	666.1863
Waste						0.0000	0.0000		0.0000	0.0000	19.0568	0.0000	19.0568	1.1262	0.0000	47.2124
Water						0.0000	0.0000		0.0000	0.0000	5.6922	87.1465	92.8388	0.5900	0.0145	111.8943
Total	0.9056	0.5627	3.5430	8.0400e-003	0.7808	0.0176	0.7984	0.2084	0.0172	0.2256	24.7490	1,290.4200	1,315.1690	1.7910	0.0510	1,375.1339

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	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	1/2/2023	1/27/2023	5	20	
2	Site Preparation	Site Preparation	1/28/2023	2/1/2023	5	3	
3	Grading	Grading	2/2/2023	2/9/2023	5	6	

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4	Building Construction	Building Construction	2/10/2023	12/14/2023	5	220
5	Paving	Paving	12/15/2023	12/28/2023	5	10
6	Architectural Coating	Architectural Coating	12/29/2023	1/11/2024	5	10

Acres of Grading (Site Preparation Phase): 4.5**Acres of Grading (Grading Phase): 6****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 151,425; Non-Residential Outdoor: 50,475; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36

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Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	338.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	32.00	17.00	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	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Demolition - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9900e-003	0.0000	1.9900e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202
Total	0.0147	0.1432	0.1346	2.4000e-004	1.9900e-003	6.7700e-003	8.7600e-003	3.0000e-004	6.3300e-003	6.6300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5401	0.5401	3.0000e-005	9.0000e-005	0.5664
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	3.5000e-004	2.4000e-004	2.9600e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8249	0.8249	2.0000e-005	2.0000e-005	0.8324
Total	3.7000e-004	1.4600e-003	3.2800e-003	2.0000e-005	1.1900e-003	2.0000e-005	1.2100e-003	3.2000e-004	2.0000e-005	3.3000e-004	0.0000	1.3651	1.3651	5.0000e-005	1.1000e-004	1.3988

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 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					9.0000e-004	0.0000	9.0000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202
Total	0.0147	0.1432	0.1346	2.4000e-004	9.0000e-004	6.7700e-003	7.6700e-003	1.4000e-004	6.3300e-003	6.4700e-003	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5401	0.5401	3.0000e-005	9.0000e-005	0.5664
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	3.5000e-004	2.4000e-004	2.9600e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8249	0.8249	2.0000e-005	2.0000e-005	0.8324
Total	3.7000e-004	1.4600e-003	3.2800e-003	2.0000e-005	1.1900e-003	2.0000e-005	1.2100e-003	3.2000e-004	2.0000e-005	3.3000e-004	0.0000	1.3651	1.3651	5.0000e-005	1.1000e-004	1.3988

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 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					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9500e-003	0.0214	0.0147	4.0000e-005		8.1000e-004	8.1000e-004		7.5000e-004	7.5000e-004	0.0000	3.2317	3.2317	1.0500e-003	0.0000	3.2578
Total	1.9500e-003	0.0214	0.0147	4.0000e-005	2.3900e-003	8.1000e-004	3.2000e-003	2.6000e-004	7.5000e-004	1.0100e-003	0.0000	3.2317	3.2317	1.0500e-003	0.0000	3.2578

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	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0762	0.0762	0.0000	0.0000	0.0768
Total	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0762	0.0762	0.0000	0.0000	0.0768

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 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					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9500e-003	0.0214	0.0147	4.0000e-005		8.1000e-004	8.1000e-004		7.5000e-004	7.5000e-004	0.0000	3.2317	3.2317	1.0500e-003	0.0000	3.2578
Total	1.9500e-003	0.0214	0.0147	4.0000e-005	1.0700e-003	8.1000e-004	1.8800e-003	1.2000e-004	7.5000e-004	8.7000e-004	0.0000	3.2317	3.2317	1.0500e-003	0.0000	3.2578

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	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0762	0.0762	0.0000	0.0000	0.0768
Total	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0762	0.0762	0.0000	0.0000	0.0768

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 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					0.0213	0.0000	0.0213	0.0103	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-003	0.0434	0.0261	6.0000e-005		1.8100e-003	1.8100e-003		1.6700e-003	1.6700e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	4.0000e-003	0.0434	0.0261	6.0000e-005	0.0213	1.8100e-003	0.0231	0.0103	1.6700e-003	0.0119	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0229	6.1000e-003	1.0000e-004	2.8900e-003	1.9000e-004	3.0800e-003	8.0000e-004	1.8000e-004	9.7000e-004	0.0000	10.1425	10.1425	5.1000e-004	1.6100e-003	10.6359
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1904	0.1904	1.0000e-005	1.0000e-005	0.1921
Total	4.5000e-004	0.0230	6.7800e-003	1.0000e-004	3.1300e-003	1.9000e-004	3.3200e-003	8.6000e-004	1.8000e-004	1.0400e-003	0.0000	10.3328	10.3328	5.2000e-004	1.6200e-003	10.8280

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 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					9.5600e-003	0.0000	9.5600e-003	4.6200e-003	0.0000	4.6200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-003	0.0434	0.0261	6.0000e-005		1.8100e-003	1.8100e-003		1.6700e-003	1.6700e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	4.0000e-003	0.0434	0.0261	6.0000e-005	9.5600e-003	1.8100e-003	0.0114	4.6200e-003	1.6700e-003	6.2900e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0229	6.1000e-003	1.0000e-004	2.8900e-003	1.9000e-004	3.0800e-003	8.0000e-004	1.8000e-004	9.7000e-004	0.0000	10.1425	10.1425	5.1000e-004	1.6100e-003	10.6359
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1904	0.1904	1.0000e-005	1.0000e-005	0.1921
Total	4.5000e-004	0.0230	6.7800e-003	1.0000e-004	3.1300e-003	1.9000e-004	3.3200e-003	8.6000e-004	1.8000e-004	1.0400e-003	0.0000	10.3328	10.3328	5.2000e-004	1.6200e-003	10.8280

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Unmitigated Construction 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	0.1885	1.4986	1.5636	2.7500e-003		0.0675	0.0675		0.0647	0.0647	0.0000	228.4723	228.4723	0.0432	0.0000	229.5525
Total	0.1885	1.4986	1.5636	2.7500e-003		0.0675	0.0675		0.0647	0.0647	0.0000	228.4723	228.4723	0.0432	0.0000	229.5525

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	2.1900e-003	0.0830	0.0293	3.8000e-004	0.0124	4.9000e-004	0.0129	3.5900e-003	4.7000e-004	4.0500e-003	0.0000	37.5216	37.5216	1.1300e-003	5.4400e-003	39.1702
Worker	9.5200e-003	6.5900e-003	0.0802	2.4000e-004	0.0282	1.6000e-004	0.0284	7.5000e-003	1.4000e-004	7.6400e-003	0.0000	22.3365	22.3365	6.6000e-004	6.2000e-004	22.5387
Total	0.0117	0.0896	0.1095	6.2000e-004	0.0407	6.5000e-004	0.0413	0.0111	6.1000e-004	0.0117	0.0000	59.8581	59.8581	1.7900e-003	6.0600e-003	61.7089

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****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	0.1885	1.4986	1.5636	2.7500e-003		0.0675	0.0675		0.0647	0.0647	0.0000	228.4720	228.4720	0.0432	0.0000	229.5522
Total	0.1885	1.4986	1.5636	2.7500e-003		0.0675	0.0675		0.0647	0.0647	0.0000	228.4720	228.4720	0.0432	0.0000	229.5522

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	2.1900e-003	0.0830	0.0293	3.8000e-004	0.0124	4.9000e-004	0.0129	3.5900e-003	4.7000e-004	4.0500e-003	0.0000	37.5216	37.5216	1.1300e-003	5.4400e-003	39.1702
Worker	9.5200e-003	6.5900e-003	0.0802	2.4000e-004	0.0282	1.6000e-004	0.0284	7.5000e-003	1.4000e-004	7.6400e-003	0.0000	22.3365	22.3365	6.6000e-004	6.2000e-004	22.5387
Total	0.0117	0.0896	0.1095	6.2000e-004	0.0407	6.5000e-004	0.0413	0.0111	6.1000e-004	0.0117	0.0000	59.8581	59.8581	1.7900e-003	6.0600e-003	61.7089

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 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	4.4000e-003	0.0431	0.0584	9.0000e-005		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8179
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.4000e-003	0.0431	0.0584	9.0000e-005		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8179

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	1.4000e-004	1.7100e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4759	0.4759	1.0000e-005	1.0000e-005	0.4802
Total	2.0000e-004	1.4000e-004	1.7100e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4759	0.4759	1.0000e-005	1.0000e-005	0.4802

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 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	4.4000e-003	0.0431	0.0584	9.0000e-005		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8178
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.4000e-003	0.0431	0.0584	9.0000e-005		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8178

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	1.4000e-004	1.7100e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4759	0.4759	1.0000e-005	1.0000e-005	0.4802
Total	2.0000e-004	1.4000e-004	1.7100e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4759	0.4759	1.0000e-005	1.0000e-005	0.4802

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.1170					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	6.5000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	0.1171	6.5000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279

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	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0190	0.0190	0.0000	0.0000	0.0192
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0190	0.0190	0.0000	0.0000	0.0192

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.1170					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	6.5000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	0.1171	6.5000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279

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	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0190	0.0190	0.0000	0.0000	0.0192
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0190	0.0190	0.0000	0.0000	0.0192

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	1.0528					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	1.0536	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506

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	7.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1657	0.1657	0.0000	0.0000	0.1672
Total	7.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1657	0.1657	0.0000	0.0000	0.1672

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	1.0528					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	1.0536	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506

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	7.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1657	0.1657	0.0000	0.0000	0.1672
Total	7.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1657	0.1657	0.0000	0.0000	0.1672

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3768	0.4039	3.4088	7.0900e-003	0.7808	5.5500e-003	0.7863	0.2084	5.1700e-003	0.2136	0.0000	655.8589	655.8589	0.0486	0.0306	666.1863
Unmitigated	0.3768	0.4039	3.4088	7.0900e-003	0.7808	5.5500e-003	0.7863	0.2084	5.1700e-003	0.2136	0.0000	655.8589	655.8589	0.0486	0.0306	666.1863

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Office Park	1,117.52	165.56	76.72	2,087,297	2,087,297
Total	1,117.52	165.56	76.72	2,087,297	2,087,297

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
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Office Park	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.0 Energy Detail**

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	374.5953	374.5953	0.0229	2.7700e-003	375.9946
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	374.5953	374.5953	0.0229	2.7700e-003	375.9946
NaturalGas Mitigated	0.0175	0.1588	0.1334	9.5000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	172.8174	172.8174	3.3100e-003	3.1700e-003	173.8444
NaturalGas Unmitigated	0.0175	0.1588	0.1334	9.5000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	172.8174	172.8174	3.3100e-003	3.1700e-003	173.8444

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Office Park	3.23848e+006	0.0175	0.1588	0.1334	9.5000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	172.8174	172.8174	3.3100e-003	3.1700e-003	173.8444
Total		0.0175	0.1588	0.1334	9.5000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	172.8174	172.8174	3.3100e-003	3.1700e-003	173.8444

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					
Office Park	3.23848e+006	0.0175	0.1588	0.1334	9.5000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	172.8174	172.8174	3.3100e-003	3.1700e-003	173.8444
Total		0.0175	0.1588	0.1334	9.5000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	172.8174	172.8174	3.3100e-003	3.1700e-003	173.8444

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Office Park	1.52939e+006	374.5953	0.0229	2.7700e-003	375.9946
Total		374.5953	0.0229	2.7700e-003	375.9946

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Office Park	1.52939e+006	374.5953	0.0229	2.7700e-003	375.9946
Total		374.5953	0.0229	2.7700e-003	375.9946

6.0 Area Detail**6.1 Mitigation Measures Area**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5113	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-003	1.8000e-003	0.0000	0.0000	1.9200e-003
Unmitigated	0.5113	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-003	1.8000e-003	0.0000	0.0000	1.9200e-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	0.1170					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3943					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-003	1.8000e-003	0.0000	0.0000	1.9200e-003
Total	0.5113	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-003	1.8000e-003	0.0000	0.0000	1.9200e-003

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1170					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3943					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-003	1.8000e-003	0.0000	0.0000	1.9200e-003
Total	0.5113	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-003	1.8000e-003	0.0000	0.0000	1.9200e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	92.8388	0.5900	0.0145	111.8943
Unmitigated	92.8388	0.5900	0.0145	111.8943

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Office Park	17.9422 / 10.9968	92.8388	0.5900	0.0145	111.8943
Total		92.8388	0.5900	0.0145	111.8943

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Office Park	17.9422 / 10.9968	92.8388	0.5900	0.0145	111.8943
Total		92.8388	0.5900	0.0145	111.8943

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.0568	1.1262	0.0000	47.2124
Unmitigated	19.0568	1.1262	0.0000	47.2124

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Office Park	93.88	19.0568	1.1262	0.0000	47.2124
Total		19.0568	1.1262	0.0000	47.2124

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Office Park	93.88	19.0568	1.1262	0.0000	47.2124
Total		19.0568	1.1262	0.0000	47.2124

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

Equipment Type	Number
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11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2112 Sunset Drive Townhomes 3.09 Acre Portion only****San Diego County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	24.00	Dwelling Unit	1.50	24,000.00	69

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Rsidential units only on the 3.09 acre portion of the project for comparison perpose with existing General Commercial Land use emissions only

Construction Phase - Per applicant provided information. 6 days per week.

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Trips and VMT - Default values rounded up to even values to include both arrival and departure of vehicles. Demolition, site preparation and grading include vendor trucks for watering vehicles.

Demolition - Per applicant provided information 3,000 sqft for buildings and 1,000 sqft for surfaces, total 4,000 sqft.

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

Grading - per applicant provided information

Architectural Coating - As provided by applicant, low-VOC coatings to be used for the project.

Vehicle Trips - Condo/townhouse trip rate based on Project Information Form, Table A Trip Generation Summary.

Woodstoves - Project includes 2 outdoor grills and 2 outdoor fire pits, represented by 2 propane burning and 2 wood burning fireplaces. Wood mass set equal to half the default value as there are only 2 wood burning fire pits compared to the default value of 3.8.

Consumer Products - Default values

Area Coating - Per applicant project will include use of Low-VOC coatings.

Landscape Equipment - Default values

Energy Use - Default values

Water And Wastewater - Default values

Solid Waste - Default values

Construction Off-road Equipment Mitigation -

Area Mitigation - Project will use Low-VOC coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDays	230.00	314.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	8.00	27.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

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

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblFireplaces	FireplaceWoodMass	3,078.40	1,539.00
tblFireplaces	NumberGas	20.90	0.00
tblFireplaces	NumberNoFireplace	3.80	4.00
tblFireplaces	NumberPropane	0.00	2.00
tblFireplaces	NumberWood	13.30	2.00
tblGrading	MaterialImported	0.00	2,700.00
tblSolidWaste	SolidWasteGenerationRate	0.06	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	17.00	18.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	8.14	8.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	6.28	8.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	7.32	8.00
tblWater	OutdoorWaterUseRate	869,781.39	0.00
tblWoodstoves	NumberCatalytic	1.90	0.00
tblWoodstoves	NumberNoncatalytic	1.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.0 Emissions Summary****2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1667	1.5287	1.6228	3.3000e-003	0.1854	0.0689	0.2542	0.0798	0.0645	0.1443	0.0000	291.3409	291.3409	0.0603	6.3900e-003	294.7525
2024	0.3527	1.3119	1.6387	3.1700e-003	0.0541	0.0571	0.1112	0.0146	0.0537	0.0683	0.0000	278.6819	278.6819	0.0531	5.4000e-003	281.6173
Maximum	0.3527	1.5287	1.6387	3.3000e-003	0.1854	0.0689	0.2542	0.0798	0.0645	0.1443	0.0000	291.3409	291.3409	0.0603	6.3900e-003	294.7525

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	0.1667	1.5287	1.6228	3.3000e-003	0.1099	0.0689	0.1788	0.0431	0.0645	0.1076	0.0000	291.3407	291.3407	0.0603	6.3900e-003	294.7522
2024	0.3527	1.3119	1.6387	3.1700e-003	0.0541	0.0571	0.1112	0.0146	0.0537	0.0683	0.0000	278.6817	278.6817	0.0531	5.4000e-003	281.6170
Maximum	0.3527	1.5287	1.6387	3.3000e-003	0.1099	0.0689	0.1788	0.0431	0.0645	0.1076	0.0000	291.3407	291.3407	0.0603	6.3900e-003	294.7522

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	31.49	0.00	20.64	38.88	0.00	17.28	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)
2	4-2-2023	7-1-2023	0.3223	0.3223
3	7-2-2023	10-1-2023	0.7099	0.7099
4	10-2-2023	1-1-2024	0.6728	0.6728
5	1-2-2024	4-1-2024	0.6241	0.6241
6	4-2-2024	7-1-2024	0.6220	0.6220
7	7-2-2024	9-30-2024	0.4096	0.4096
		Highest	0.7099	0.7099

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2957	6.1500e-003	0.3736	3.2000e-004		0.0277	0.0277		0.0277	0.0277	2.3735	2.1203	4.4938	3.1000e-004	3.4000e-004	4.6032
Energy	1.7400e-003	0.0149	6.3200e-003	9.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	45.6660	45.6660	2.0700e-003	5.3000e-004	45.8745
Mobile	0.0928	0.1033	0.8706	1.8600e-003	0.2051	1.4400e-003	0.2065	0.0547	1.3400e-003	0.0561	0.0000	171.6619	171.6619	0.0123	7.7900e-003	174.2894
Waste						0.0000	0.0000		0.0000	0.0000	3.5483	0.0000	3.5483	0.2097	0.0000	8.7907
Water						0.0000	0.0000		0.0000	0.0000	0.7855	12.1435	12.9290	0.0814	1.9900e-003	15.5589
Total	0.3902	0.1243	1.2505	2.2700e-003	0.2051	0.0304	0.2354	0.0547	0.0303	0.0850	6.7072	231.5916	238.2989	0.3058	0.0107	249.1166

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2957	6.1500e-003	0.3736	3.2000e-004		0.0277	0.0277		0.0277	0.0277	2.3735	2.1203	4.4938	3.1000e-004	3.4000e-004	4.6032
Energy	1.7400e-003	0.0149	6.3200e-003	9.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	45.6660	45.6660	2.0700e-003	5.3000e-004	45.8745
Mobile	0.0928	0.1033	0.8706	1.8600e-003	0.2051	1.4400e-003	0.2065	0.0547	1.3400e-003	0.0561	0.0000	171.6619	171.6619	0.0123	7.7900e-003	174.2894
Waste						0.0000	0.0000		0.0000	0.0000	3.5483	0.0000	3.5483	0.2097	0.0000	8.7907
Water						0.0000	0.0000		0.0000	0.0000	0.7855	12.1435	12.9290	0.0814	1.9900e-003	15.5589
Total	0.3902	0.1243	1.2505	2.2700e-003	0.2051	0.0304	0.2354	0.0547	0.0303	0.0850	6.7072	231.5916	238.2989	0.3058	0.0107	249.1166

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	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	6/1/2023	6/15/2023	6	13	
2	Site Preparation	Site Preparation	6/16/2023	6/20/2023	6	4	
3	Grading	Grading	6/21/2023	7/21/2023	6	27	

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

4	Building Construction	Building Construction	7/22/2023	7/22/2024	6	314
5	Paving	Paving	7/23/2024	8/5/2024	6	12
6	Architectural Coating	Architectural Coating	8/6/2024	8/19/2024	6	12

Acres of Grading (Site Preparation Phase): 6**Acres of Grading (Grading Phase): 27****Acres of Paving: 0****Residential Indoor: 120,366; Residential Outdoor: 40,122; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,764 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36

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Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	4.00	338.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Demolition - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9900e-003	0.0000	1.9900e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1397	0.1277	2.5000e-004		6.4800e-003	6.4800e-003		6.0300e-003	6.0300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495
Total	0.0148	0.1397	0.1277	2.5000e-004	1.9900e-003	6.4800e-003	8.4700e-003	3.0000e-004	6.0300e-003	6.3300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5401	0.5401	3.0000e-005	9.0000e-005	0.5664
Vendor	3.0000e-005	1.1500e-003	4.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5217	0.5217	2.0000e-005	8.0000e-005	0.5446
Worker	2.8000e-004	1.9000e-004	2.3700e-003	1.0000e-005	8.3000e-004	0.0000	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6599	0.6599	2.0000e-005	2.0000e-005	0.6659
Total	3.3000e-004	2.5600e-003	3.1000e-003	3.0000e-005	1.1500e-003	2.0000e-005	1.1800e-003	3.1000e-004	2.0000e-005	3.4000e-004	0.0000	1.7218	1.7218	7.0000e-005	1.9000e-004	1.7769

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 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					9.0000e-004	0.0000	9.0000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1397	0.1277	2.5000e-004		6.4800e-003	6.4800e-003		6.0300e-003	6.0300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495
Total	0.0148	0.1397	0.1277	2.5000e-004	9.0000e-004	6.4800e-003	7.3800e-003	1.4000e-004	6.0300e-003	6.1700e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5401	0.5401	3.0000e-005	9.0000e-005	0.5664
Vendor	3.0000e-005	1.1500e-003	4.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5217	0.5217	2.0000e-005	8.0000e-005	0.5446
Worker	2.8000e-004	1.9000e-004	2.3700e-003	1.0000e-005	8.3000e-004	0.0000	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6599	0.6599	2.0000e-005	2.0000e-005	0.6659
Total	3.3000e-004	2.5600e-003	3.1000e-003	3.0000e-005	1.1500e-003	2.0000e-005	1.1800e-003	3.1000e-004	2.0000e-005	3.4000e-004	0.0000	1.7218	1.7218	7.0000e-005	1.9000e-004	1.7769

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 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					0.0393	0.0000	0.0393	0.0202	0.0000	0.0202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3200e-003	0.0551	0.0365	8.0000e-005		2.5300e-003	2.5300e-003		2.3300e-003	2.3300e-003	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442
Total	5.3200e-003	0.0551	0.0365	8.0000e-005	0.0393	2.5300e-003	0.0418	0.0202	2.3300e-003	0.0225	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442

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	1.0000e-005	3.6000e-004	1.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1605	0.1605	0.0000	2.0000e-005	0.1676
Worker	1.0000e-004	7.0000e-005	8.2000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	1.0000e-005	0.2305
Total	1.1000e-004	4.3000e-004	9.5000e-004	0.0000	3.4000e-004	0.0000	3.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3890	0.3890	1.0000e-005	3.0000e-005	0.3981

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 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					0.0177	0.0000	0.0177	9.0900e-003	0.0000	9.0900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3200e-003	0.0551	0.0365	8.0000e-005		2.5300e-003	2.5300e-003		2.3300e-003	2.3300e-003	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442
Total	5.3200e-003	0.0551	0.0365	8.0000e-005	0.0177	2.5300e-003	0.0202	9.0900e-003	2.3300e-003	0.0114	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442

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	1.0000e-005	3.6000e-004	1.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1605	0.1605	0.0000	2.0000e-005	0.1676
Worker	1.0000e-004	7.0000e-005	8.2000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	1.0000e-005	0.2305
Total	1.1000e-004	4.3000e-004	9.5000e-004	0.0000	3.4000e-004	0.0000	3.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3890	0.3890	1.0000e-005	3.0000e-005	0.3981

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 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					0.0958	0.0000	0.0958	0.0463	0.0000	0.0463	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0231	0.2421	0.1991	4.0000e-004		0.0105	0.0105		9.6200e-003	9.6200e-003	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663
Total	0.0231	0.2421	0.1991	4.0000e-004	0.0958	0.0105	0.1063	0.0463	9.6200e-003	0.0559	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0229	6.1000e-003	1.0000e-004	2.8900e-003	1.9000e-004	3.0800e-003	8.0000e-004	1.8000e-004	9.7000e-004	0.0000	10.1425	10.1425	5.1000e-004	1.6100e-003	10.6359
Vendor	6.0000e-005	2.4000e-003	8.5000e-004	1.0000e-005	3.6000e-004	1.0000e-005	3.7000e-004	1.0000e-004	1.0000e-005	1.2000e-004	0.0000	1.0835	1.0835	3.0000e-005	1.6000e-004	1.1311
Worker	5.8000e-004	4.0000e-004	4.9200e-003	1.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.3707	1.3707	4.0000e-005	4.0000e-005	1.3831
Total	1.0100e-003	0.0257	0.0119	1.2000e-004	4.9800e-003	2.1000e-004	5.1900e-003	1.3600e-003	2.0000e-004	1.5600e-003	0.0000	12.5966	12.5966	5.8000e-004	1.8100e-003	13.1501

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 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					0.0431	0.0000	0.0431	0.0208	0.0000	0.0208	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0231	0.2421	0.1991	4.0000e-004		0.0105	0.0105		9.6200e-003	9.6200e-003	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663
Total	0.0231	0.2421	0.1991	4.0000e-004	0.0431	0.0105	0.0536	0.0208	9.6200e-003	0.0304	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0229	6.1000e-003	1.0000e-004	2.8900e-003	1.9000e-004	3.0800e-003	8.0000e-004	1.8000e-004	9.7000e-004	0.0000	10.1425	10.1425	5.1000e-004	1.6100e-003	10.6359
Vendor	6.0000e-005	2.4000e-003	8.5000e-004	1.0000e-005	3.6000e-004	1.0000e-005	3.7000e-004	1.0000e-004	1.0000e-005	1.2000e-004	0.0000	1.0835	1.0835	3.0000e-005	1.6000e-004	1.1311
Worker	5.8000e-004	4.0000e-004	4.9200e-003	1.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.3707	1.3707	4.0000e-005	4.0000e-005	1.3831
Total	1.0100e-003	0.0257	0.0119	1.2000e-004	4.9800e-003	2.1000e-004	5.1900e-003	1.3600e-003	2.0000e-004	1.5600e-003	0.0000	12.5966	12.5966	5.8000e-004	1.8100e-003	13.1501

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Unmitigated Construction 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	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1043	161.1043	0.0383	0.0000	162.0624
Total	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1043	161.1043	0.0383	0.0000	162.0624

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	1.4700e-003	0.0555	0.0196	2.6000e-004	8.3100e-003	3.3000e-004	8.6300e-003	2.4000e-003	3.1000e-004	2.7100e-003	0.0000	25.1014	25.1014	7.6000e-004	3.6400e-003	26.2042
Worker	0.0113	7.8000e-003	0.0950	2.9000e-004	0.0334	1.8000e-004	0.0336	8.8900e-003	1.7000e-004	9.0600e-003	0.0000	26.4611	26.4611	7.8000e-004	7.4000e-004	26.7007
Total	0.0128	0.0633	0.1146	5.5000e-004	0.0418	5.1000e-004	0.0423	0.0113	4.8000e-004	0.0118	0.0000	51.5625	51.5625	1.5400e-003	4.3800e-003	52.9049

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****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	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1041	161.1041	0.0383	0.0000	162.0622
Total	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1041	161.1041	0.0383	0.0000	162.0622

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	1.4700e-003	0.0555	0.0196	2.6000e-004	8.3100e-003	3.3000e-004	8.6300e-003	2.4000e-003	3.1000e-004	2.7100e-003	0.0000	25.1014	25.1014	7.6000e-004	3.6400e-003	26.2042
Worker	0.0113	7.8000e-003	0.0950	2.9000e-004	0.0334	1.8000e-004	0.0336	8.8900e-003	1.7000e-004	9.0600e-003	0.0000	26.4611	26.4611	7.8000e-004	7.4000e-004	26.7007
Total	0.0128	0.0633	0.1146	5.5000e-004	0.0418	5.1000e-004	0.0423	0.0113	4.8000e-004	0.0118	0.0000	51.5625	51.5625	1.5400e-003	4.3800e-003	52.9049

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Unmitigated Construction 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	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8680	202.8680	0.0480	0.0000	204.0673
Total	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8680	202.8680	0.0480	0.0000	204.0673

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	1.7800e-003	0.0695	0.0241	3.2000e-004	0.0105	4.1000e-004	0.0109	3.0200e-003	4.0000e-004	3.4200e-003	0.0000	31.0520	31.0520	9.8000e-004	4.5000e-003	32.4171
Worker	0.0133	8.8300e-003	0.1118	3.5000e-004	0.0421	2.2000e-004	0.0423	0.0112	2.0000e-004	0.0114	0.0000	32.2234	32.2234	9.0000e-004	8.7000e-004	32.5047
Total	0.0151	0.0783	0.1359	6.7000e-004	0.0526	6.3000e-004	0.0532	0.0142	6.0000e-004	0.0148	0.0000	63.2754	63.2754	1.8800e-003	5.3700e-003	64.9218

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Mitigated Construction 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	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8677	202.8677	0.0480	0.0000	204.0670
Total	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8677	202.8677	0.0480	0.0000	204.0670

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	1.7800e-003	0.0695	0.0241	3.2000e-004	0.0105	4.1000e-004	0.0109	3.0200e-003	4.0000e-004	3.4200e-003	0.0000	31.0520	31.0520	9.8000e-004	4.5000e-003	32.4171
Worker	0.0133	8.8300e-003	0.1118	3.5000e-004	0.0421	2.2000e-004	0.0423	0.0112	2.0000e-004	0.0114	0.0000	32.2234	32.2234	9.0000e-004	8.7000e-004	32.5047
Total	0.0151	0.0783	0.1359	6.7000e-004	0.0526	6.3000e-004	0.0532	0.0142	6.0000e-004	0.0148	0.0000	63.2754	63.2754	1.8800e-003	5.3700e-003	64.9218

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Unmitigated Construction 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	5.2900e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.2900e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054

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	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430
Total	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Mitigated Construction 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	5.2900e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.2900e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054

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	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430
Total	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.2020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0800e-003	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341
Total	0.2031	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341

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	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458
Total	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.2020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0800e-003	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341
Total	0.2031	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341

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	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458
Total	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0928	0.1033	0.8706	1.8600e-003	0.2051	1.4400e-003	0.2065	0.0547	1.3400e-003	0.0561	0.0000	171.6619	171.6619	0.0123	7.7900e-003	174.2894
Unmitigated	0.0928	0.1033	0.8706	1.8600e-003	0.2051	1.4400e-003	0.2065	0.0547	1.3400e-003	0.0561	0.0000	171.6619	171.6619	0.0123	7.7900e-003	174.2894

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	192.00	192.00	192.00	548,218	548,218
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	192.00	192.00	192.00	548,218	548,218

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Condo/Townhouse	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Other Asphalt Surfaces	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Parking Lot	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	28.4737	28.4737	1.7400e-003	2.1000e-004	28.5800
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	28.4737	28.4737	1.7400e-003	2.1000e-004	28.5800
NaturalGas Mitigated	1.7400e-003	0.0149	6.3200e-003	9.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	17.1923	17.1923	3.3000e-004	3.2000e-004	17.2944
NaturalGas Unmitigated	1.7400e-003	0.0149	6.3200e-003	9.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	17.1923	17.1923	3.3000e-004	3.2000e-004	17.2944

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					
Condo/Townhouse	322171	1.7400e-003	0.0149	6.3200e-003	9.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	17.1923	17.1923	3.3000e-004	3.2000e-004	17.2944
Total		1.7400e-003	0.0149	6.3200e-003	9.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	17.1923	17.1923	3.3000e-004	3.2000e-004	17.2944

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	322171	1.7400e-003	0.0149	6.3200e-003	9.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	17.1923	17.1923	3.3000e-004	3.2000e-004	17.2944
Total		1.7400e-003	0.0149	6.3200e-003	9.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	17.1923	17.1923	3.3000e-004	3.2000e-004	17.2944

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	116252	28.4737	1.7400e-003	2.1000e-004	28.5800
Total		28.4737	1.7400e-003	2.1000e-004	28.5800

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.3 Energy by Land Use - Electricity****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	116252	28.4737	1.7400e-003	2.1000e-004	28.5800
Total		28.4737	1.7400e-003	2.1000e-004	28.5800

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	0.2957	6.1500e-003	0.3736	3.2000e-004		0.0277	0.0277		0.0277	0.0277	2.3735	2.1203	4.4938	3.1000e-004	3.4000e-004	4.6032
Unmitigated	0.2957	6.1500e-003	0.3736	3.2000e-004		0.0277	0.0277		0.0277	0.0277	2.3735	2.1203	4.4938	3.1000e-004	3.4000e-004	4.6032

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****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	0.0202					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0937					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1764	4.1000e-003	0.1956	3.1000e-004		0.0267	0.0267		0.0267	0.0267	2.3735	1.8292	4.2027	3.0000e-005	3.4000e-004	4.3051
Landscaping	5.3500e-003	2.0500e-003	0.1780	1.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	0.2911	0.2911	2.8000e-004	0.0000	0.2981
Total	0.2957	6.1500e-003	0.3736	3.2000e-004		0.0277	0.0277		0.0277	0.0277	2.3735	2.1203	4.4938	3.1000e-004	3.4000e-004	4.6032

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0202					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0937					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1764	4.1000e-003	0.1956	3.1000e-004		0.0267	0.0267		0.0267	0.0267	2.3735	1.8292	4.2027	3.0000e-005	3.4000e-004	4.3051
Landscaping	5.3500e-003	2.0500e-003	0.1780	1.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	0.2911	0.2911	2.8000e-004	0.0000	0.2981
Total	0.2957	6.1500e-003	0.3736	3.2000e-004		0.0277	0.0277		0.0277	0.0277	2.3735	2.1203	4.4938	3.1000e-004	3.4000e-004	4.6032

7.0 Water Detail**7.1 Mitigation Measures Water**

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.9290	0.0814	1.9900e-003	15.5589
Unmitigated	12.9290	0.0814	1.9900e-003	15.5589

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	2.47585 / 1.56086	12.9290	0.0814	1.9900e-003	15.5589
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		12.9290	0.0814	1.9900e-003	15.5589

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	2.47585 / 1.56086	12.9290	0.0814	1.9900e-003	15.5589
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		12.9290	0.0814	1.9900e-003	15.5589

8.0 Waste Detail**8.1 Mitigation Measures Waste**

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

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.5483	0.2097	0.0000	8.7907
Unmitigated	3.5483	0.2097	0.0000	8.7907

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	17.48	3.5483	0.2097	0.0000	8.7907
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		3.5483	0.2097	0.0000	8.7907

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.2 Waste by Land Use****Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	17.48	3.5483	0.2097	0.0000	8.7907
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		3.5483	0.2097	0.0000	8.7907

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

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

Equipment Type	Number
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11.0 Vegetation

B. Project CalEEMod Modeling Files

2112 Sunset Drive Townhomes - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2112 Sunset Drive Townhomes****San Diego County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	31.00	Space	0.28	12,400.00	0
City Park	0.73	Acre	0.73	31,848.00	0
Condo/Townhouse	38.00	Dwelling Unit	2.49	59,440.00	109
Other Asphalt Surfaces	33.66	1000sqft	0.77	33,664.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per applicant provided information. City park subtype assumed for project open space = 31,848 sqft. Other asphalt surfaces represent new internal roads.

Construction Phase - Per applicant provided information. 6 days per week.

Off-road Equipment - default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Grading - per applicant provided information

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

Off-road Equipment - Default values

Off-road Equipment - Default values

Demolition - Per applicant provided information 3,000 sqft for buildings and 1,000 sqft for surfaces, total 4,000 sqft.

Trips and VMT - Default values rounded up to even values to include both arrival and departure of vehicles. Demolition, site preparation and grading include vendor trucks for watering vehicles.

Architectural Coating - As provided by applicant, low-VOC coatings to be used for the project.

Vehicle Trips - Condo/townhouse trip rate based on Project Information Form, Table A Trip Generation Summary.

Woodstoves - Project includes 2 outdoor grills and 2 outdoor fire pits, represented by 2 propane burning and 2 wood burning fireplaces. Wood mass set equal to half the default value as there are only 2 wood burning fire pits compared to the default value of 3.8.

Consumer Products - Default values

Area Coating - Per applicant project will include use of Low-VOC coatings.

Landscape Equipment - Default values

Energy Use - Default values

Water And Wastewater - Default values

Solid Waste - Default values

Construction Off-road Equipment Mitigation -

Area Mitigation - Project will use Low-VOC coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50

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

tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	8.00	27.00
tblConstructionPhase	NumDays	230.00	314.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/27/2023	6/15/2023
tblConstructionPhase	PhaseEndDate	2/3/2023	6/20/2023
tblConstructionPhase	PhaseEndDate	2/15/2023	7/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2024	7/22/2024
tblConstructionPhase	PhaseEndDate	1/29/2024	8/5/2024
tblConstructionPhase	PhaseEndDate	2/22/2024	8/19/2024
tblConstructionPhase	PhaseStartDate	1/2/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	6/16/2023
tblConstructionPhase	PhaseStartDate	2/4/2023	6/21/2023
tblConstructionPhase	PhaseStartDate	2/16/2023	7/22/2023
tblConstructionPhase	PhaseStartDate	1/4/2024	7/23/2024
tblConstructionPhase	PhaseStartDate	1/30/2024	8/6/2024
tblFireplaces	FireplaceWoodMass	3,078.40	1,539.00
tblFireplaces	NumberGas	20.90	0.00
tblFireplaces	NumberNoFireplace	3.80	4.00
tblFireplaces	NumberPropane	0.00	2.00

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

tblFireplaces	NumberWood	13.30	2.00
tblGrading	MaterialImported	0.00	2,700.00
tblLandUse	LandUseSquareFeet	31,847.98	31,848.00
tblLandUse	LandUseSquareFeet	38,000.00	59,440.00
tblLandUse	LotAcreage	2.38	2.49
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	17.00	18.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	8.14	8.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	6.28	8.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	7.32	8.00
tblWoodstoves	NumberCatalytic	1.90	0.00
tblWoodstoves	NumberNoncatalytic	1.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2112 Sunset Drive Townhomes - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1667	1.5287	1.6228	3.3000e-003	0.1854	0.0689	0.2542	0.0798	0.0645	0.1443	0.0000	291.3409	291.3409	0.0603	6.3900e-003	294.7525
2024	0.3541	1.3119	1.6387	3.1700e-003	0.0541	0.0571	0.1112	0.0146	0.0537	0.0683	0.0000	278.6819	278.6819	0.0531	5.4000e-003	281.6173
Maximum	0.3541	1.5287	1.6387	3.3000e-003	0.1854	0.0689	0.2542	0.0798	0.0645	0.1443	0.0000	291.3409	291.3409	0.0603	6.3900e-003	294.7525

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	0.1667	1.5287	1.6228	3.3000e-003	0.1099	0.0689	0.1788	0.0431	0.0645	0.1076	0.0000	291.3407	291.3407	0.0603	6.3900e-003	294.7522
2024	0.3541	1.3119	1.6387	3.1700e-003	0.0541	0.0571	0.1112	0.0146	0.0537	0.0683	0.0000	278.6817	278.6817	0.0531	5.4000e-003	281.6170
Maximum	0.3541	1.5287	1.6387	3.3000e-003	0.1099	0.0689	0.1788	0.0431	0.0645	0.1076	0.0000	291.3407	291.3407	0.0603	6.3900e-003	294.7522

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	31.49	0.00	20.64	38.88	0.00	17.28	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)
2	4-2-2023	7-1-2023	0.3223	0.3223
3	7-2-2023	10-1-2023	0.7099	0.7099
4	10-2-2023	1-1-2024	0.6728	0.6728
5	1-2-2024	4-1-2024	0.6241	0.6241
6	4-2-2024	7-1-2024	0.6220	0.6220
7	7-2-2024	9-30-2024	0.4110	0.4110
		Highest	0.7099	0.7099

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783
Energy	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	73.3674	73.3674	3.3400e-003	8.4000e-004	73.7016
Mobile	0.1470	0.1635	1.3784	2.9400e-003	0.3247	2.2800e-003	0.3270	0.0867	2.1300e-003	0.0888	0.0000	271.7980	271.7980	0.0194	0.0123	275.9581
Waste						0.0000	0.0000		0.0000	0.0000	3.5605	0.0000	3.5605	0.2104	0.0000	8.8209
Water						0.0000	0.0000		0.0000	0.0000	0.7855	14.5103	15.2958	0.0816	2.0100e-003	17.9346
Total	0.5902	0.1943	1.8665	3.4100e-003	0.3247	0.0325	0.3572	0.0867	0.0323	0.1190	6.7194	361.9670	368.6864	0.3152	0.0155	381.1934

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783
Energy	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	73.3674	73.3674	3.3400e-003	8.4000e-004	73.7016
Mobile	0.1470	0.1635	1.3784	2.9400e-003	0.3247	2.2800e-003	0.3270	0.0867	2.1300e-003	0.0888	0.0000	271.7980	271.7980	0.0194	0.0123	275.9581
Waste						0.0000	0.0000		0.0000	0.0000	3.5605	0.0000	3.5605	0.2104	0.0000	8.8209
Water						0.0000	0.0000		0.0000	0.0000	0.7855	14.5103	15.2958	0.0816	2.0100e-003	17.9346
Total	0.5902	0.1943	1.8665	3.4100e-003	0.3247	0.0325	0.3572	0.0867	0.0323	0.1190	6.7194	361.9670	368.6864	0.3152	0.0155	381.1934

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	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	6/1/2023	6/15/2023	6	13	
2	Site Preparation	Site Preparation	6/16/2023	6/20/2023	6	4	
3	Grading	Grading	6/21/2023	7/21/2023	6	27	

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

4	Building Construction	Building Construction	7/22/2023	7/22/2024	6	314
5	Paving	Paving	7/23/2024	8/5/2024	6	12
6	Architectural Coating	Architectural Coating	8/6/2024	8/19/2024	6	12

Acres of Grading (Site Preparation Phase): 6**Acres of Grading (Grading Phase): 27****Acres of Paving: 1.05****Residential Indoor: 120,366; Residential Outdoor: 40,122; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,764 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36

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Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	4.00	338.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Demolition - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9900e-003	0.0000	1.9900e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1397	0.1277	2.5000e-004		6.4800e-003	6.4800e-003		6.0300e-003	6.0300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495
Total	0.0148	0.1397	0.1277	2.5000e-004	1.9900e-003	6.4800e-003	8.4700e-003	3.0000e-004	6.0300e-003	6.3300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5401	0.5401	3.0000e-005	9.0000e-005	0.5664
Vendor	3.0000e-005	1.1500e-003	4.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5217	0.5217	2.0000e-005	8.0000e-005	0.5446
Worker	2.8000e-004	1.9000e-004	2.3700e-003	1.0000e-005	8.3000e-004	0.0000	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6599	0.6599	2.0000e-005	2.0000e-005	0.6659
Total	3.3000e-004	2.5600e-003	3.1000e-003	3.0000e-005	1.1500e-003	2.0000e-005	1.1800e-003	3.1000e-004	2.0000e-005	3.4000e-004	0.0000	1.7218	1.7218	7.0000e-005	1.9000e-004	1.7769

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 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					9.0000e-004	0.0000	9.0000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1397	0.1277	2.5000e-004		6.4800e-003	6.4800e-003		6.0300e-003	6.0300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495
Total	0.0148	0.1397	0.1277	2.5000e-004	9.0000e-004	6.4800e-003	7.3800e-003	1.4000e-004	6.0300e-003	6.1700e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5401	0.5401	3.0000e-005	9.0000e-005	0.5664
Vendor	3.0000e-005	1.1500e-003	4.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5217	0.5217	2.0000e-005	8.0000e-005	0.5446
Worker	2.8000e-004	1.9000e-004	2.3700e-003	1.0000e-005	8.3000e-004	0.0000	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6599	0.6599	2.0000e-005	2.0000e-005	0.6659
Total	3.3000e-004	2.5600e-003	3.1000e-003	3.0000e-005	1.1500e-003	2.0000e-005	1.1800e-003	3.1000e-004	2.0000e-005	3.4000e-004	0.0000	1.7218	1.7218	7.0000e-005	1.9000e-004	1.7769

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 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					0.0393	0.0000	0.0393	0.0202	0.0000	0.0202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3200e-003	0.0551	0.0365	8.0000e-005		2.5300e-003	2.5300e-003		2.3300e-003	2.3300e-003	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442
Total	5.3200e-003	0.0551	0.0365	8.0000e-005	0.0393	2.5300e-003	0.0418	0.0202	2.3300e-003	0.0225	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442

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	1.0000e-005	3.6000e-004	1.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1605	0.1605	0.0000	2.0000e-005	0.1676
Worker	1.0000e-004	7.0000e-005	8.2000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	1.0000e-005	0.2305
Total	1.1000e-004	4.3000e-004	9.5000e-004	0.0000	3.4000e-004	0.0000	3.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3890	0.3890	1.0000e-005	3.0000e-005	0.3981

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 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					0.0177	0.0000	0.0177	9.0900e-003	0.0000	9.0900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3200e-003	0.0551	0.0365	8.0000e-005		2.5300e-003	2.5300e-003		2.3300e-003	2.3300e-003	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442
Total	5.3200e-003	0.0551	0.0365	8.0000e-005	0.0177	2.5300e-003	0.0202	9.0900e-003	2.3300e-003	0.0114	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442

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	1.0000e-005	3.6000e-004	1.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1605	0.1605	0.0000	2.0000e-005	0.1676
Worker	1.0000e-004	7.0000e-005	8.2000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	1.0000e-005	0.2305
Total	1.1000e-004	4.3000e-004	9.5000e-004	0.0000	3.4000e-004	0.0000	3.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3890	0.3890	1.0000e-005	3.0000e-005	0.3981

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 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					0.0958	0.0000	0.0958	0.0463	0.0000	0.0463	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0231	0.2421	0.1991	4.0000e-004		0.0105	0.0105		9.6200e-003	9.6200e-003	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663
Total	0.0231	0.2421	0.1991	4.0000e-004	0.0958	0.0105	0.1063	0.0463	9.6200e-003	0.0559	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0229	6.1000e-003	1.0000e-004	2.8900e-003	1.9000e-004	3.0800e-003	8.0000e-004	1.8000e-004	9.7000e-004	0.0000	10.1425	10.1425	5.1000e-004	1.6100e-003	10.6359
Vendor	6.0000e-005	2.4000e-003	8.5000e-004	1.0000e-005	3.6000e-004	1.0000e-005	3.7000e-004	1.0000e-004	1.0000e-005	1.2000e-004	0.0000	1.0835	1.0835	3.0000e-005	1.6000e-004	1.1311
Worker	5.8000e-004	4.0000e-004	4.9200e-003	1.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.3707	1.3707	4.0000e-005	4.0000e-005	1.3831
Total	1.0100e-003	0.0257	0.0119	1.2000e-004	4.9800e-003	2.1000e-004	5.1900e-003	1.3600e-003	2.0000e-004	1.5600e-003	0.0000	12.5966	12.5966	5.8000e-004	1.8100e-003	13.1501

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 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					0.0431	0.0000	0.0431	0.0208	0.0000	0.0208	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0231	0.2421	0.1991	4.0000e-004		0.0105	0.0105		9.6200e-003	9.6200e-003	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663
Total	0.0231	0.2421	0.1991	4.0000e-004	0.0431	0.0105	0.0536	0.0208	9.6200e-003	0.0304	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0229	6.1000e-003	1.0000e-004	2.8900e-003	1.9000e-004	3.0800e-003	8.0000e-004	1.8000e-004	9.7000e-004	0.0000	10.1425	10.1425	5.1000e-004	1.6100e-003	10.6359
Vendor	6.0000e-005	2.4000e-003	8.5000e-004	1.0000e-005	3.6000e-004	1.0000e-005	3.7000e-004	1.0000e-004	1.0000e-005	1.2000e-004	0.0000	1.0835	1.0835	3.0000e-005	1.6000e-004	1.1311
Worker	5.8000e-004	4.0000e-004	4.9200e-003	1.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.3707	1.3707	4.0000e-005	4.0000e-005	1.3831
Total	1.0100e-003	0.0257	0.0119	1.2000e-004	4.9800e-003	2.1000e-004	5.1900e-003	1.3600e-003	2.0000e-004	1.5600e-003	0.0000	12.5966	12.5966	5.8000e-004	1.8100e-003	13.1501

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Unmitigated Construction 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	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1043	161.1043	0.0383	0.0000	162.0624
Total	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1043	161.1043	0.0383	0.0000	162.0624

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	1.4700e-003	0.0555	0.0196	2.6000e-004	8.3100e-003	3.3000e-004	8.6300e-003	2.4000e-003	3.1000e-004	2.7100e-003	0.0000	25.1014	25.1014	7.6000e-004	3.6400e-003	26.2042
Worker	0.0113	7.8000e-003	0.0950	2.9000e-004	0.0334	1.8000e-004	0.0336	8.8900e-003	1.7000e-004	9.0600e-003	0.0000	26.4611	26.4611	7.8000e-004	7.4000e-004	26.7007
Total	0.0128	0.0633	0.1146	5.5000e-004	0.0418	5.1000e-004	0.0423	0.0113	4.8000e-004	0.0118	0.0000	51.5625	51.5625	1.5400e-003	4.3800e-003	52.9049

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****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	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1041	161.1041	0.0383	0.0000	162.0622
Total	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1041	161.1041	0.0383	0.0000	162.0622

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	1.4700e-003	0.0555	0.0196	2.6000e-004	8.3100e-003	3.3000e-004	8.6300e-003	2.4000e-003	3.1000e-004	2.7100e-003	0.0000	25.1014	25.1014	7.6000e-004	3.6400e-003	26.2042
Worker	0.0113	7.8000e-003	0.0950	2.9000e-004	0.0334	1.8000e-004	0.0336	8.8900e-003	1.7000e-004	9.0600e-003	0.0000	26.4611	26.4611	7.8000e-004	7.4000e-004	26.7007
Total	0.0128	0.0633	0.1146	5.5000e-004	0.0418	5.1000e-004	0.0423	0.0113	4.8000e-004	0.0118	0.0000	51.5625	51.5625	1.5400e-003	4.3800e-003	52.9049

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Unmitigated Construction 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	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8680	202.8680	0.0480	0.0000	204.0673
Total	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8680	202.8680	0.0480	0.0000	204.0673

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	1.7800e-003	0.0695	0.0241	3.2000e-004	0.0105	4.1000e-004	0.0109	3.0200e-003	4.0000e-004	3.4200e-003	0.0000	31.0520	31.0520	9.8000e-004	4.5000e-003	32.4171
Worker	0.0133	8.8300e-003	0.1118	3.5000e-004	0.0421	2.2000e-004	0.0423	0.0112	2.0000e-004	0.0114	0.0000	32.2234	32.2234	9.0000e-004	8.7000e-004	32.5047
Total	0.0151	0.0783	0.1359	6.7000e-004	0.0526	6.3000e-004	0.0532	0.0142	6.0000e-004	0.0148	0.0000	63.2754	63.2754	1.8800e-003	5.3700e-003	64.9218

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Mitigated Construction 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	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8677	202.8677	0.0480	0.0000	204.0670
Total	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8677	202.8677	0.0480	0.0000	204.0670

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	1.7800e-003	0.0695	0.0241	3.2000e-004	0.0105	4.1000e-004	0.0109	3.0200e-003	4.0000e-004	3.4200e-003	0.0000	31.0520	31.0520	9.8000e-004	4.5000e-003	32.4171
Worker	0.0133	8.8300e-003	0.1118	3.5000e-004	0.0421	2.2000e-004	0.0423	0.0112	2.0000e-004	0.0114	0.0000	32.2234	32.2234	9.0000e-004	8.7000e-004	32.5047
Total	0.0151	0.0783	0.1359	6.7000e-004	0.0526	6.3000e-004	0.0532	0.0142	6.0000e-004	0.0148	0.0000	63.2754	63.2754	1.8800e-003	5.3700e-003	64.9218

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Unmitigated Construction 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	5.2900e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054
Paving	1.3800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.6700e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054

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	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430
Total	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Mitigated Construction 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	5.2900e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054
Paving	1.3800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.6700e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054

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	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430
Total	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.2020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0800e-003	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341
Total	0.2031	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341

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	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458
Total	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.2020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0800e-003	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341
Total	0.2031	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341

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	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458
Total	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1470	0.1635	1.3784	2.9400e-003	0.3247	2.2800e-003	0.3270	0.0867	2.1300e-003	0.0888	0.0000	271.7980	271.7980	0.0194	0.0123	275.9581
Unmitigated	0.1470	0.1635	1.3784	2.9400e-003	0.3247	2.2800e-003	0.3270	0.0867	2.1300e-003	0.0888	0.0000	271.7980	271.7980	0.0194	0.0123	275.9581

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	304.00	304.00	304.00	868,012	868,012
Parking Lot	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	304.00	304.00	304.00	868,012	868,012

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Condo/Townhouse	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Parking Lot	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Other Asphalt Surfaces	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	46.1463	46.1463	2.8200e-003	3.4000e-004	46.3187
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	46.1463	46.1463	2.8200e-003	3.4000e-004	46.3187
NaturalGas Mitigated	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829
NaturalGas Unmitigated	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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
Condo/Townhouse	510104	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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
Condo/Townhouse	510104	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	184066	45.0833	2.7600e-003	3.3000e-004	45.2517
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4340	1.0630	6.0000e-005	1.0000e-005	1.0670
Total		46.1463	2.8200e-003	3.4000e-004	46.3187

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.3 Energy by Land Use - Electricity****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	184066	45.0833	2.7600e-003	3.3000e-004	45.2517
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4340	1.0630	6.0000e-005	1.0000e-005	1.0670
Total		46.1463	2.8200e-003	3.4000e-004	46.3187

6.0 Area Detail**6.1 Mitigation Measures Area**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783
Unmitigated	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783

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	0.0202					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1764	4.1000e-003	0.1956	3.1000e-004		0.0267	0.0267		0.0267	0.0267	2.3735	1.8292	4.2027	3.0000e-005	3.4000e-004	4.3051
Landscaping	8.5200e-003	3.2500e-003	0.2825	1.0000e-005		1.5700e-003	1.5700e-003		1.5700e-003	1.5700e-003	0.0000	0.4621	0.4621	4.4000e-004	0.0000	0.4732
Total	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0202					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1764	4.1000e-003	0.1956	3.1000e-004		0.0267	0.0267		0.0267	0.0267	2.3735	1.8292	4.2027	3.0000e-005	3.4000e-004	4.3051
Landscaping	8.5200e-003	3.2500e-003	0.2825	1.0000e-005		1.5700e-003	1.5700e-003		1.5700e-003	1.5700e-003	0.0000	0.4621	0.4621	4.4000e-004	0.0000	0.4732
Total	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783

7.0 Water Detail**7.1 Mitigation Measures Water**

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	15.2958	0.0816	2.0100e-003	17.9346
Unmitigated	15.2958	0.0816	2.0100e-003	17.9346

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.869781	2.3668	1.4000e-004	2.0000e-005	2.3757
Condo/Townhouse	2.47585 / 1.56086	12.9290	0.0814	1.9900e-003	15.5589
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		15.2958	0.0816	2.0100e-003	17.9346

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.869781	2.3668	1.4000e-004	2.0000e-005	2.3757
Condo/Townhouse	2.47585 / 1.56086	12.9290	0.0814	1.9900e-003	15.5589
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		15.2958	0.0816	2.0100e-003	17.9346

8.0 Waste Detail**8.1 Mitigation Measures Waste**

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

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.5605	0.2104	0.0000	8.8209
Unmitigated	3.5605	0.2104	0.0000	8.8209

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.06	0.0122	7.2000e-004	0.0000	0.0302
Condo/Townhouse	17.48	3.5483	0.2097	0.0000	8.7907
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		3.5605	0.2104	0.0000	8.8209

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.2 Waste by Land Use****Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.06	0.0122	7.2000e-004	0.0000	0.0302
Condo/Townhouse	17.48	3.5483	0.2097	0.0000	8.7907
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		3.5605	0.2104	0.0000	8.8209

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

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

Equipment Type	Number
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11.0 Vegetation

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2112 Sunset Drive Townhomes****San Diego County, Summer****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	31.00	Space	0.28	12,400.00	0
City Park	0.73	Acre	0.73	31,848.00	0
Condo/Townhouse	38.00	Dwelling Unit	2.49	59,440.00	109
Other Asphalt Surfaces	33.66	1000sqft	0.77	33,664.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per applicant provided information. City park subtype assumed for project open space = 31,848 sqft. Other asphalt surfaces represent new internal roads.

Construction Phase - Per applicant provided information. 6 days per week.

Off-road Equipment - default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Grading - per applicant provided information

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

Off-road Equipment - Default values

Off-road Equipment - Default values

Demolition - Per applicant provided information 3,000 sqft for buildings and 1,000 sqft for surfaces, total 4,000 sqft.

Trips and VMT - Default values rounded up to even values to include both arrival and departure of vehicles. Demolition, site preparation and grading include vendor trucks for watering vehicles.

Architectural Coating - As provided by applicant, low-VOC coatings to be used for the project.

Vehicle Trips - Condo/townhouse trip rate based on Project Information Form, Table A Trip Generation Summary.

Woodstoves - Project includes 2 outdoor grills and 2 outdoor fire pits, represented by 2 propane burning and 2 wood burning fireplaces. Wood mass set equal to half the default value as there are only 2 wood burning fire pits compared to the default value of 3.8.

Consumer Products - Default values

Area Coating - Per applicant project will include use of Low-VOC coatings.

Landscape Equipment - Default values

Energy Use - Default values

Water And Wastewater - Default values

Solid Waste - Default values

Construction Off-road Equipment Mitigation -

Area Mitigation - Project will use Low-VOC coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50

2112 Sunset Drive Townhomes - San Diego County, Summer

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

tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	8.00	27.00
tblConstructionPhase	NumDays	230.00	314.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/27/2023	6/15/2023
tblConstructionPhase	PhaseEndDate	2/3/2023	6/20/2023
tblConstructionPhase	PhaseEndDate	2/15/2023	7/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2024	7/22/2024
tblConstructionPhase	PhaseEndDate	1/29/2024	8/5/2024
tblConstructionPhase	PhaseEndDate	2/22/2024	8/19/2024
tblConstructionPhase	PhaseStartDate	1/2/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	6/16/2023
tblConstructionPhase	PhaseStartDate	2/4/2023	6/21/2023
tblConstructionPhase	PhaseStartDate	2/16/2023	7/22/2023
tblConstructionPhase	PhaseStartDate	1/4/2024	7/23/2024
tblConstructionPhase	PhaseStartDate	1/30/2024	8/6/2024
tblFireplaces	FireplaceWoodMass	3,078.40	1,539.00
tblFireplaces	NumberGas	20.90	0.00
tblFireplaces	NumberNoFireplace	3.80	4.00
tblFireplaces	NumberPropane	0.00	2.00

2112 Sunset Drive Townhomes - San Diego County, Summer

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

tblFireplaces	NumberWood	13.30	2.00
tblGrading	MaterialImported	0.00	2,700.00
tblLandUse	LandUseSquareFeet	31,847.98	31,848.00
tblLandUse	LandUseSquareFeet	38,000.00	59,440.00
tblLandUse	LotAcreage	2.38	2.49
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	17.00	18.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	8.14	8.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	6.28	8.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	7.32	8.00
tblWoodstoves	NumberCatalytic	1.90	0.00
tblWoodstoves	NumberNoncatalytic	1.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	2.7134	27.7262	20.1389	0.0416	19.8320	1.2679	21.0998	10.1495	1.1665	11.3159	0.0000	4,044.3505	4,044.3505	1.1988	0.1474	4,079.8729
2024	33.8748	14.3017	17.7817	0.0348	0.6148	0.6206	1.2353	0.1658	0.5837	0.7496	0.0000	3,372.3816	3,372.3816	0.6275	0.0669	3,407.9939
Maximum	33.8748	27.7262	20.1389	0.0416	19.8320	1.2679	21.0998	10.1495	1.1665	11.3159	0.0000	4,044.3505	4,044.3505	1.1988	0.1474	4,079.8729

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	2.7134	27.7262	20.1389	0.0416	9.0206	1.2679	10.2885	4.5931	1.1665	5.7596	0.0000	4,044.3505	4,044.3505	1.1988	0.1474	4,079.8729
2024	33.8748	14.3017	17.7817	0.0348	0.6148	0.6206	1.2353	0.1658	0.5837	0.7496	0.0000	3,372.3816	3,372.3816	0.6275	0.0669	3,407.9939
Maximum	33.8748	27.7262	20.1389	0.0416	9.0206	1.2679	10.2885	4.5931	1.1665	5.7596	0.0000	4,044.3505	4,044.3505	1.1988	0.1474	4,079.8729

2112 Sunset Drive Townhomes - San Diego County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	52.88	0.00	48.41	53.87	0.00	46.05	0.00	0.00	0.00	0.00	0.00	0.00

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Energy	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Mobile	0.8424	0.8386	7.5306	0.0168	1.8272	0.0125	1.8397	0.4867	0.0117	0.4984		1,710.985 1	1,710.985 1	0.1134	0.0717	1,735.177 5
Total	6.6546	1.1035	15.4945	0.0253	1.8272	0.6925	2.5197	0.4867	0.6916	1.1784	63.8122	1,930.241 8	1,994.054 0	0.1228	0.0839	2,022.112 3

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	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Energy	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Mobile	0.8424	0.8386	7.5306	0.0168	1.8272	0.0125	1.8397	0.4867	0.0117	0.4984		1,710.985 1	1,710.985 1	0.1134	0.0717	1,735.177 5
Total	6.6546	1.1035	15.4945	0.0253	1.8272	0.6925	2.5197	0.4867	0.6916	1.1784	63.8122	1,930.241 8	1,994.054 0	0.1228	0.0839	2,022.112 3

2112 Sunset Drive Townhomes - San Diego County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	6/1/2023	6/15/2023	6	13	
2	Site Preparation	Site Preparation	6/16/2023	6/20/2023	6	4	
3	Grading	Grading	6/21/2023	7/21/2023	6	27	
4	Building Construction	Building Construction	7/22/2023	7/22/2024	6	314	
5	Paving	Paving	7/23/2024	8/5/2024	6	12	
6	Architectural Coating	Architectural Coating	8/6/2024	8/19/2024	6	12	

Acres of Grading (Site Preparation Phase): 6**Acres of Grading (Grading Phase): 27****Acres of Paving: 1.05****Residential Indoor: 120,366; Residential Outdoor: 40,122; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,764 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

2112 Sunset Drive Townhomes - San Diego County, Summer

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

Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	4.00	338.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					0.3067	0.0000	0.3067	0.0464	0.0000	0.0464			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	0.3067	0.9975	1.3042	0.0464	0.9280	0.9744		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	3.1400e-003	0.1811	0.0498	8.3000e-004	0.0242	1.5400e-003	0.0258	6.6400e-003	1.4700e-003	8.1100e-003		91.5615	91.5615	4.6100e-003	0.0146	96.0159
Vendor	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0437	0.0272	0.3840	1.1600e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		117.3863	117.3863	3.1800e-003	2.9300e-003	118.3378
Total	0.0516	0.3798	0.4955	2.8100e-003	0.1828	3.2800e-003	0.1860	0.0493	3.1200e-003	0.0524		297.3665	297.3665	0.0105	0.0303	306.6546

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					0.1380	0.0000	0.1380	0.0209	0.0000	0.0209			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.1380	0.9975	1.1355	0.0209	0.9280	0.9489	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	3.1400e-003	0.1811	0.0498	8.3000e-004	0.0242	1.5400e-003	0.0258	6.6400e-003	1.4700e-003	8.1100e-003		91.5615	91.5615	4.6100e-003	0.0146	96.0159
Vendor	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0437	0.0272	0.3840	1.1600e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		117.3863	117.3863	3.1800e-003	2.9300e-003	118.3378
Total	0.0516	0.3798	0.4955	2.8100e-003	0.1828	3.2800e-003	0.1860	0.0493	3.1200e-003	0.0524		297.3665	297.3665	0.0105	0.0303	306.6546

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2023****Unmitigated Construction 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		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.308 1	3,687.308 1	1.1926		3,717.121 9

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	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
Total	0.0540	0.2020	0.4938	2.1300e-003	0.1750	1.8300e-003	0.1768	0.0470	1.7300e-003	0.0488		220.4783	220.4783	6.2600e-003	0.0161	225.4309

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2023****Mitigated Construction 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	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	8.8457	1.2660	10.1117	4.5461	1.1647	5.7108	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	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
Total	0.0540	0.2020	0.4938	2.1300e-003	0.1750	1.8300e-003	0.1768	0.0470	1.7300e-003	0.0488		220.4783	220.4783	6.2600e-003	0.0161	225.4309

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					7.0966	0.0000	7.0966	3.4269	0.0000	3.4269			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	7.0966	0.7749	7.8716	3.4269	0.7129	4.1398		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	0.0284	1.6376	0.4499	7.4900e-003	0.2190	0.0139	0.2329	0.0600	0.0133	0.0733		827.8213	827.8213	0.0417	0.1316	868.0944
Vendor	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0437	0.0272	0.3840	1.1600e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		117.3863	117.3863	3.1800e-003	2.9300e-003	118.3378
Total	0.0769	1.8362	0.8956	9.4700e-003	0.3775	0.0156	0.3931	0.1027	0.0150	0.1176		1,033.626 3	1,033.626 3	0.0476	0.1474	1,078.733 1

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					3.1935	0.0000	3.1935	1.5421	0.0000	1.5421			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	1.7109	17.9359	14.7507	0.0297	3.1935	0.7749	3.9684	1.5421	0.7129	2.2550	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2

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	0.0284	1.6376	0.4499	7.4900e-003	0.2190	0.0139	0.2329	0.0600	0.0133	0.0733		827.8213	827.8213	0.0417	0.1316	868.0944
Vendor	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0437	0.0272	0.3840	1.1600e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		117.3863	117.3863	3.1800e-003	2.9300e-003	118.3378
Total	0.0769	1.8362	0.8956	9.4700e-003	0.3775	0.0156	0.3931	0.1027	0.0150	0.1176		1,033.626 3	1,033.626 3	0.0476	0.1474	1,078.733 1

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Unmitigated Construction 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	0.0215	0.7716	0.2781	3.6900e-003	0.1219	4.7000e-003	0.1266	0.0351	4.5000e-003	0.0396		397.8845	397.8845	0.0121	0.0576	415.3540
Worker	0.1640	0.1018	1.4399	4.3500e-003	0.4929	2.6400e-003	0.4955	0.1307	2.4300e-003	0.1332		440.1984	440.1984	0.0119	0.0110	443.7668
Total	0.1855	0.8734	1.7180	8.0400e-003	0.6148	7.3400e-003	0.6221	0.1658	6.9300e-003	0.1728		838.0829	838.0829	0.0240	0.0686	859.1207

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Mitigated Construction 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	0.0000	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	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	0.0215	0.7716	0.2781	3.6900e-003	0.1219	4.7000e-003	0.1266	0.0351	4.5000e-003	0.0396		397.8845	397.8845	0.0121	0.0576	415.3540
Worker	0.1640	0.1018	1.4399	4.3500e-003	0.4929	2.6400e-003	0.4955	0.1307	2.4300e-003	0.1332		440.1984	440.1984	0.0119	0.0110	443.7668
Total	0.1855	0.8734	1.7180	8.0400e-003	0.6148	7.3400e-003	0.6221	0.1658	6.9300e-003	0.1728		838.0829	838.0829	0.0240	0.0686	859.1207

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Unmitigated Construction 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0207	0.7664	0.2716	3.6200e-003	0.1219	4.7200e-003	0.1266	0.0351	4.5200e-003	0.0396		390.9475	390.9475	0.0123	0.0566	408.1236
Worker	0.1540	0.0916	1.3433	4.2100e-003	0.4929	2.5200e-003	0.4954	0.1307	2.3200e-003	0.1331		425.7352	425.7352	0.0109	0.0103	429.0627
Total	0.1747	0.8579	1.6149	7.8300e-003	0.6148	7.2400e-003	0.6220	0.1658	6.8400e-003	0.1727		816.6827	816.6827	0.0232	0.0669	837.1862

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Mitigated Construction 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0207	0.7664	0.2716	3.6200e-003	0.1219	4.7200e-003	0.1266	0.0351	4.5200e-003	0.0396		390.9475	390.9475	0.0123	0.0566	408.1236
Worker	0.1540	0.0916	1.3433	4.2100e-003	0.4929	2.5200e-003	0.4954	0.1307	2.3200e-003	0.1331		425.7352	425.7352	0.0109	0.0103	429.0627
Total	0.1747	0.8579	1.6149	7.8300e-003	0.6148	7.2400e-003	0.6220	0.1658	6.8400e-003	0.1727		816.6827	816.6827	0.0232	0.0669	837.1862

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Unmitigated Construction 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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1106	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0513	0.0305	0.4478	1.4000e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		141.9117	141.9117	3.6200e-003	3.4200e-003	143.0209
Total	0.0513	0.0305	0.4478	1.4000e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		141.9117	141.9117	3.6200e-003	3.4200e-003	143.0209

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Mitigated Construction 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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1106	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0513	0.0305	0.4478	1.4000e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		141.9117	141.9117	3.6200e-003	3.4200e-003	143.0209
Total	0.0513	0.0305	0.4478	1.4000e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		141.9117	141.9117	3.6200e-003	3.4200e-003	143.0209

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	33.6632					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	33.8440	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	0.0308	0.0183	0.2687	8.4000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		85.1470	85.1470	2.1700e-003	2.0500e-003	85.8125
Total	0.0308	0.0183	0.2687	8.4000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		85.1470	85.1470	2.1700e-003	2.0500e-003	85.8125

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	33.6632					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	0.0000	281.4481	281.4481	0.0159		281.8443
Total	33.8440	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	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	0.0308	0.0183	0.2687	8.4000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		85.1470	85.1470	2.1700e-003	2.0500e-003	85.8125
Total	0.0308	0.0183	0.2687	8.4000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		85.1470	85.1470	2.1700e-003	2.0500e-003	85.8125

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8424	0.8386	7.5306	0.0168	1.8272	0.0125	1.8397	0.4867	0.0117	0.4984		1,710.985 1	1,710.985 1	0.1134	0.0717	1,735.177 5
Unmitigated	0.8424	0.8386	7.5306	0.0168	1.8272	0.0125	1.8397	0.4867	0.0117	0.4984		1,710.985 1	1,710.985 1	0.1134	0.0717	1,735.177 5

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	304.00	304.00	304.00	868,012	868,012
Parking Lot	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	304.00	304.00	304.00	868,012	868,012

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

2112 Sunset Drive Townhomes - San Diego County, Summer

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Condo/Townhouse	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Parking Lot	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Other Asphalt Surfaces	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

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	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
NaturalGas Unmitigated	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse	1397.55	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total		0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse	1.39755	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total		0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

6.0 Area Detail**6.1 Mitigation Measures Area**

2112 Sunset Drive Townhomes - San Diego County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Unmitigated	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

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	0.1107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.3019	0.1000	4.7704	7.5100e-003		0.6521	0.6521		0.6521	0.6521	63.8122	49.1803	112.9925	7.9000e-004	9.1700e-003	115.7453
Landscaping	0.0947	0.0361	3.1387	1.7000e-004		0.0174	0.0174		0.0174	0.0174		5.6593	5.6593	5.4400e-003		5.7954
Total	5.7972	0.1361	7.9091	7.6800e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.3019	0.1000	4.7704	7.5100e-003		0.6521	0.6521		0.6521	0.6521	63.8122	49.1803	112.9925	7.9000e-004	9.1700e-003	115.7453
Landscaping	0.0947	0.0361	3.1387	1.7000e-004		0.0174	0.0174		0.0174	0.0174		5.6593	5.6593	5.4400e-003		5.7954
Total	5.7972	0.1361	7.9091	7.6800e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

7.0 Water Detail**7.1 Mitigation Measures Water**

2112 Sunset Drive Townhomes - San Diego County, Summer

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

Equipment Type	Number
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11.0 Vegetation

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2112 Sunset Drive Townhomes****San Diego County, Winter****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	31.00	Space	0.28	12,400.00	0
City Park	0.73	Acre	0.73	31,848.00	0
Condo/Townhouse	38.00	Dwelling Unit	2.49	59,440.00	109
Other Asphalt Surfaces	33.66	1000sqft	0.77	33,664.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per applicant provided information. City park subtype assumed for project open space = 31,848 sqft. Other asphalt surfaces represent new internal roads.

Construction Phase - Per applicant provided information. 6 days per week.

Off-road Equipment - default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Grading - per applicant provided information

2112 Sunset Drive Townhomes - San Diego County, Winter

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

Off-road Equipment - Default values

Off-road Equipment - Default values

Demolition - Per applicant provided information 3,000 sqft for buildings and 1,000 sqft for surfaces, total 4,000 sqft.

Trips and VMT - Default values rounded up to even values to include both arrival and departure of vehicles. Demolition, site preparation and grading include vendor trucks for watering vehicles.

Architectural Coating - As provided by applicant, low-VOC coatings to be used for the project.

Vehicle Trips - Condo/townhouse trip rate based on Project Information Form, Table A Trip Generation Summary.

Woodstoves - Project includes 2 outdoor grills and 2 outdoor fire pits, represented by 2 propane burning and 2 wood burning fireplaces. Wood mass set equal to half the default value as there are only 2 wood burning fire pits compared to the default value of 3.8.

Consumer Products - Default values

Area Coating - Per applicant project will include use of Low-VOC coatings.

Landscape Equipment - Default values

Energy Use - Default values

Water And Wastewater - Default values

Solid Waste - Default values

Construction Off-road Equipment Mitigation -

Area Mitigation - Project will use Low-VOC coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50

2112 Sunset Drive Townhomes - San Diego County, Winter

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

tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	8.00	27.00
tblConstructionPhase	NumDays	230.00	314.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/27/2023	6/15/2023
tblConstructionPhase	PhaseEndDate	2/3/2023	6/20/2023
tblConstructionPhase	PhaseEndDate	2/15/2023	7/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2024	7/22/2024
tblConstructionPhase	PhaseEndDate	1/29/2024	8/5/2024
tblConstructionPhase	PhaseEndDate	2/22/2024	8/19/2024
tblConstructionPhase	PhaseStartDate	1/2/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	6/16/2023
tblConstructionPhase	PhaseStartDate	2/4/2023	6/21/2023
tblConstructionPhase	PhaseStartDate	2/16/2023	7/22/2023
tblConstructionPhase	PhaseStartDate	1/4/2024	7/23/2024
tblConstructionPhase	PhaseStartDate	1/30/2024	8/6/2024
tblFireplaces	FireplaceWoodMass	3,078.40	1,539.00
tblFireplaces	NumberGas	20.90	0.00
tblFireplaces	NumberNoFireplace	3.80	4.00
tblFireplaces	NumberPropane	0.00	2.00

2112 Sunset Drive Townhomes - San Diego County, Winter

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

tblFireplaces	NumberWood	13.30	2.00
tblGrading	MaterialImported	0.00	2,700.00
tblLandUse	LandUseSquareFeet	31,847.98	31,848.00
tblLandUse	LandUseSquareFeet	38,000.00	59,440.00
tblLandUse	LotAcreage	2.38	2.49
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	17.00	18.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	8.14	8.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	6.28	8.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	7.32	8.00
tblWoodstoves	NumberCatalytic	1.90	0.00
tblWoodstoves	NumberNoncatalytic	1.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	2.7174	27.7372	20.1223	0.0416	19.8320	1.2679	21.0998	10.1495	1.1665	11.3159	0.0000	4,038.113 2	4,038.113 2	1.1990	0.1478	4,073.724 5
2024	33.8775	14.3454	17.7257	0.0346	0.6148	0.6206	1.2354	0.1658	0.5838	0.7496	0.0000	3,349.606 5	3,349.606 5	0.6282	0.0678	3,385.523 0
Maximum	33.8775	27.7372	20.1223	0.0416	19.8320	1.2679	21.0998	10.1495	1.1665	11.3159	0.0000	4,038.113 2	4,038.113 2	1.1990	0.1478	4,073.724 5

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	2.7174	27.7372	20.1223	0.0416	9.0206	1.2679	10.2885	4.5931	1.1665	5.7596	0.0000	4,038.113 2	4,038.113 2	1.1990	0.1478	4,073.724 5
2024	33.8775	14.3454	17.7257	0.0346	0.6148	0.6206	1.2354	0.1658	0.5838	0.7496	0.0000	3,349.606 5	3,349.606 5	0.6282	0.0678	3,385.523 0
Maximum	33.8775	27.7372	20.1223	0.0416	9.0206	1.2679	10.2885	4.5931	1.1665	5.7596	0.0000	4,038.113 2	4,038.113 2	1.1990	0.1478	4,073.724 5

2112 Sunset Drive Townhomes - San Diego County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	52.88	0.00	48.41	53.87	0.00	46.05	0.00	0.00	0.00	0.00	0.00	0.00

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Energy	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Mobile	0.8225	0.9084	7.7281	0.0161	1.8272	0.0125	1.8398	0.4867	0.0117	0.4984		1,637.075 4	1,637.075 4	0.1198	0.0754	1,662.551 6
Total	6.6347	1.1733	15.6920	0.0246	1.8272	0.6925	2.5197	0.4867	0.6916	1.1784	63.8122	1,856.332 1	1,920.144 3	0.1292	0.0876	1,949.486 4

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	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Energy	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Mobile	0.8225	0.9084	7.7281	0.0161	1.8272	0.0125	1.8398	0.4867	0.0117	0.4984		1,637.075 4	1,637.075 4	0.1198	0.0754	1,662.551 6
Total	6.6347	1.1733	15.6920	0.0246	1.8272	0.6925	2.5197	0.4867	0.6916	1.1784	63.8122	1,856.332 1	1,920.144 3	0.1292	0.0876	1,949.486 4

2112 Sunset Drive Townhomes - San Diego County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	6/1/2023	6/15/2023	6	13	
2	Site Preparation	Site Preparation	6/16/2023	6/20/2023	6	4	
3	Grading	Grading	6/21/2023	7/21/2023	6	27	
4	Building Construction	Building Construction	7/22/2023	7/22/2024	6	314	
5	Paving	Paving	7/23/2024	8/5/2024	6	12	
6	Architectural Coating	Architectural Coating	8/6/2024	8/19/2024	6	12	

Acres of Grading (Site Preparation Phase): 6**Acres of Grading (Grading Phase): 27****Acres of Paving: 1.05****Residential Indoor: 120,366; Residential Outdoor: 40,122; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,764 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

2112 Sunset Drive Townhomes - San Diego County, Winter

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

Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	4.00	338.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					0.3067	0.0000	0.3067	0.0464	0.0000	0.0464			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	0.3067	0.9975	1.3042	0.0464	0.9280	0.9744		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	2.9500e-003	0.1884	0.0504	8.3000e-004	0.0242	1.5400e-003	0.0258	6.6400e-003	1.4700e-003	8.1100e-003		91.6505	91.6505	4.6000e-003	0.0146	96.1090
Vendor	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0474	0.0305	0.3649	1.1000e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		110.9342	110.9342	3.3900e-003	3.1600e-003	111.9621
Total	0.0550	0.3977	0.4789	2.7500e-003	0.1828	3.2900e-003	0.1860	0.0493	3.1200e-003	0.0524		291.1292	291.1292	0.0107	0.0306	300.5062

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					0.1380	0.0000	0.1380	0.0209	0.0000	0.0209			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.1380	0.9975	1.1355	0.0209	0.9280	0.9489	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	2.9500e-003	0.1884	0.0504	8.3000e-004	0.0242	1.5400e-003	0.0258	6.6400e-003	1.4700e-003	8.1100e-003		91.6505	91.6505	4.6000e-003	0.0146	96.1090
Vendor	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0474	0.0305	0.3649	1.1000e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		110.9342	110.9342	3.3900e-003	3.1600e-003	111.9621
Total	0.0550	0.3977	0.4789	2.7500e-003	0.1828	3.2900e-003	0.1860	0.0493	3.1200e-003	0.0524		291.1292	291.1292	0.0107	0.0306	300.5062

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2023****Unmitigated Construction 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		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.308 1	3,687.308 1	1.1926		3,717.121 9

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	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
Total	0.0580	0.2130	0.4742	2.0500e-003	0.1750	1.8400e-003	0.1768	0.0470	1.7300e-003	0.0488		213.3455	213.3455	6.4800e-003	0.0164	218.3925

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2023****Mitigated Construction 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	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	8.8457	1.2660	10.1117	4.5461	1.1647	5.7108	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	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
Total	0.0580	0.2130	0.4742	2.0500e-003	0.1750	1.8400e-003	0.1768	0.0470	1.7300e-003	0.0488		213.3455	213.3455	6.4800e-003	0.0164	218.3925

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					7.0966	0.0000	7.0966	3.4269	0.0000	3.4269			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	7.0966	0.7749	7.8716	3.4269	0.7129	4.1398		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	0.0267	1.7037	0.4555	7.5000e-003	0.2190	0.0139	0.2329	0.0600	0.0133	0.0733		828.6257	828.6257	0.0416	0.1318	868.9361
Vendor	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0474	0.0305	0.3649	1.1000e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		110.9342	110.9342	3.3900e-003	3.1600e-003	111.9621
Total	0.0787	1.9129	0.8840	9.4200e-003	0.3775	0.0157	0.3932	0.1027	0.0150	0.1177		1,028.104 4	1,028.104 4	0.0477	0.1478	1,073.333 3

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					3.1935	0.0000	3.1935	1.5421	0.0000	1.5421			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	1.7109	17.9359	14.7507	0.0297	3.1935	0.7749	3.9684	1.5421	0.7129	2.2550	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2

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	0.0267	1.7037	0.4555	7.5000e-003	0.2190	0.0139	0.2329	0.0600	0.0133	0.0733		828.6257	828.6257	0.0416	0.1318	868.9361
Vendor	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0474	0.0305	0.3649	1.1000e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		110.9342	110.9342	3.3900e-003	3.1600e-003	111.9621
Total	0.0787	1.9129	0.8840	9.4200e-003	0.3775	0.0157	0.3932	0.1027	0.0150	0.1177		1,028.104 4	1,028.104 4	0.0477	0.1478	1,073.333 3

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Unmitigated Construction 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	0.0209	0.8041	0.2865	3.6900e-003	0.1219	4.7200e-003	0.1266	0.0351	4.5200e-003	0.0396		398.4502	398.4502	0.0120	0.0578	415.9583
Worker	0.1778	0.1145	1.3683	4.1200e-003	0.4929	2.6400e-003	0.4955	0.1307	2.4300e-003	0.1332		416.0034	416.0034	0.0127	0.0119	419.8577
Total	0.1987	0.9186	1.6548	7.8100e-003	0.6148	7.3600e-003	0.6222	0.1658	6.9500e-003	0.1728		814.4535	814.4535	0.0247	0.0696	835.8160

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Mitigated Construction 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	0.0000	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	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	0.0209	0.8041	0.2865	3.6900e-003	0.1219	4.7200e-003	0.1266	0.0351	4.5200e-003	0.0396		398.4502	398.4502	0.0120	0.0578	415.9583
Worker	0.1778	0.1145	1.3683	4.1200e-003	0.4929	2.6400e-003	0.4955	0.1307	2.4300e-003	0.1332		416.0034	416.0034	0.0127	0.0119	419.8577
Total	0.1987	0.9186	1.6548	7.8100e-003	0.6148	7.3600e-003	0.6222	0.1658	6.9500e-003	0.1728		814.4535	814.4535	0.0247	0.0696	835.8160

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Unmitigated Construction 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0201	0.7987	0.2799	3.6200e-003	0.1219	4.7500e-003	0.1267	0.0351	4.5400e-003	0.0396		391.5192	391.5192	0.0123	0.0567	408.7329
Worker	0.1674	0.1030	1.2790	3.9800e-003	0.4929	2.5200e-003	0.4954	0.1307	2.3200e-003	0.1331		402.3883	402.3883	0.0116	0.0111	405.9825
Total	0.1874	0.9016	1.5589	7.6000e-003	0.6148	7.2700e-003	0.6221	0.1658	6.8600e-003	0.1727		793.9076	793.9076	0.0239	0.0678	814.7154

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Mitigated Construction 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0201	0.7987	0.2799	3.6200e-003	0.1219	4.7500e-003	0.1267	0.0351	4.5400e-003	0.0396		391.5192	391.5192	0.0123	0.0567	408.7329
Worker	0.1674	0.1030	1.2790	3.9800e-003	0.4929	2.5200e-003	0.4954	0.1307	2.3200e-003	0.1331		402.3883	402.3883	0.0116	0.0111	405.9825
Total	0.1874	0.9016	1.5589	7.6000e-003	0.6148	7.2700e-003	0.6221	0.1658	6.8600e-003	0.1727		793.9076	793.9076	0.0239	0.0678	814.7154

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Unmitigated Construction 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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1106	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0558	0.0343	0.4263	1.3300e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		134.1294	134.1294	3.8600e-003	3.7000e-003	135.3275
Total	0.0558	0.0343	0.4263	1.3300e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		134.1294	134.1294	3.8600e-003	3.7000e-003	135.3275

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Mitigated Construction 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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1106	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0558	0.0343	0.4263	1.3300e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		134.1294	134.1294	3.8600e-003	3.7000e-003	135.3275
Total	0.0558	0.0343	0.4263	1.3300e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		134.1294	134.1294	3.8600e-003	3.7000e-003	135.3275

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	33.6632					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	33.8440	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	0.0335	0.0206	0.2558	8.0000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		80.4777	80.4777	2.3200e-003	2.2200e-003	81.1965
Total	0.0335	0.0206	0.2558	8.0000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		80.4777	80.4777	2.3200e-003	2.2200e-003	81.1965

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	33.6632					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	0.0000	281.4481	281.4481	0.0159		281.8443
Total	33.8440	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	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	0.0335	0.0206	0.2558	8.0000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		80.4777	80.4777	2.3200e-003	2.2200e-003	81.1965
Total	0.0335	0.0206	0.2558	8.0000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		80.4777	80.4777	2.3200e-003	2.2200e-003	81.1965

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8225	0.9084	7.7281	0.0161	1.8272	0.0125	1.8398	0.4867	0.0117	0.4984		1,637.075 4	1,637.075 4	0.1198	0.0754	1,662.551 6
Unmitigated	0.8225	0.9084	7.7281	0.0161	1.8272	0.0125	1.8398	0.4867	0.0117	0.4984		1,637.075 4	1,637.075 4	0.1198	0.0754	1,662.551 6

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	304.00	304.00	304.00	868,012	868,012
Parking Lot	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	304.00	304.00	304.00	868,012	868,012

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

2112 Sunset Drive Townhomes - San Diego County, Winter

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Condo/Townhouse	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Parking Lot	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Other Asphalt Surfaces	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

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	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
NaturalGas Unmitigated	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse	1397.55	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total		0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse	1.39755	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total		0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

6.0 Area Detail**6.1 Mitigation Measures Area**

2112 Sunset Drive Townhomes - San Diego County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Unmitigated	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

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	0.1107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.3019	0.1000	4.7704	7.5100e-003		0.6521	0.6521		0.6521	0.6521	63.8122	49.1803	112.9925	7.9000e-004	9.1700e-003	115.7453
Landscaping	0.0947	0.0361	3.1387	1.7000e-004		0.0174	0.0174		0.0174	0.0174		5.6593	5.6593	5.4400e-003		5.7954
Total	5.7972	0.1361	7.9091	7.6800e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.3019	0.1000	4.7704	7.5100e-003		0.6521	0.6521		0.6521	0.6521	63.8122	49.1803	112.9925	7.9000e-004	9.1700e-003	115.7453
Landscaping	0.0947	0.0361	3.1387	1.7000e-004		0.0174	0.0174		0.0174	0.0174		5.6593	5.6593	5.4400e-003		5.7954
Total	5.7972	0.1361	7.9091	7.6800e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

7.0 Water Detail**7.1 Mitigation Measures Water**

2112 Sunset Drive Townhomes - San Diego County, Winter

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

Equipment Type	Number
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11.0 Vegetation

APPENDIX B

Biological Resources Due Diligence Memorandum

July 28, 2021

David Pinto
Legacy Partners
5141 California Avenue, Suite 100
Irvine, CA 92617

Subject: *Due Diligence Memorandum for APNs 166-751-39, 40, and 44 located in the City of Vista, California*

Dear Mr. Pinto,

Dudek has completed the biological reconnaissance survey for the proposed project area (consisting of APNs 166-751-39, 40, and 44) shown on Figure 1, Site Location (see Attachment A for figures). This letter report provides a description of the current site conditions per the vegetation mapping assessment, review of potential jurisdictional aquatic features, and a general reconnaissance assessment of potential biological resources located within the approximately 4.56-acre site. The findings presented in this letter report can support a potential project design or support potential mitigation needs.

The site is located in the City of Vista, San Diego County, California. The approximately 4.27-acre site occurs on private property. The site consists of two parcels which are bisected by a private drive. An existing home and associated structures are located on the southern parcel. Access to the site is provided by South Emerald/Sunset Drive. Buena Vista Creek borders the site to the north.

1 Regulatory Compliance

The project site is located within the planning area for the *Multiple Habitat Conservation Program Plan* (MHCP), which is one of several conservation planning efforts currently underway in San Diego County (SANDAG 2003). The long-term goal of these planning efforts is to establish a regional reserve system that will protect native habitat lands and their associated biota in conformance with California's Natural Community Conservation Planning Act. The MHCP addresses the needs of multiple plant and animal species in northwestern San Diego County and will contribute to the preserve system already established by the approved Multiple Species Conservation Plan in southwestern San Diego County.

The MHCP encompasses the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. Its goal is to conserve approximately 19,000 acres of habitat, of which roughly 8,800 acres (46%) are already in public ownership and contribute toward the habitat preserve system for the protection of more than 80 rare, threatened, or endangered species. The MHCP was adopted and certified by the San Diego Association of Governments (SANDAG) board of directors in March 2003 but is implemented through approved subarea plans and related implementing agreements.

Some of the jurisdictions are actively developing subarea plans in coordination with the Wildlife Agencies. Carlsbad is the only city that has an approved subarea plan. Draft subarea plans for the cities of Encinitas, Escondido, Oceanside, and San Marcos have been prepared. The City of Vista does not have an approved or

draft MHCP Subarea Plan. In jurisdictions that do not have a subarea plan, it is important that current projects do not preclude the long-range planning for future subarea plans if they are prepared. The City of Vista is largely built out and is not actively pursuing approval of a subarea plan, and there is no draft subarea plan available for public review or implementing agreement for the MHCP. However, the City of Vista's General Plan (GP) includes goals and policies intended to implement the provisions of the MHCP. Because the proposed Project's entitlements must be consistent with the City's GP, the proposed project will address MHCP standards where appropriate.

The MHCP jurisdictions identified Focused Planning Areas (FPAs) within which some lands will be dedicated for open space and habitat conservation. The FPAs include "hardline" areas (lands to be conserved and managed primarily for biological resources) and "softline" planning areas, within which hardline preserve areas will ultimately be delineated based on further data and planning. The project site is not within a mapped FPA in the MHCP. Therefore, even though compliance with the MHCP is not required, development of the project site would not preclude eventual implementation of the MHCP. In addition, the functions and values of the site are fairly low due to surrounding urbanization in conjunction with the relatively small size of the site. The site is located adjacent to the Buena Vista Creek which is designated as an FPA.

2 Methods

2.1 Vegetation Mapping

Vegetation communities and land use within the survey area were mapped in the field directly onto a 200-foot-scale (1 inch = 200 feet), aerial photograph-based field map of the survey area. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS, and a geographic information system (GIS) coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the survey area was determined.

The vegetation community and land cover mapping follow the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008), which is based on the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986).

2.2 Review for Potential Jurisdictional Aquatic Resources

Jurisdictional aquatic resources include those features which are regulated by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) and/or California Department of Fish and Wildlife (CDFW) (collectively the "Regulatory Agencies"). Jurisdictional aquatic resources include non-wetland and wetland waters as regulated by USACE and RWQCB as well as streambed and associated riparian habitat as regulated by CDFW. Often these features overlap and thus are termed "jurisdictional aquatic resources".

Prior to conducting the field review for potential jurisdictional aquatic resources, aerial maps along with USGS National Hydrography Dataset (USGS 2021) and applicant provided topography were reviewed. In addition, historical land use was assessed using historical aerials with topographic configurations (Netronline 2021).

2.3 Pre-field Literature Review Plants and Wildlife

Prior to conducting the field investigation, a review of existing biological resources within the vicinity of the project site was conducted using the California Natural Diversity Database (9-quad search; CDFW 2021), California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Vascular Plants (CNPS 2021), and the San Diego Plant Atlas (SDNHM 2021). The purpose of this review was to determine if sensitive plant and wildlife species were known to occur within the study area or in the nearby vicinity and what constraints these occurrences might have on the project. Soil Survey for the San Diego Area, California – Part 1 (Bowman 1973) was also reviewed to identify potentially occurring special-status plants based on known soil associations.

2.4 Field Survey and Conditions

On July 8th, 2021 Dudek Biologist Patricia Schuyler surveyed the project site as a general reconnaissance study, produced a vegetation map, documented incidental plant species presence, recorded incidental wildlife observations and outlined potential jurisdictional aquatic features. The surveys were conducted from 7:00 a.m. to 8:45 am; the temperature ranged from 64° F to 66° F; cloud cover varied between 10% to 20%; and wind speeds ranged from 0 to 2 miles per hour.

3 Results

3.1 Vegetation Mapping Results

In total, 5 vegetation communities and land cover types were identified within the 456- acre project site (see Table 1 and Figure 2, Vegetation Map). These communities are discussed in further detail in the following sections.

Table 1. Vegetation Communities and Acreage

Vegetation Communities	Approximate Acreage
Sensitive Uplands	
Diegan Coastal Sage Scrub (MHCP Group C)	0.39
<i>Subtotal Sensitive Uplands</i>	0.39
Sensitive Wetlands/Riparian Habitat	
Southern Arroyo Willow Riparian Forest (MHCP Group A)	0.91
<i>Subtotal Sensitive Wetlands/Riparian Habitat</i>	0.91
Non-sensitive Uplands	
Disturbed Habitat (MHCP Group F)	1.92
Developed (MHCP Group F)	0.14
Non-native Vegetation (MHCP Group F)	1.20
<i>Subtotal Non-sensitive Uplands</i>	3.26
Total*	4.56

Note:

* Numbers can be imprecise due to rounding

3.1.1 Diegan Coastal Sage Scrub

Diegan coastal sage scrub is a native vegetation community that, according to Oberbauer et al. (2008), is composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species—such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* spp.)—with scattered evergreen shrubs, including lemonade berry (*Rhus integrifolia*) and laurel sumac (*Malosma laurina*). The average height of coastal sage scrub reaches 3 to 4 feet.

Diegan coastal sage scrub within the project site totals 0.39 acres and is comprised solely of patches of lemonade berry located in the northern parcel. Diegan coastal sage scrub is in the MHCP Group C habitat category. Since the proposed project is located outside of a focused planning area, impacts to this habitat would require mitigation at a 1:1 mitigation to impact ratio.

3.1.2 Southern Arroyo Willow Riparian Forest

Southern arroyo willow riparian forest is a winter-deciduous riparian forest dominated by broad-leafed trees and arroyo willow (*Salix lasiolepis*). Typically it consists of a moderately tall, closed, or nearly closed canopy, with an understory of shrubby willows (Oberbauer et al. 2008). Southern arroyo willow riparian forest is characterized by the presence of several species besides arroyo willow, including San Diego sagewort (*Artemisia palmeri*), mulefat (*Baccharis salicifolia*), manroot (*Marah macrocarpus*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), Goodding's willow (*Salix gooddingii*), narrowleaf willow (*Salix exigua*), and yellow willow (*Salix lasiandra*) (Oberbauer et al. 2008). Southern arroyo willow riparian forest occurs in sub-irrigated and frequently overflowed areas along rivers and streams that are perennially wet (Oberbauer et al. 2008).

On-site the southern arroyo willow riparian forest is associated with the Buena Vista Creek and totals 0.91 acres. The creek also has areas of open water and freshwater marsh but for the purposes of this vegetation mapping, further refinement was not warranted. This vegetation community would be categorized as a Group A habitat group and would require no net loss in terms of mitigation. A 3:1 mitigation ratio would be required for this particular vegetation community. The MHCP does not designate a buffer requirement for this vegetation community.

3.1.3 Disturbed Habitat

Disturbed habitat are areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association (Oberbauer et al. 2008). These areas may continue to retain soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes, graded firebreaks, graded construction pads, temporary construction staging areas, off-road-vehicle trails, areas repeatedly cleared for fuel management, or areas that are repeatedly used in ways that prevent revegetation (e.g., parking lots, trails that have persisted for years).

Disturbed habitat occupies a total of 1.92 acres within the northern parcel. This parcel shows signs of regular tilling and mowing. On site, this community consists almost entirely of dead grasses with remnant orange trees. A review of historical aerials shows that the project site has been farmed since 1938 (Netronline 2021). In addition, the disturbed habitat supports occasional patches of fennel (*Foeniculum vulgare*) and castor bean (*Ricinus communis*). The MHCP does not consider disturbed habitat a sensitive resource and therefore no mitigation is required for impacts.

3.1.4 Developed

Developed lands refer to areas supporting man-made structures associated with dwellings or other permanent structures. The MHCP does not consider developed land a sensitive resource. On the project site, developed lands refer to the existing house and associated infrastructure within the southern parcel and totals 0.14 acres.

3.1.5 Non-native Vegetation

Non-native vegetation includes trees, shrubs, and herbs that are not native to California. Non-native vegetation often times consists of ornamental plantings along roadways or as part of fuel modification adjacent to homes that are not typically artificially irrigated and that receive water from precipitation or runoff. Within this project site, non-native vegetation is located in the southern parcel and consists of non-native plantings associated with the existing house. Non-native vegetation totals 1.2 acres of the southern parcel. The MHCP does not consider non-native vegetation a sensitive resource and therefore no mitigation is required for impacts.

3.3 Field Results for Jurisdictional Aquatic Resources

Outside of the Buena Vista Creek the site does not support jurisdictional aquatic resources. There is a relic ditch, as shown on Figure 2, that was previously utilized as part of the old alignment of Sunset Drive before it was realigned in its current form. The ditch and associated culverts do not show signs of flow conveyance and are not connected to any other features. It appears that the culvert was abandoned once the crossing was removed and the road realigned. Dudek recommends that the project applicant receive regulatory agency concurrence that this feature is not regulated by USACE, RWQCB or CDFW.

3.4 Special-Status Plant and Wildlife Species

No special-status plant species were observed during the reconnaissance survey on July 8, 2021. Given the mostly developed/disturbed nature of the site, it is unlikely that rare plants would occur within the project area. Most vegetation observed on site was non-native or ornamental, and the few native species encountered are not considered rare or special status.

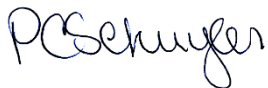
No special-status wildlife species were observed on the project site. No historic occurrences of special-status species were mapped on or near the Project site. Given the urban, partially developed, and frequently disturbed nature of the site, it is unlikely that special-status species would use the site for nesting, breeding, or foraging. While coastal sage scrub is the typical habitat for coastal California gnatcatchers (*Poliophtila californica californica*), the coastal sage scrub consists only of monotypic stands of lemonade berry. In addition, the project site has been in agricultural production since 1938 with the appearance of the lemonade berry shrubs potentially occurring around the late 1990's (Netronline 2021). Given the lack of adjacent habitat and urban development surrounding the site, it is unlikely that coastal California gnatcatchers utilize the project site. In addition, no coastal California gnatcatchers calls, or observations were detected during the site visit. It should be noted that critical habitat for the species occurs along the Buena Vista Creek. However, the creek is comprised of wetland vegetation that is not typically utilized by the species and therefore this portion of critical habitat would not be considered to support the physical and biological features required for the species.

4 Discussion of Findings

Based on the site review it is likely that development of the northern parcel will impact coastal sage scrub. Impacts to coastal sage scrub will require mitigation at a 1:1 ratio through the purchase of coastal sage scrub credits at a local mitigation bank. Dudek also recommends that the project applicant receive concurrence from the regulatory agencies that the drainage ditch and associated culvert are not regulated resources.

Please reach out with further questions or concerns.

Sincerely,



Patricia Schuyler
Biologist, Project Manager

Att.: A, Figures

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Mr. David Pinto

Subject: *Due Diligence Memorandum for APNs 166-751-39, 40, and 44 located in the City of Vista, California*

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Attachment A

Figures



SOURCE: SAN GIS 2019, SWS Engineering, Inc. 2021

APPENDIX C

Negative Cultural Resources Phase I Letter Report

August 22, 2022

14346

Dave Pinto
Legacy Partners
5141 California Avenue, Suite 100
Irvine, CA 92617

Subject: Negative Cultural Resources Phase I Letter Report for the Sunset Drive Townhomes Project, City of Vista, California

Dear Mr. Pinto:

This letter documents the negative cultural resources Phase I inventory conducted by Dudek for the Sunset Drive Townhomes Project (Project), located in the City of Vista, California (Figure 1). The Project would consist of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane. The City of Vista (City) is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). In accordance with CEQA, Dudek performed a Phase I cultural resources inventory for the entire Project area. The Project area consists of an approximately 4.27-acre property (Figure 2).

CEQA refers to sequential stages of cultural resources investigation, including Inventory, Evaluation, and Mitigation. Phase I (Inventory), Phase II (Evaluation), and Phase III (Mitigation) are vernacular terms used in the cultural resources industry. For the purposes of this report, Phase I is defined as an Inventory and includes archival research for archaeological resources and Tribal Cultural Resources (TCR), pedestrian surveys, and other inventory methods.

Dudek conducted a records search for the proposed project including a surrounding one-mile radius buffer at the South Coastal Information Center (SCIC). The records search did not identify any cultural resources within the Project area; however, 34 cultural resources were identified within the one-mile radius. A Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search was requested, and results were positive, however, the results did not indicate if resources are located within the Project area or within the proximity of the Project. Outreach letters were mailed to all Native American group representatives included on the NAHC contact list and three responses have been received to date.

The SCIC records search and the pedestrian survey did not identify cultural resources within the Project area, however, there are three historic age structures located in the eastern section of the Project area. The structures are considered as built environment resources. Due to the presence of three historic age structures in the Project area, it is recommended that a Built Environment Report is prepared for the Project to evaluate the structures for eligibility for inclusion on the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP). The review of aerial photographs also reveals that a majority of the Project area has been disturbed by agricultural activities. However, due to the presence of historic age structures in the eastern section of the Project area, there is moderate potential for subsurface resources. Cultural resources monitoring with a qualified

archaeologist and Luiseño Native American monitor during construction is recommended within the eastern section of the Project area.

1 Project Description and Location

The Project would consist of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The Project area is bound by Sunset Drive to the northeast, a shopping center and Buena Vista Creek to the northwest, Sky Haven Lane to the southeast, and Green Valley Mobile Home Park to the south. The Project site falls within Sections 26 and 27 of Township 11 South, Range 4 West of the San Luis Rey, California 7.5-minute Quadrangle (Figure 1). The Project area consists of an approximately 4.27-acre property (Figure 2).

2 Regulatory Framework

2.1 The California Register of Historic Resources (Public Resources Code section 5020 et seq.)

Under CEQA, the term “historical resource” includes but is not limited to “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (California Public Resources Code section 5020.1(j)). In 1992, the California legislature established CRHR “to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (California Public Resources Code section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Historical Resources Commission determines that it is a significant resource and that it meets any of the following National Register of Historic Places (NRHP) criteria:

- Associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
- Associated with the lives of persons important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- Has yielded, or may be likely to yield, information important in prehistory or history.

(California Public Resources Code section 5024.1(c).) Resources less than 50 years old are not considered for listing in the CRHR, but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (see 14 CCR, section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR, as are the state landmarks and

points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys. The State Historic Preservation Officer maintains the CRHR.

2.2 Native American Historic Cultural Sites (California Public Resources Code section 5097 et seq.)

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NRHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

2.3 California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, required all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

2.4 California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological and historic resources:

1. California Public Resources Code section 21083.2(g): Defines “unique archaeological resource.”
2. California Public Resources Code section 21084.1 and CEQA Guidelines section 15064.5(a): Define historical resources. In addition, CEQA Guidelines section 15064.5(b) defines the phrase “substantial adverse change in the significance of an historical resource;” it also defines the circumstances when a project would materially impair the significance of a historical resource.
3. California Public Resources Code section 5097.98 and CEQA Guidelines section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
4. California Public Resources Code sections 21083.2(b)-(c) and CEQA Guidelines section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an historical resource” (California Public Resources Code section 21084.1; CEQA Guidelines section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of California Public Resources Code section 5024.1(q)), it is a “historical resource” and is presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code section 21084.1; CEQA Guidelines section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code section 21084.1; CEQA Guidelines section 15064.5(a)).

A “substantial adverse change in the significance of an historical resource” reflecting a significant effect under CEQA means “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” (CEQA Guidelines section 15064.5(b)(1); California Public Resources Code section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

See Section 2.7, below for a discussion of the CEQA guidelines for determining significance and mitigating impacts to unique archaeological resources.

2.5 California Health and Safety Code section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (section 7050.5c). The NAHC will notify the Most Likely Descendant. With the permission of the landowner, the Most Likely Descendant may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the Most Likely Descendant by the NAHC. The Most Likely Descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

2.6 Assembly Bill 52

California Assembly Bill 52, which took effect July 1, 2015, establishes a consultation process between California Native American Tribes and lead agencies in order to address tribal concerns regarding project impacts and mitigation to “tribal cultural resources” (TCR). Public Resources Code section 21074(a) defines TCRs and states that a project that has the potential to cause a substantial adverse change to a TCR is a project that may have an adverse effect on the environment. A TCR is defined as a site, feature, place, cultural landscape, sacred place, and object with cultural value to a California Native American tribe that is either:

1. listed or eligible for listing in the CRHR or a local register of historical resources, or
2. determined by a lead agency to be a TCR.

2.7 Guidelines for Determining Significance

According to CEQA (§15064.5b), a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. CEQA defines a substantial adverse change:

Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

The significance of an historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

Section 15064.5(c) of CEQA applies to effects on archaeological sites and contains the following additional provisions regarding archaeological sites:

- When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).

- If a lead agency determines that the archaeological site is a historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.
- If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.
- If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or Environmental Impact Report (EIR), if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Section 15064.5(d) and (e) contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) provides:

When an initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code SS5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:

1. The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5); and
2. The requirement of CEQA and the Coastal Act.

Under CEQA, an EIR is required to evaluate any impacts on unique archaeological resources (California Public Resources Code section 21083.2.) A “unique archaeological resource” is defined as:

[A]n archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

(California Public Resources Code section 21083.2(g)). An impact to a non-unique archaeological resource is not considered a significant environmental impact and such non-unique resources need not be further addressed in the EIR (Public Resources Code section 21083.2(a); CEQA Guidelines section 15064.5(c)(4)).

As stated above, CEQA contains rules for mitigation of “unique archaeological resources.” For example, “[i]f it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:

1. Planning construction to avoid archaeological sites.
2. Deeding archaeological sites into permanent conservation easements.
3. Capping or covering archaeological sites with a layer of soil before building on the sites.
4. Planning parks, greenspace, or other open space to incorporate archaeological sites.” (Pub. Resources Code section 21083.2(b)(1)-(4).)

Public Resources Code section 21083.2(d) states that “[e]xcavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report.”

The rules for mitigating impacts to archaeological resources to qualify as “historic resources” are slightly different. According to CEQA Guidelines section 15126.4(b), “[p]ublic agencies should, whenever feasible, seek to avoid damaging effects on any historic resource of an archaeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archaeological site:

- A. Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
- B. Preservation in place may be accomplished by, but is not limited to, the following:
 1. Planning construction to avoid archaeological sites;
 2. Incorporation of sites within parks, greenspace, or other open space;
 3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site[; and]
 4. Deeding the site into a permanent conservation easement.

Thus, although section 21083.2 of the Public Resources Code, in addressing “unique archaeological sites,” provides for specific mitigation options “in no order of preference,” CEQA Guidelines section 15126.4(b), in addressing “historical resources of an archaeological nature,” provides that “[p]reservation in place is the preferred manner of mitigating impacts to archaeological sites.”

Under CEQA, “[w]hen data recovery through excavation is the only feasible mitigation,” the lead agency may cause to be prepared and adopt a “data recovery plan,” prior to any excavation being undertaken. The data recovery plan must make “provision for adequately recovering the scientifically consequential information from and about the historic resource.” (CEQA Guidelines section 15126.4(b)(3)(C).) The data recovery plan also “must be deposited with the California Historical Resources Regional Information Center.” (*Ibid.*) Further, “[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation.” (*Ibid.*)

However, “[d]ata recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center.” (CEQA Guidelines section 15126.4(b)(3)(D).)

2.8 Vista General Plan 2030

Chapter 4 Resource Conservation and Sustainability Element of the City’s General Plan (adopted in 2012) describes cultural, historical, and paleontological resources regulatory framework, and policies and plans to protect such resources (City of Vista 2012). The planning goals and policies are described below.

The City of Vista RCS Goal 11, in the goals and policy section, consists of three policies to assist in the preservation and protection of the City’s social, cultural, commercial, architectural, and agricultural history.

RCS Policy 11.1: Continue to Utilize historical resources, such as the Rancho Buena Vista Adobe, for school programs, community education, and events; and coordinate programming with other historic sites.

RCS Policy 11.2: Continue to preserve Vista’s historic adobes and nationally registered and significant historic buildings, such as the Rancho Guajome Adobe and the Braun House. Consider national and local historic designations for eligible City-owned properties.

RCS Policy 11.3: Support preservation of historical resources, including providing for adaptive reuse and tax incentives where appropriate.

The City’s goal is to encourage the preservation and protection of these valuable resources through research, inventorying, and education (City of Vista 2012)

3 Methods

3.1 Records Search

Dudek conducted a California Historical Resources Information Systems (CHRIS) records search for the Project area and a one-mile radius buffer at the SCIC on May 18, 2022. The records search results indicate that 74 previous cultural resources studies have been conducted within one-mile of the Project area. Of the 74 previous studies, five studies intersect the Project area and are listed in Table 1 below. These studies consist of three cultural resources inventory reports, a historic resource survey, and a cultural resources evaluation for a master plan. Overall, the entire Project area has been previously studied. The studies that do not intersect the area are included in Confidential Appendix A.

Table 1. Reports Intersecting the Project Area

Report Number	Authors	Date	Title
SD-01336/ SD-06803*	WESTEC Services, Inc.	1986	Cultural Resources Survey of the St. Croix Villas Project, Oceanside, California
SD-07412	Affinis Environmental Services	2002	Emerald Ridge – Archaeology
SD-11228	Marben-Laird Associates	1987	Historic Resource Survey, A Project of the City of Vista, California
SD-11524	Brian F. Smith and Associates	2007	A Cultural Resources Evaluation for the Vista and Buena Sanitation District 2007 Sewer Master Plan Update
SD-17437	Sue Wade	2015	Emerald Ridge: Cultural Resources Survey

*Note: SD-01336 and SD-06803 are the same report assigned with different report numbers

The SCIC records search did not identify any cultural resources within the Project area. The records search did identify 34 cultural resources within the one-mile search radius buffer of the Project area (Confidential Appendix A). Of the total 34 resources identified in the one-mile buffer, 21 are prehistoric resources, two are prehistoric isolates, and 11 are historic resources. The closest resource to the Project area is P-37-006841, a prehistoric habitation site located approximately 270 meters east from the Project area. No historic addresses are located within the Project area, however, one historic address is located within the one-mile search radius buffer. The results of the records search and all DPR forms are attached as part of Confidential Appendix A.

3.2 Archival Research

In addition to the SCIC records search, Dudek conducted an on-line review of historic aerial photographs of the Project area and general vicinity, to help determine the possible development and land use of the Project area in the past. Historic aerial photographs of the Project area were available for 1938, 1946, 1947, 1953, 1964, 1967, 1978, 1980-1986, 1988-1991, 1993-2000, 2002, 2003, 2005, 2009, 2010, 2012, 2014, 2016, and 2018 (NETR 2022). The historic aerial from 1938 revealed that the Project area was utilized for agriculture. In addition, three structures appear within the eastern section of the Project area. A dirt road runs through the middle of the

Project area from the northeastern corner to the midwestern section of the Project area. The current alignment of Sunset Drive/South Emerald Drive curves northwest from the east, however, in the 1938 aerial, the dirt road continues towards the west. The 1946 aerial reveals crops growing throughout the Project area. Sunset Drive appears more defined, and another dirt road cuts through in a north/south direction in the eastern section of the Project area, immediately east of the structures. The 1947-1953 aerials reveal no changes to the Project area. The 1964 aerial reveals some grading within the eastern section of the Project area, east of the structure and dirt road. The 1967 aerial reveals no changes to the Project area.

The 1978 aerial reveals a dirt road in the middle of the Project area, located south from Sunset Drive. In addition, a mobile home complex appears immediately south of the Project area. The 1980 aerial shows the current alignment of Sunset Drive, curving northwest from the east, and the roadway now appears to be paved with asphalt-concrete. Some slight grading can be observed, east of the new alignment of Sunset Drive, in the northern corner of the Project area. The 1981-1983 area reveals no changes to the Project area. The 1984 aerial shows two structures, immediately adjacent of the dirt road in the western section of the Project area and mass grading is observed north and west of the Project area. Grading in the northern section above the dirt road in the northwestern section of the Project area is observed in the 1985, and by 1986 a residential development is being constructed to the north of the Project area. The 1988-1993 aerials do not reveal any changes to the Project area. In the 1994 aerial, a structure appears in the northwestern corner of the Project area. The 1995-1996 aerial reveals no change to the Project area. The structure in the northwestern corner of the Project area is no longer observed on the 1997 aerial. The Project area has remained the same since 1998. A review of the historic aerials has revealed that the Project area has undergone extensive ground disturbance from agricultural activities, the construction of the single-family property and ancillary structures, and the development of Sunset Drive and South Emerald Drive. Based on the historic aerials, there are three historic age structures located within the eastern section of the Project area.

Historic topographic (topo) maps of the Project area were reviewed (earliest map available is 1893). Buena Vista Creek is observed on the topo maps in the western section of the Project area. The topo maps from 1949-1978 shows a structure in the eastern section of the Project area, with a roadway through the middle of the Project area running from the southeastern corner of the Project area to the midwestern section of the Project area. The topo maps from 2000 to 2018 do not show a structure but the new alignment of Sunset Drive/South Emerald Drive is observed. Due to the presence of three historic age structures in the Project area, it is recommended that a Built Environment Report is prepared for the Project to evaluate the structures for inclusion on the CRHR and NRHP.

3.3 NAHC and Tribal Correspondence

Dudek requested a Native American Heritage Commission (NAHC) search of the Sacred Lands File (SLF) on May 11, 2022, for the Project area. The SLF consists of a database of known Native American resources. These resources may not be included in the SCIC database. The NAHC replied on June 13, 2022 with positive results, however, the response does not state if TCRs are located within the Project area or the search buffer (Appendix B). The NAHC additionally provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in this area.

Outreach letters were mailed on June 15, 2022 to all Native American group representatives included on the NAHC contact list (Appendix B). These letters attempted to solicit additional information relating to Native American resources that may be impacted by the Project. Native American representatives were requested to define a general area where known resource intersect the Project area. Three responses have been received to date. The Pechanga

Band of Indians responded in a letter on June 29, 2022, stating that the Project area is located within their Ancestral Territory, its placement within an expansive Ancestral Village, its nearness to a second Luiseño Placename, and its adjacency to Buena Vista Creek. The Rincon Band of Luiseño Indians responded on July 15, 2022, stating that the Project may impact tangible Tribal Cultural Resources (TCRs), Traditional Cultural Landscapes (TCLs), and potential Traditional Cultural Properties (TCPs) and recommends conducting an archaeological/cultural resources study. The San Pasqual Band of Mission Indians responded on August 18, 2022, stating that the Project is not within the boundaries of their reservation, but is within the boundaries of their Traditional Use Area. The letters have been forwarded to the City. No other communications between Dudek and the tribes has occurred since then. The NAHC correspondence is included in Appendix B.

In compliance with Assembly Bill 52, the City, as lead agency, is responsible for conducting government to government consultation with tribal entities.

3.4 Intensive Pedestrian Survey

Dudek archaeologist Makayla Murillo conducted an intensive level pedestrian survey of the proposed Project area on May 24, 2022. Saving Sacred Sites Native American monitor Shawnee Ventura participated in the pedestrian survey. All survey work was conducted employing standard archaeological procedures and techniques consistent with the Secretary of the Interior Standards. Fifteen-meter interval survey transects were conducted in a north-south direction for the Project area. Within the transects, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials.

The Project area has a slight slope facing north and is bound by Sunset Drive to the northeast, a shopping center and Buena Vista Creek to the northwest, Sky Haven Lane to the southeast, and Green Valley Mobile Home Park to the south. A drainage runs east-west in the most northern boundary of the Project area. The Project area is divided by the Green Valley Mobile Home Park entrance and asphalt-concrete parking lot. A partial asphalt-concrete roadway from Sunset Drive runs the northern portion of the Project area towards the drainage. Ground visibility was poor (0-25%) in areas where the ground surface was obscured by vegetation. Vegetation covered approximately 75% of the Project area and consisted of a citrus orchard (e.g. grapefruit, lemon, lime, orange, and tangerine trees), dead grass, thistle, Castor bean, shrubs, and ice plants. Soils in the Project area consisted of loosely compacted, medium brown silt, sand, clay mixture with low content of gravel (25%).

The northern portion of the Project area appears to be an active citrus orchard and portions within the northern appear to be recently disked (Figure 3). A partial asphalt-concrete roadway was observed within the northern portion of the Project area (Figure 4). This road, approximately 90-100 feet long, runs from Sunset Drive, northeast of the Green Valley Mobile Home Park parking lot and terminates at Buena Vista Creek to the west. There is also a yellow gate installed at the entrance from Sunset Drive. The eastern portion of the Project area has three historic-age structures located at 2112 Sunset Drive; a single family-property, a garage, and a workshop/storage unit (Figures 5 and 6). While evidence of possible historic-age agricultural equipment were observed within and adjacent to the workshop/storage and garage structures, it is evident that the agricultural equipment are still in use as agricultural activities (e.g. disking, planter boxes, active citrus orchards) were observed throughout the Project area. Modern

disturbances and development including telephone poles, guy wire, utility boxes, sewer manhole, yellow gate, postage sign, asphalt-concrete road, asphalt-concrete parking lot, landscaping, citrus orchard, and planter boxes were observed throughout the Project area. In addition, modern debris (e.g., refuse, chairs, plastic buckets, plastic bags) were strewn throughout the Project area and three to four homeless encampments were observed in the northern portion of the Project area.

4 Summary and Management Considerations

4.1 Archaeological Recommendations

Dudek's Phase I cultural resources inventory of the Project indicates that there is moderate sensitivity for identifying intact subsurface archaeological deposits during Project implementation. The SCIC records search and the pedestrian survey did not identify any cultural resources within the Project area. However, there are three historic age structures (e.g. single-family property, garage, and workshop/storage unit) located in the eastern section of the Project area. The review of historic aerial photographs reveals that a majority of the Project area has been disturbed by agricultural activities and the structures show up on the historic aerials. Due to the presence of historic age structures in the eastern section of the Project area, there is moderate potential for subsurface resources. Cultural resources monitoring with a qualified archaeologist and Luiseño Native American monitor during construction is recommended in the eastern section of the Project area. Due to the presence of three historic age structures in the Project area, it is recommended that a Built Environment Report is prepared for the Project to evaluate the structures for inclusion on the CRHR and NRHP.

Unanticipated Discovery of Archaeological Resources

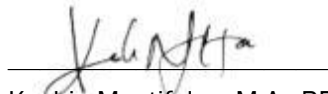
In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find. Construction activities may continue in other areas, but should be redirected a safe distance from the find. If the new discovery is evaluated and found to be significant under CEQA and avoidance is not feasible, additional work such as data recovery may be warranted. A data recovery plan shall be developed by the qualified archaeologist in consultation with the City and Native American representatives, if applicable. Ground disturbance can continue only after the resources has been properly mitigated and with approval by the City.

Unanticipated Discovery of Human Remains

In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify the person or persons it believes to be the MLD from the deceased Native American. The MLD shall complete inspection within 48 hours of being granted access to the site and make recommendations for the treatment and disposition, in consultation with the property owner, of the human remains.

Should you have any questions relating to this report and its findings, please do not hesitate to contact me at 619.949.3082 or kmontifolca@dudek.com.

Respectfully Submitted,



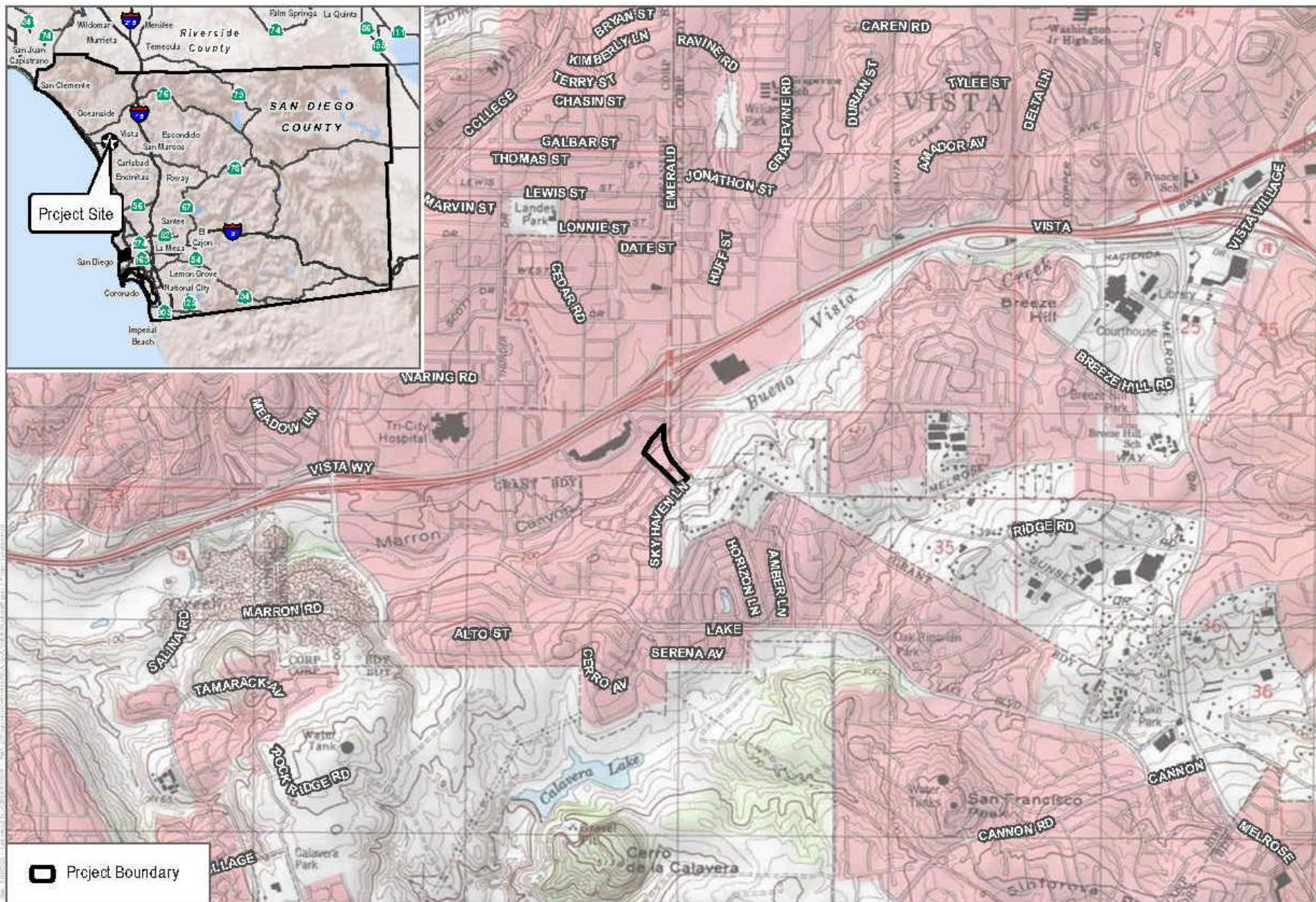
Keshia Montifolca, M.A., RPA
Archaeologist

Att.: *Figure 1, Project Location*
Figure 2, Project Area Map
Figure 3. Northern portion of Project area
Figure 4. Asphalt roadway within northern portion of Project area
Figure 5. Single-family property
Figure 6. Workshop/storage and garage structures
National Archaeological Database Information Sheet
Confidential Appendix A, SCIC Records Search Results
Appendix B, Tribal Correspondence
cc: *Angela Pham, Micah Hale, Dudek*

5 References

NETR (National Environmental Title Research). 2022. Address search for Sunset Drive, Vista, California. Accessed May 25, 2022. <http://www.historicaerials.com/>.

Vista General Plan 2030. 2012. Accessed May 20, 2022. <https://www.cityofvista.com/departments/community-development/permits-forms/vista-general-plan-2030>



SOURCE: USGS 7.5-Minute Series San Luis Rey Quadrangle



SOURCE: SANGIS 2020, 2022



Figure 3. Northern portion of Project area, view facing northwest.



Figure 4. Asphalt roadway within northern portion of Project area from Sunset Drive, view facing north.



Figure 5. Single-family property, view facing northwest.



Figure 6. Workshop/storage and garage structures, view facing north.

National Archaeological Database (NADB) Information

Authors:	Keshia Montifolca M.A., RPA
Firm:	Dudek
Project Proponent:	Legacy Partners
Report Date:	August 2022
Report Title:	Negative Cultural Resources Phase I Letter Report for the Sunset Drive Townhomes Project, City of Vista, California
Type of Study:	Cultural Resources Inventory
Resources:	None
USGS Quads:	San Luis Rey, California, Township 11 South, Range 4 West, Sections 25 and 27
Acreage:	4.27
Permit Numbers:	N/A
Keywords:	Pedestrian Survey, Inventory, City of Vista, Sunset Drive Townhomes

Confidential Appendix A

SCIC Records Search Results

Appendix B

NAHC Correspondence and Tribal Outreach



NATIVE AMERICAN HERITAGE COMMISSION

June 13, 2022

Keshia Montifolca
DudekVia Email to: kmontifolca@dudek.comCHAIRPERSON
Laura Miranda
LuiseñoVICE CHAIRPERSON
Reginald Pagaling
ChumashPARLIAMENTARIAN
Russell Attebery
KarukSECRETARY
Sara Deutschke
MiwokCOMMISSIONER
William Mungary
Paiute/White Mountain
ApacheCOMMISSIONER
Isaac Bojorquez
Ohlone-CostanoanCOMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki,
NomlakiCOMMISSIONER
Wayne Nelson
LuiseñoCOMMISSIONER
Stanley Rodriguez
KumeyaayEXECUTIVE SECRETARY
**Raymond C.
Hitchcock**
Miwok/NisenanNAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov**Re: Sunset Drive Townhomes (14346) Project, San Diego County**

Dear Ms. Montifolca:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the La Jolla Band of Luiseno Indians and the San Luis Rey Band of Mission Indians on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment

**Native American Heritage Commission
Native American Contact List
San Diego County
6/13/2022**

Barona Group of the Capitan Grande

Edwin Romero, Chairperson
1095 Barona Road Diegueno
Lakeside, CA, 92040
Phone: (619) 443 - 6612
Fax: (619) 443-0681
cloyd@barona-nsn.gov

Campo Band of Diegueno Mission Indians

Ralph Goff, Chairperson
36190 Church Road, Suite 1 Diegueno
Campo, CA, 91906
Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Ewiiapaayp Band of Kumeyaay Indians

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4054 Willows Road Diegueno
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michaelg@leaningrock.net

Ewiiapaayp Band of Kumeyaay Indians

Robert Pinto, Chairperson
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ceo@ebki-nsn.gov

Iipay Nation of Santa Ysabel

Clint Linton, Director of Cultural Resources
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Santa Ysabel, CA, 92070
Phone: (760) 803 - 5694
cjlinton73@aol.com

Iipay Nation of Santa Ysabel

Virgil Perez, Chairperson
P.O. Box 130 Diegueno
Santa Ysabel, CA, 92070
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Fax: (760) 765-0320

Inaja-Cosmit Band of Indians

Rebecca Osuna, Chairperson
2005 S. Escondido Blvd. Diegueno
Escondido, CA, 92025
Phone: (760) 737 - 7628
Fax: (760) 747-8568

Jamul Indian Village

Lisa Cumper, Tribal Historic Preservation Officer
P.O. Box 612 Diegueno
Jamul, CA, 91935
Phone: (619) 669 - 4855
lcumper@jiv-nsn.gov

Jamul Indian Village

Erica Pinto, Chairperson
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Jamul, CA, 91935
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epinto@jiv-nsn.gov

Kwaaymii Laguna Band of Mission Indians

Carmen Lucas,
P.O. Box 775 Kwaaymii
Pine Valley, CA, 91962 Diegueno
Phone: (619) 709 - 4207

La Jolla Band of Luiseno Indians

Norma Contreras, Chairperson
22000 Highway 76 Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 3771

La Posta Band of Diegueno Mission Indians

Javaughn Miller, Tribal Administrator
8 Crestwood Road Diegueno
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
jmiller@LPtribe.net

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Sunset Drive Townhomes (14346) Project, San Diego County.

**Native American Heritage Commission
Native American Contact List
San Diego County
6/13/2022**

***La Posta Band of Diegueno
Mission Indians***

Gwendolyn Parada, Chairperson
8 Crestwood Road Diegueno
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
LP13boots@aol.com

***Manzanita Band of Kumeyaay
Nation***

Angela Elliott Santos, Chairperson
P.O. Box 1302 Diegueno
Boulevard, CA, 91905
Phone: (619) 766 - 4930
Fax: (619) 766-4957

***Mesa Grande Band of Diegueno
Mission Indians***

Michael Linton, Chairperson
P.O. Box 270 Diegueno
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Fax: (760) 782-9092
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Pala Band of Mission Indians

Shasta Gaughen, Tribal Historic
Preservation Officer
PMB 50, 35008 Pala Temecula Cupeno
Rd. Luiseno
Pala, CA, 92059
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Fax: (760) 742-3189
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Pauma Band of Luiseno Indians

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P.O. Box 369 Luiseno
Pauma Valley, CA, 92061
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Pechanga Band of Indians

Paul Macarro, Cultural Resources
Coordinator
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pmacarro@pechanga-nsn.gov

Pechanga Band of Indians

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crd@rincon-nsn.gov

Rincon Band of Luiseno Indians

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Fax: (760) 749-5144
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***San Luis Rey Band of Mission
Indians***

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***San Luis Rey Band of Mission
Indians***

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cjmojado@slrmissionindians.org

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This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Sunset Drive Townhomes (14346) Project, San Diego County.

**Native American Heritage Commission
Native American Contact List
San Diego County
6/13/2022**

***San Pasqual Band of Diegueno
Mission Indians***

Allen Lawson, Chairperson
P.O. Box 365 Diegueno
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Fax: (760) 749-3876
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***Sycuan Band of the Kumeyaay
Nation***

Cody Martinez, Chairperson
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ssilva@sycuan-nsn.gov

***San Pasqual Band of Diegueno
Mission Indians***

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johnf@sanpasqualtribe.org

***Viejas Band of Kumeyaay
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Ernest Pingleton, Tribal Historic
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Alpine, CA, 91901
Phone: (619) 659 - 2314
epingleton@viejas-nsn.gov

***Soboba Band of Luiseno
Indians***

Isaiah Vivanco, Chairperson
P. O. Box 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
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ivivanco@soboba-nsn.gov

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Fax: (619) 445-5337

***Soboba Band of Luiseno
Indians***

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San Jacinto, CA, 92581 Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

***Sycuan Band of the Kumeyaay
Nation***

Kristie Orosco, Kumeyaay
Resource Specialist
1 Kwaaypaay Court Kumeyaay
El Cajon, CA, 92019
Phone: (619) 445 - 6917

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Sunset Drive Townhomes (14346) Project, San Diego County.



MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

June 15, 2022

14346

Mr. Edwin (Thorpe) Romero, Chairperson
Barona Group of the Capitan Grande
1095 Barona Road
Lakeside, CA 92040

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Romero,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

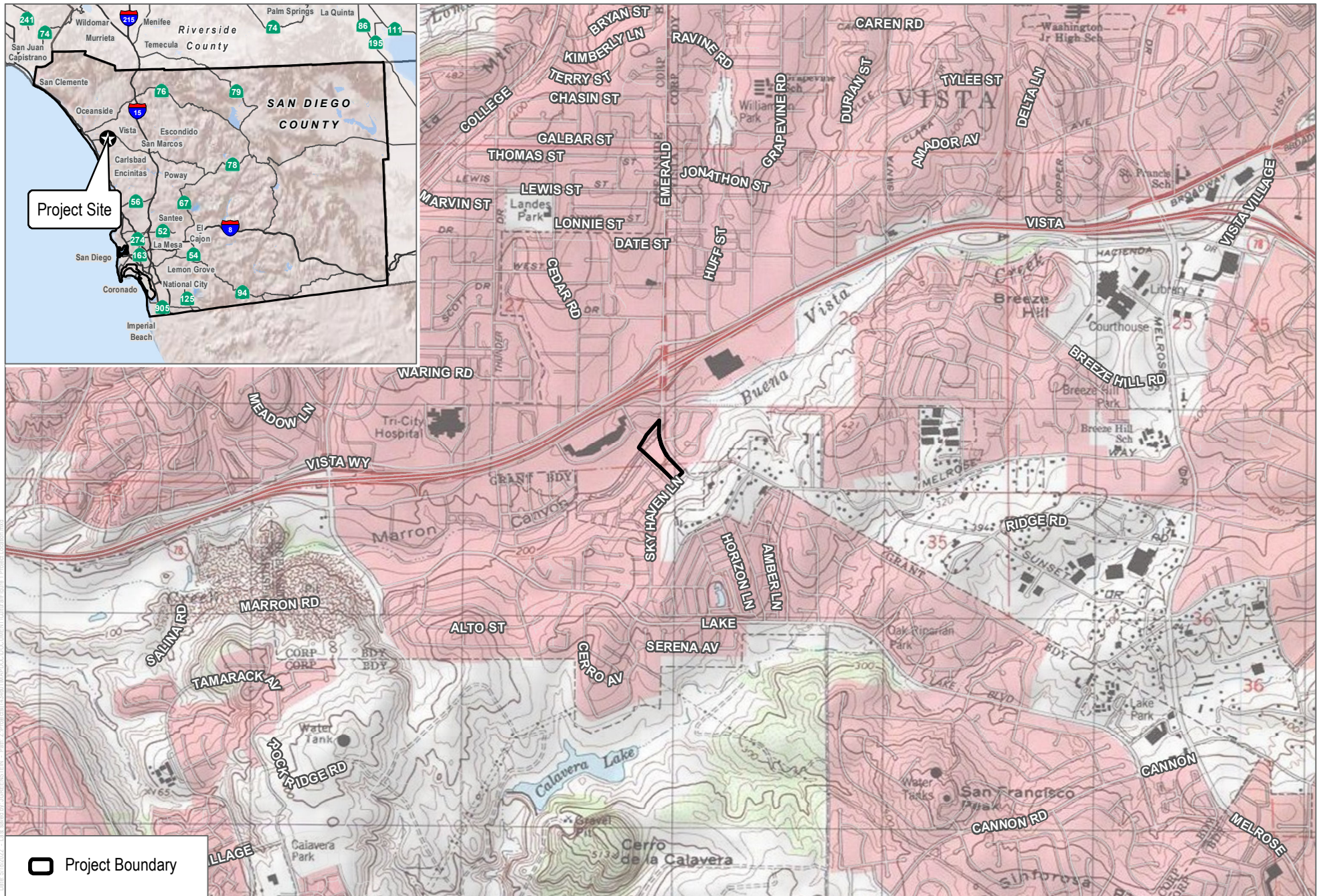
The Native American Heritage Commission conducted a Sacred Lands file search. The results were positive. I am writing as part of the cultural inventory process in order find out if you, or your tribal community, have any knowledge of cultural resources or places that may be impacted by the proposed project. This letter does not constitute formal government to government consultation pursuant to Assembly Bill 52.

If you have any information or concerns pertaining to such information, please contact me.

Respectfully,

A handwritten signature in black ink, appearing to read "Keshia Montifolca".

Keshia Montifolca, M.A., RPA
Archaeologist
DUDEK
Phone: (619) 949-3082
Email: kmontifolca@dudek.com



SOURCE: USGS 7.5-Minute Series San Luis Rey Quadrangle

FIGURE 1

Project Location
Sunset Drive Townhomes

June 15, 2022

14346

Mr. Ralph Goff, Chairperson
Campo Band of Diegueno Mission Indians
36190 Church Road, Suite 1
Campo, CA 91906

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Goff,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

The Native American Heritage Commission conducted a Sacred Lands file search. The results were positive. I am writing as part of the cultural inventory process in order find out if you, or your tribal community, have any knowledge of cultural resources or places that may be impacted by the proposed project. This letter does not constitute formal government to government consultation pursuant to Assembly Bill 52.

If you have any information or concerns pertaining to such information, please contact me.

Respectfully,



Keshia Montifolca, M.A., RPA
Archaeologist
DUDEK
Phone: (619) 949-3082
Email: kmontifolca@dudek.com

June 15, 2022

14346

Mr. Robert Pinto, Chairperson
Ewiaapaayp Tribe
4054 Willow Rd.
Alpine, CA 91901

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Pinto,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

The Native American Heritage Commission conducted a Sacred Lands file search. The results were positive. I am writing as part of the cultural inventory process in order find out if you, or your tribal community, have any knowledge of cultural resources or places that may be impacted by the proposed project. This letter does not constitute formal government to government consultation pursuant to Assembly Bill 52.

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June 15, 2022

14346

Mr. Michael Garcia, Vice Chairperson
Ewiiapaayp Tribe
4054 Willows Road
Alpine, CA 91901

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Garcia,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. Virgil Perez, Chairperson
Iipay Nation of Santa Ysabel
P.O. Box 130
Santa Ysabel, CA 92070

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Perez,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Archaeologist
DUDEK
Phone: (619) 949-3082
Email: kmontifolca@dudek.com

June 15, 2022

14346

Ms. Rebecca Osuna, Chairperson
Inaja-Cosmit Band of Indians
2005 S. Escondido Blvd.
Escondido, CA 92025

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Osuna,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. Clint Linton, Director of Cultural Resources
Iipay Nation of Santa Ysabel
P.O. Box 507
Santa Ysabel, CA 92070

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Linton,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Ms. Lisa Cumper, THPO
Jamul Indian Village
P.O. Box 612
Jamul, CA 91935

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Cumper,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Ms. Erica Pinto, Chairperson
Jamul Indian Village
P.O. Box 612
Jamul, CA 91935

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Pinto,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Ms. Carmen Lucas,
Kwaaymii Laguna Band of Mission Indians
P.O. Box 775
Pine Valley, CA 91962

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Lucas,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Ms. Norma Contreras, Chairperson
La Jolla Band of Mission Indians
22000 Highway 76
Pauma Valley, CA 92061

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Contreras,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Ms. Gwendolyn Parada, Chairperson
La Posta Band of Diegueno Mission Indians
8 Crestwood Rd.
Boulevard, CA 91905

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Parada,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Ms. Javaughn Miller, Tribal Administrator
La Posta Band of Diegueno Mission Indians
8 Crestwood Rd.
Boulevard, CA 91905

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Miller,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Ms. Angela Elliott Santos, Chairperson
Manzanita Band of Kumeyaay Nation
P.O. Box 1302
Boulevard, CA 91905

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Santos,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. Michael Linton, Chairperson
Mesa Grande Band of Diegueño Mission Indians
P.O. Box 270
Santa Ysabel, CA 92070

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Linton,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Keshia Montifolca, M.A., RPA
Archaeologist
DUDEK
Phone: (619) 949-3082
Email: kmontifolca@dudek.com

June 15, 2022

14346

Ms. Shasta Gaughen, Tribal Historic Preservation Officer
Pala Band of Mission Indians
35008 Pala Temecula Rd.
Pala, CA 92059

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California


Dear Ms. Gaughen,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. Temet Aguilar, Chairperson
Pauma & Yuima Reservation
P.O. Box 369
Pauma Valley, CA 92061

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Aguilar,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. Paul Macarro, Cultural Resources Manager
Pechanga Band of Mission Indians
P.O. Box 1477
Temecula, CA 92593

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Macarro,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. Mark Macarro, Chairperson
Pechanga Band of Mission Indians
P.O. Box 1477
Temecula, CA 92593

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

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June 15, 2022

14346

Mr. Bo Mazzetti, Chairperson
Rincon Band of Luiseño Indians
1 Government Center Lane
Valley Center, CA 92082

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Mazzetti,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Ms. Cheryl Madrigal, Tribal Historic Preservation Officer
Rincon Band of Mission Indians
One Government Center Lane
Valley Center, CA 92082

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Madrigal,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Cultural Department ,
San Luis Rey Band of Mission Indians
1889 Sunset Dr.
Vista, CA 92081

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear San Luis Rey Band Cultural Department,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Tribal Council ,
San Luis Rey Band of Mission Indians
1889 Sunset Dr.
Vista, CA 92081

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear San Luis Rey Tribal Council,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. John Flores, Environmental Coordinator
San Pasqual Band of Diegueno Mission Indians
P.O. Box 365
Valley Center, CA 92082

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Flores,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. Allen E. Lawson, Chairperson
San Pasqual Band of Diegueno Mission Indians
P.O. Box 365
Valley Center, CA 92082

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Lawson,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. Joseph Ontiveros, Cultural Resource Department
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Ontiveros,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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If you have any information or concerns pertaining to such information, please contact me.

Respectfully,

A handwritten signature in black ink, appearing to read "Keshia Montifolca".

Keshia Montifolca, M.A., RPA
Archaeologist
DUDEK
Phone: (619) 949-3082
Email: kmontifolca@dudek.com



MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

June 15, 2022

14346

Mr. Isaiah Vivanco, Chairperson
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Vivanco,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Charlene Worrell-Elliott, Resource Specialist
Sycuan Band of the Kumeyaay Nation
1 Kwaaypaay Court
El Cajon, CA 92019

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Worrell-Elliott,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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June 15, 2022

14346

Mr. Cody Martinez, Chairperson
Sycuan Band of the Kumeyaay Nation
1 Kwaaypaay Court
El Cajon, CA 92019

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Martinez,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

The Native American Heritage Commission conducted a Sacred Lands file search. The results were positive. I am writing as part of the cultural inventory process in order find out if you, or your tribal community, have any knowledge of cultural resources or places that may be impacted by the proposed project. This letter does not constitute formal government to government consultation pursuant to Assembly Bill 52.

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June 15, 2022

14346

Mr. John Christman, Chairperson
Viejas Band of Kumeyaay Indians
1 Viejas Grade Rd.
Alpine, CA 91901

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Christman,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

June 15, 2022

14346

Mr. Ernest Pingleton, Tribal Historic Officer
Viejas Band of Kumeyaay Indians
1 Viejas Grade Rd.
Alpine, CA 91901

Subject: Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Mr. Pingleton,

The proposed Sunset Drive Townhomes Project consists of the development of 38 townhome units on South Emerald Drive, north of Sky Haven Lane in the City of Vista, California. The project site falls within Sections 26 and 27 of Township 11 South, Range 4 West, 3 West of the San Luis Rey, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Keshia Montifolca, M.A., RPA
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PECHANGA CULTURAL RESOURCES

Temecula Band of Luiseño Mission Indians

Post Office, Box 2183 • Temecula, CA 92593
Telephone (951) 770-6300 • Fax (951) 506-9491

Chairperson:
Neal Ibanez

Vice Chairperson:
Bridgett Barcello

Committee Members:
Darlene Miranda
Richard B. Searce, III
Robert Villalobos
Shevon Torres
Juan Rodriguez

Director:
Gary DuBois

Coordinator:
Paul Macarro

Cultural Analyst:
Tuba Ebru Ozdil

Planning Specialist:
Molly Escobar

June 29, 2022

VIA E-Mail and USPS

Keshia Montifolca, M.A., RPA
Archaeologist
DUDEK
605 Third Street,
Encinitas, CA. 92024

RE: Request for Information for the Sunset Drive Townhomes Project, City of Vista, San Diego County, California

Dear Ms. Montifolca,

The Pechanga Band of Indians ("the Tribe") appreciates your request for information regarding the above referenced Project. After reviewing the provided maps and our internal documents, we have determined that the Project area is not within Reservation land's, although it is located within Our Ancestral Territory. At this time, we are interested in participating in this Project based upon our 'Ayélkwish/Traditional Knowledge of the area, its placement directly within an expansive Ancestral Village, the Project's nearness to a second 'Atáaxum/Luiseño Placename .75 of-a-mile away, and this proposed-APE's adjacency to Buena Vista Creek. Further, because of multiple nearby Ancestral-remains, ceremonial features, and because of extensive previously recorded sites within this Project's-vicinity the Tribe therefore, is interested in participating in the Sunset Drive Townhomes Project. The Pechanga Tribe believes the possibility for recovering subsurface resources, during ground-disturbing activities for the Project is extremely high.

The Tribe is dedicated to providing comprehensive cultural information to you and your firm for inclusion in the archaeological study as well as to the Lead Agency for CEQA review. At this time, the Tribe requests the following so we may continue the consultation process and to provide adequate and appropriate recommendations for the Project:

- 1) Notification once the Project begins the entitlement process, if it has not already;
- 2) Copies of all applicable archaeological reports, site records, proposed grading plans and environmental documents (EA/IS/MND/EIR, etc);
- 3) Government-to-government consultation with the Lead Agency; and
- 4) The Tribe believes that monitoring by a San Diego County qualified archaeologist and a professional Pechanga Tribal Monitor may be required during earthmoving

activities. Therefore, the Tribe reserves its right to make additional comments and recommendations once the environmental documents have been received and fully reviewed. Further, in the event that subsurface cultural resources are identified, the Tribe requests consultation with the Project proponent and Lead Agency regarding the treatment and disposition of all artifacts.

As a Sovereign governmental entity, the Pechanga Tribe is entitled to appropriate and adequate government-to-government consultation regarding the proposed Project. We would like you and your client to know that the Tribe does not consider initial inquiry letters from project consultants to constitute appropriate government-to-government consultation, but rather tools to obtain further information about the Project area. Therefore, the Tribe reserves its rights to participate in the formal environmental review process, including government-to-government consultation with the Lead Agency, and requests to be included in all correspondence regarding this Project.

Please note that we are interested in participating in surveys within Luiseño Ancestral territory. Prior to conducting any surveys, please contact the Cultural Department to schedule specifics. If you have any additional questions or comments, please contact me at pmacarro@pechanga-nsn.gov or 951-770-6306.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul E. Macarro". The signature is fluid and cursive, with the first name "Paul" being more prominent.

Paul E. Macarro
Cultural Coordinator
Pechanga Reservation

*Pechanga Cultural Resources • Temecula Band of Luiseño Mission Indians
Post Office Box 2183 • Temecula, CA 92592*

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

Rincon Band of Luiseño Indians

CULTURAL RESOURCES DEPARTMENT

One Government Center Lane | Valley Center | CA 92082
(760) 749-1092 | Fax: (760) 749-8901 | rincon-nsn.gov



July 15, 2022

Sent via email: kmontifolca@dudek.com

DUDEK

Keshia Montifolca

Main Office

605 Third Street

Encinitas, CA 92024

Re: Your Information Request for the Sunset Drive Townhomes Project in Vista, California

Dear Ms. Montifolca,

This letter is written on behalf of the Rincon Band of Luiseño Indians (“Rincon Band” or “Tribe”), a federally recognized Indian Tribe and sovereign government. We have received your notification regarding the above referenced project, and we thank you for the opportunity to provide information pertaining to cultural resources. The identified location is within the Territory of the Luiseño people and is also within Rincon Band’s specific Area of Historic Interest (AHI).

After review of the provided documents and our internal information, the Band has specific concerns that that the project may impact tangible Tribal Cultural Resources (TCRs), Traditional Cultural Landscapes (TCLs), and potential Traditional Cultural Properties (TCPs). Embedded in these resources and within the AHI are Rincon’s history, culture, and continuing traditional identity. Based on the information provided above, the Rincon Band recommends conducting an archaeological/cultural resources study, to include an archeological record search and complete intensive survey of the property. Additionally, we ask that a professional Tribal monitor from the Rincon Band to accompany the archaeologist during the survey.

The Rincon Band further requests to consult directly with the lead agency regarding project impacts to cultural resources. While it is not the responsibility of consultants to facilitate State-mandated consultation, the request is included in this letter, so the lead agency is aware of the Tribe’s concerns about the project. If you have additional questions or concerns, please do not hesitate to contact our office at your convenience at (760) 749 1092 ext. 323 or via electronic mail at cmadrigal@rincon-nsn.gov. We look forward to working together to protect and preserve our cultural assets.

Sincerely,

Cheryl Madrigal

Tribal Historic Preservation Officer

Cultural Resources Manager

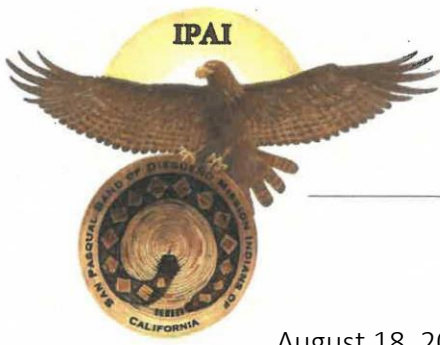
Bo Mazzetti
Chairman

Tishmall Turner
Vice Chair

Laurie E. Gonzalez
Council Member

John Constantino
Council Member

Joseph Linton
Council Member



SAN PASQUAL BAND OF MISSION INDIANS

SAN PASQUAL RESERVATION

August 18, 2022

TRIBAL COUNCIL

Stephen W. Cope
Chairman

Justin Quis Quis
Vice Chairman

Jenny Alto
Secretary-Treasurer

Roberta Cameron
Councilman

Melody S. Arviso
Councilman

DUDEK

Keshia Montfolca M.A. RPA
Archaeologist

RE: Sunset Drive Townhomes Project

Dear Mrs. Monitifolca,

The San Pasqual Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of Desiree M. Whitman THPO of the San Pasqual Band of Diegueno Indians.

We have consulted our maps and determined that the project as described is not within the boundaries of the recognized San Pasqual Indian Reservation. It is, however, within the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). Furthermore, As the project progresses, we would like to engage in formal government-to-government consultation under Section 106 of the NHPA so that San Pasqual can have a voice in the development of the measures that will be taken to protect these sites and mitigate any adverse impacts. We would appreciate being given access to any cultural resource reports that have been or will be generated during the environmental review process so we can contribute most effectively to the consultation process.

We appreciate your involvement with your initiative and look forward to working with you on future efforts. If you have questions or need additional information, please do not hesitate to contact me by telephone at 760-651-5142 or angelinag@sanpasqualtribe.org

Sincerely,

Angelina Gutierrez
Tribal Historic Preservation Office, Deputy THPO/Monitor Supervisor
San Pasqual Band of Mission Indians

APPENDIX D

Greenhouse Gas Emissions Analysis

Greenhouse Gas Emissions Analysis

Sunset Drive Townhomes Project City of Vista, California

AUGUST 2022

Prepared for:

LEGACY PARTNERS

5141 California Ave, #100
Irvine, CA 92617

Prepared by:

DUDEK

605 Third Street
Encinitas, California 92024

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
CAP	Climate Action Plan
CARB	California Air Resources Board
CAT	Climate Action Team
CEC	California Energy Commission
CALGreen	California's Green Building Standards
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CH ₄	methane
City	City of Vista
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CAPCOA	California Air Pollution Control Officers Association
CPUC	California Public Utilities Commission
EPA	United States Environmental Protection Agency
GHG	greenhouse gas
GWP	global warming potential
HFCs	hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
MMT	million metric tons
MT	metric tons
NF ₃	nitrogen trifluoride
NHTSA	National Highway Traffic Safety Association
N ₂	nitrogen gas
N ₂ O	nitrous oxide
PFCs	perfluorocarbons
Project	Sunset Drive Townhomes Project
RPS	Renewable Portfolio Standard
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas and Electric
SF ₆	sulfur hexafluoride

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Executive Summary

The purpose of this technical report is to assess the potential greenhouse gas (GHG) emissions impacts associated with implementation of the proposed Sunset Drive Townhomes Project (Project). This assessment utilizes the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.).

Project Overview

The Project includes a 38 multi-family 2-story townhomes development located on a 4.34- gross acre parcel in the City of Vista at 2112 Sunset Drive. 1.18 acres (14 units) of the site currently has a land use designation of MHD (Medium High Density) and zoning of RM 15 Multifamily Residential, and 3.09 acres (24 units) of the site currently has a land use designation of GC (General Commercial) and zoning of C-1 Commercial. The GC portion of the project will require a general plan amendment and zone change to medium density residential and RM-10. The Project will include 111 parking spaces of which 76 are garage spaces and 35 guest parking spaces.

Project Design Features

The Project would implement both construction-related and operational design features intended to reduce GHG emissions as follows:

PDF-GHG-1: Consistent with the CAP, the project will include at a minimum, three percent of total parking spaces required to have EV charging stations, and six percent of total parking spaces required in new commercial projects to have EV charging stations.

PDF-GHG-2: Consistent with the CAP, “emissions reductions in this strategy would be achieved through working with developers and fleet owners to phase out old, fossil fuel reliant equipment.” The applicant will work with the project construction contractors to incorporate to the extent available electric and alternative fueled construction equipment.

Greenhouse Gas Emissions

Global climate change is primarily considered a cumulative impact but must also be evaluated on a project-level under CEQA. A project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHG emissions. GHGs are gases that absorb infrared radiation in the atmosphere. Principal GHGs regulated under state and federal law and regulations include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). GHG emissions are measured in metric tons of CO₂ equivalent (MT CO₂e), which account for weighted global warming potential (GWP) factors for CH₄ and N₂O.

Project Impacts

Construction of the Project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. The Project would generate operational GHG emissions from area sources (landscape maintenance), energy sources (electricity consumption), mobile sources (vehicle trips), water supply and wastewater treatment, and solid waste. Estimated annual Project-

generated operational emissions in 2025, plus amortized Project construction emissions would be approximately 400 MT CO_{2e} per year.

As discussed in Section 5, the Project would be consistent with the City Climate Action Plan (CAP). The CAP is designed to reduce the City's GHG emissions and streamline environmental review of future development projects in the city in accordance with the California Environmental Quality Act (CEQA). As such, the Project is consistent with the statewide GHG reduction goals addressed in CARB's 2008 and 2017 Scoping Plans and SANDAG's 2021 Regional Plan. Therefore, the Project would be consistent with the statewide GHG reduction goals set forth in AB 32 and SB 32 and demonstrate progress toward attaining the 2050 reduction goals within EO S-3-05. Impacts would be **less than significant**.

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1 Introduction

1.1 Report Purpose and Scope

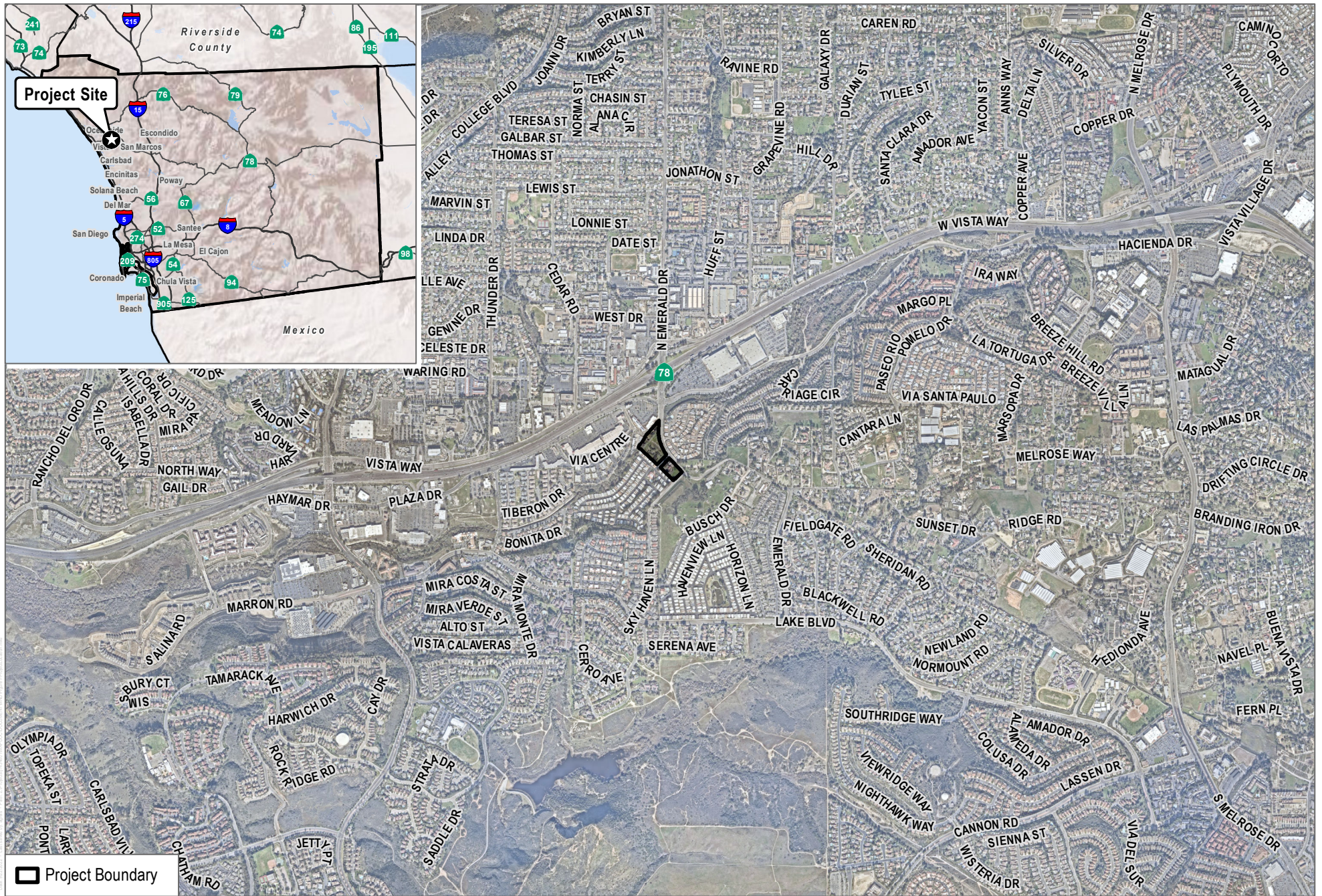
The purpose of this technical report is to assess the potential greenhouse gas (GHG) emissions impacts associated with implementation of the proposed Sunset Drive Townhomes Project (Project). This assessment utilizes the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.).

This introductory section provides a description of the Project and the Project location. Section 2 describes existing GHG-related conditions and Section 3 provides a summary of the regulatory setting. Section 4 presents the thresholds of significance applied in the impact analysis contained in Section 5. Lastly, Section 6 includes a list of the references cited.

1.3 Project Description

The approximate 4.34-acre Project site is located within the City of Vista (City), California, within San Diego County, California. The Project is a multi-family 2--story townhomes development located on a 4.34- gross acre parcel in the City of Vista at 2112 Sunset Drive (see Figure 1 and Figure 2.) 1.18 acres (14 units) of the site currently has a land use designation of MHD (Medium High Density) and zoning of RM 15 Multifamily Residential, and 3.09 acres (24 units) of the site currently has a land use designation of GC (General Commercial) and zoning of C-1 Commercial. The GC portion of the project will require a general plan amendment and zone change to medium density residential and RM-10. The Project will include 111 parking spaces of which 76 are garage spaces and 35 guest parking spaces

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SOURCE: SANGIS 2020, 2022

DUDEK



0 1,000 2,000
Feet

FIGURE 1

Project Location

Sunset Drive Townhomes

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2 Existing Conditions

2.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century and is the most significant driver of observed climate change (IPCC 2014; EPA 2017). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2014). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2014). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 2.6, Potential Effects of Climate Change.

2.2 Greenhouse Gases and other Climate Forcing Substances

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).¹ Some GHGs, such as CO₂, CH₄, and N₂O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the

¹ California Health and Safety Code 38505 identifies seven GHGs that CARB is responsible to monitor and regulate to reduce emissions: CO₂, CH₄, N₂O, SF₆, HFCs, PFCs, and NF₃.

greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF₆, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text.² Also included is a discussion of other climate forcing substances.

Carbon Dioxide (CO₂). CO₂ is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO₂ include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO₂ are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane (CH₄). CH₄ is produced through both natural and human activities. CH₄ is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide (N₂O). N₂O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N₂O. Sources of N₂O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N₂O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF₆ is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF₆ is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF₃ is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

² The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's Glossary of Air Pollution Terms (2015), and EPA's Glossary of Climate Change Terms (2016).

Chlorofluorocarbons (CFCs). CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O₃.

Hydrochlorofluorocarbons (HCFCs). HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants (TACs) that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014a).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone (O₃). Tropospheric O₃, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O₃, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O₂), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O₃, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

2.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2017). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of

a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO₂; therefore, GWP-weighted emissions are measured in MT CO₂ equivalent (CO₂e).

The current version of the California Emissions Estimator Model (CalEEMod) (Version 2020.4.0) assumes that the GWP for CH₄ is 25 (so emissions of 1 MT of CH₄ are equivalent to emissions of 25 MT of CO₂), and the GWP for N₂O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the Project.

2.4 Sources of Greenhouse Gas Emissions

Global Inventory

Anthropogenic GHG emissions worldwide in 2019 (the most recent year for which data is available) totaled approximately 52,400 million metric tons (MMT) of CO₂e, excluding land use change and forestry (PBL 2020). The top six GHG emitters include China, the United States, the Russian Federation, India, Japan, and the European Union, which accounted for approximately 62% of the total global emissions, or approximately 32,500 MMT CO₂e (PBL 2020). Table 1 presents the top GHG-emissions-producing countries.

Table 1. Six Top GHG Producer Countries and the European Union

Emitting Countries	2014 GHG Emissions (MMT CO ₂ e) ^{a,b}
China	14,000
United States	6,600
European Union	4,300
India	3,700
Russian Federation	2,500
Japan	1,400
Total	32,500

Source: PBL 2020.

Notes: MMT CO₂e = million metric tons of carbon dioxide equivalent.

^a Column may not add due to rounding.

^b GHG emissions do not include land use change and forestry-related GHG emissions.

National and State Inventories

Per the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 to 2020 (EPA 2022), total United States GHG emissions were approximately 5,981.4 MMT CO₂e in 2020 (EPA 2022). The primary GHG emitted by human activities in the United States was CO₂, which represented approximately 78.8% of total GHG emissions (4,715.7 MMT CO₂e). The largest source of CO₂, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.1% of CO₂ emissions in 2020 (4,343 MMT CO₂). Relative to 1990, gross United States GHG emissions in 2020 were 7.3% lower, down from the high of 15.7% above 1990 levels in 2007. GHG emissions decreased from 2019 to 2020 by 9.0% (590.4 MMT CO₂e) and overall, net emissions (including sinks) decreased 10.6% from 2019 to 2020 and 21.4% from 2005 levels (EPA 2022).

According to California's 2000–2019 GHG emissions inventory (2021 edition), California emitted approximately 418 MMT CO₂e in 2019, including emissions resulting from out-of-state electrical generation (CARB 2022). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state

and out-of-state sources, residential and commercial activities, agriculture, high-GWP substances, and recycling and waste. Table 2 presents California GHG emission source categories and their relative contributions to the emissions inventory in 2019.

Between 2000 and 2019, per-capita GHG emissions in California have dropped from a peak of 14.0 MT per person in 2001 to 10.5 MT per person in 2019, representing an approximate 25% decrease. In addition, total GHG emissions in 2019 were approximately 7 MMT CO₂e lower than 2018 emissions (CARB 2022).

Table 2. GHG Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO ₂ e)	Percent of Total ^a
Transportation	166.1	39.7%
Industrial	88.2	21.1%
Electric power	58.8	14.1%
Commercial and residential	43.8	10.5%
Agriculture	31.8	7.6%
High global-warming potential substances	20.6	4.9%
Recycling and waste	8.9	2.1%
Total	418.2	100%

Source: CARB 2022.

Notes: GHG = greenhouse gas; MMT CO₂e = million metric tons of carbon dioxide equivalent.

^a Column may not add due to rounding.

Between 2000 and 2019, per-capita GHG emissions in California have dropped from a peak of 14.0 MT CO₂e per person in 2001 to 10.5 MT CO₂e per person in 2019, representing an approximate 25% decrease. In addition, total GHG emissions in 2019 were approximately 7 MMT CO₂e lower than 2018 emissions (CARB 2022).

According to the GHG inventory data compiled by the Energy Policy Initiative Center, in 2010, the County (as defined to include all cities therein and unincorporated County areas) emitted 34.7 MMT CO₂e (EPIC 2015). As outlined in Table 3, San Diego County GHG Emissions by Sectors, on-road transportation created 37% of these emissions. Similar to emissions trends statewide, electricity generation is the second biggest emitter.

Table 3. San Diego County GHG Emissions by Sectors

Source Category	Annual GHG Emissions (MMT CO ₂ e)	Percent of Total
On-road transportation	13.14	37.2
Electricity generation	7.97	22.6
Natural gas end uses	2.84	8.0
Heavy Duty Trucks & Vehicles	1.89	5.4
Solid Waste	1.75	4.9

Table 3. San Diego County GHG Emissions by Sectors

Source Category	Annual GHG Emissions (MMT CO _{2e})	Percent of Total
Other Fuels	1.64	4.6
Industrial	1.43	4.1
Aviation	1.37	3.9
Off-Road	0.92	2.6
Wildfire	0.81	2.3
Other – Thermal Cogeneration	0.64	1.8
Water	0.52	1.5
Wastewater	0.16	0.5
Rail	0.11	0.3
Agriculture	0.08	0.2
Marine Vessels	0.05	0.1
Development and Sequestration	(0.65)	N/A
Total	34.67	100

Source: EPIC 2015.

Notes: GHG = greenhouse gas; MMT CO_{2e} = million metric tons of carbon dioxide equivalent per year

The 2012 emissions inventory for the City is shown in Table 4 below.

Table 4. City GHG Emissions by Sectors

Source Category	Annual GHG Emissions (MT CO _{2e})	Percent of Total
On-road transportation	297,000	49
Electricity	185,000	31
Natural gas	82,000	14
Solid Waste	14,000	2
Off-Road Transportation	17,000	3
Water	6,000	1
Wastewater	3,000	<1
Total	603,000	100

Source: City of Vista Climate Action Plan, October 2021

Notes: GHG emissions for each category are rounded. Sums may not add up to totals due to rounding.

2.5 Potential Effects of Human Activity on Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 Intergovernmental Panel on Climate Change Synthesis Report indicated that warming of the climate system is unequivocal and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply. The primary effect of global climate change has been a 0.2°C rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada. By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights. A decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California and much of the State's water supply, by 30% to as much as 90% is predicted over the next 100 years (CAT 2010).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late 21st century in Central and, most notably, Southern California. By late-century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CAT 2010).

A summary of current and future climate change impacts to resource areas in California, as discussed in the Safeguarding California: Reducing Climate Risk (CNRA 2014), is provided in the following text.

Agriculture. The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availability and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. Nonetheless, it is predicted that current crop and livestock production will suffer long-term negative effects resulting in a substantial decrease in the agricultural sector if not managed or mitigated.

Biodiversity and Habitat. The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift, and novel combinations of species; pathogens, parasites and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurred). Habitat restoration, conservation, and resource management across California and through collaborative efforts amongst public, private and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate as a result of climate change, based on geographic region.

Energy. The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events and sea level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants since power plant cooling is less efficient at higher ambient temperatures. Natural gas infrastructure in coastal California is threatened by sea level rise and extreme storm events.

Forestry. Forests occupy approximately 33% of California's 100 million acres and provide key benefits such as wildlife habitat, absorption of CO₂, renewable energy and building materials. The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes, or quickly occupy areas denuded by fire, insect mortality or other climate change effects on vegetation.

Ocean and Coastal Ecosystems and Resources. Sea level rise, changing ocean conditions and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea level rise in addition to more frequent and severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity and duration of extreme heat and heat waves is likely to increase the risk of mortality due to heat related illness as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne

diseases, mental health impacts, and malnutrition injuries. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality.

Transportation. Residents of California rely on airports, seaports, public transportation and an extensive roadway network to gain access to destinations, goods and services. While the transportation industry is a source of GHG emissions it is also vulnerable to climate change risks. Particularly, sea level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports, and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Water resources in California support residences, plants, wildlife, farmland, landscapes and ecosystems and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter time. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement and post-disaster mental health problems. Prolonged and intensified droughts can also negatively groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat.

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3 Regulatory Setting

3.1 Federal

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations. This is the “endangerment finding.”
- The Administrator further found the combined emissions of GHGs—CO₂, CH₄, N₂O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act of 2007. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and directs National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (EPA 2010).

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The

proposed standards projected to achieve 163 grams per mile of CO₂ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

On September 19, 2019, the NHTSA and the EPA issued a final action entitled the “One National Program Rule” to enable the federal government to provide nationwide uniform fuel economy and greenhouse gas emission standards for automobile and light-duty trucks (EPA 2019). This action finalizes critical parts of the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule that was first proposed in August 2018. This action makes clear that federal law preempts state and local tailpipe GHG emissions standards as well as zero emission vehicle (ZEV) mandates. In March 2020, Part Two was issued which set CO₂ emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. In March 2022, EPA reinstated California’s authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate. EPA’s action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

3.2 State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

Executive Order (EO) S-3-05. EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

Assembly Bill (AB) 32 and CARB’s Climate Change Scoping Plan. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO₂e). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the Climate Change Scoping Plan: A Framework for Change (Scoping Plan) in accordance with Health and Safety Code Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

In the Scoping Plan, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual" [BAU]). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the Scoping Plan's Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the BAU conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewable Portfolio Standard (12% to

20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the BAU conditions.

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update). The stated purpose of the First Update is to “highlight California’s success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050” (CARB 2014b). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB (2014b) identified “six key focus areas comprising major components of the state’s economy to evaluate and describe the larger transformative actions that will be needed to meet the state’s more expansive emission reduction needs by 2050.” Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and, (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05’s 2050 reduction goal.

Based on CARB’s research efforts presented in the First Update, it has a “strong sense of the mix of technologies needed to reduce emissions through 2050.” Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies (CARB 2014b).

As part of the First Update, CARB (2014b) recalculated the state’s 1990 emissions level using more recent global warming potentials identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO₂e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the BAU conditions.

In December 2017, CARB adopted California’s 2017 Climate Change Scoping Plan (2017 Scoping Plan) (CARB 2017). This plan outlines CARB’s strategy for achieving the state’s 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030. The 2017 Scoping Plan incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California’s natural and working lands increasingly sequester carbon. During development of the 2017 Scoping Plan, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2017).

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32 and the Executive Orders and establishes an overall framework for the measures that will be adopted to reduce California’s GHG emissions. A project is considered consistent with the statutes and Executive Orders if it meets the general policies in reducing GHG emissions in order to facilitate the achievement of the state’s goals and does not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect

conformity with each and every planning policy or goals to be consistent. A project would be consistent, if it will further the objectives and not obstruct their attainment.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO₂e. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water, and forestry were required to prepare GHG reduction plans by September 2015, followed by a report on action taken in relation to these plans in June 2016. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets; make changes to CARB's membership, and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and, requires CARB to identify specific information for GHG emissions reduction measures when updating the scoping plan.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state; and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy) in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane and fluorinated gases.

EO B-55-18

EO B-55-18 (September 2018) established a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." This executive order directed CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24

specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. The California Energy Commission (CEC) is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2020. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards will use approximately 53% less energy than those under the 2016 standards (CEC 2018). Nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as California's Green Building Standards (CALGreen), and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings, schools, and hospitals. The CALGreen 2019 standards, which are the current standards, became effective January 1, 2020.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include: refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SB 1. SB 1 (2006) established a \$3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), which require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry in which solar energy systems are a viable mainstream option for both homes and businesses within 10 years of

adoption, and to place solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed “GoSolarCalifornia,” was previously titled “Million Solar Roofs.”

AB 1470. This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

California AB 1470 (Solar Water Heating). This bill established the Solar Water Heating and Efficiency Act of 2007. AB 1470 makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. AB 1470 defines several terms for purposes of the act. The bill required a commission to evaluate the data available from a specified pilot program, and to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (2002) established the Renewable Portfolio Standard (RPS) program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010.

SB 1368. SB 1368 (2006) requires the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC). This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low as or lower than new combined-cycle natural gas plants by requiring imported electricity to meet GHG performance standards in California and by requiring that the standards be developed and adopted in a public process.

SB X1 2. SB X1 2 (2011) expanded the RPS by establishing that 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

SB 350. SB 350 (2015) further expanded the RPS by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030 be secured from qualifying renewable energy sources. In

addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

SB 100. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. Under SB 100, it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources does not increase the carbon emissions elsewhere in the western grid and that the achievement not occur through resource shuffling.

Mobile Sources

AB 1493. In a response to the transportation sector accounting for more than half of California's CO₂ emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

EO S-1-07. Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO₂e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

SB 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations (MPOs) are then responsible for preparing a Sustainable Communities Strategy within their Regional Transportation Plan. The goal of the Sustainable Communities Strategy is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a Sustainable Communities Strategy is unable to achieve the GHG reduction target, an MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375

makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In 2010, CARB adopted the first round of SB 375 targets for the regional MPOs. The original targets for SANDAG are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035. In March 2018, CARB adopted updated SB 375 targets for the regional MPOs. The updated targets for SANDAG are a 15% reduction in emissions per capita by 2020 and a 19% reduction by 2035. The reduction targets are expressed as a percent change in per capita passenger vehicle GHG emissions relative to 2005 levels.

SANDAG completed and adopted its 2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in October 2011. In November 2011, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

In 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines. More specifically, in October 2015, SANDAG adopted San Diego Forward: The Regional Plan. Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

On September 23, 2016, SANDAG's Board of Directors adopted the final 2016 Regional Transportation Improvement Program (RTIP), which is a multibillion-dollar, multiyear program of proposed major transportation projects in the San Diego region. Transportation projects funded with federal, state, and TransNet (the San Diego transportation sales tax program) must be included in an approved RTIP. The programming of locally funded projects also may be programmed at the discretion of the agency. The 2016 RTIP covers five fiscal years and incrementally implements the Regional Plan (SANDAG 2016). The latest draft of the 2021 Regional Plan was released in May 2021 and at its meeting on February 26, 2021, the SANDAG Board of Directors adopted the final 2021 RTIP. The 2021 RTIP and its conformity determination were approved by FHWA and FTA on April 16, 2021. The 2021 Regional Plan provides a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources (SANDAG 2021). The plan is the result of years of planning, data analysis, and community engagement to reimagine the San Diego region with a transformative transportation system, a sustainable pattern of growth and development, and innovative demand and management strategies.

The 2021 Regional Plan includes a Sustainable Communities Strategy (SCS), as required by California Senate Bill 375 (SB 375), for the San Diego region. This SCS describes coordinated transportation and land use planning that exceeds the state's target for reducing per capita GHG emissions set by the California Air Resources Board. The state-mandated target is a 19% reduction—compared with 2005—in per capita GHG emissions from cars and light-duty trucks by 2035. The 2021 Regional Plan achieves a 20% reduction by then.

The 2021 Regional Plan also puts forth a forecasted development pattern that is driven by regional goals for sustainability, mobility, housing affordability, and economic prosperity.

Advanced Clean Cars Program. In January 2012, CARB approved the Advanced Clean Cars (ACC) program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to

reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The Zero Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

The ACC II program is currently in development to establish the next set of Low-Emission Vehicle (LEV) and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2021a). The main objectives of ACC II are:

1. Maximize criteria and GHG emission reductions through increased stringency and real-world reductions.
2. Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

An ACC II rulemaking package, which will consider technological feasibility, environmental impacts, equity, economic impacts, and consumer impacts, is anticipated to be presented to CARB for consideration in June 2022. However, as detailed previously, EPA and NHTSA published the SAFE Vehicles Rule, which revokes California's authority to set its own GHG emissions standards and set ZEV mandates in California. Since California and 22 other states, as well as the District of Columbia and four cities, filed suit against the EPA and a petition for reconsideration of the SAFE Rule, the ACC II rulemaking's course may vary depending on the results of this ongoing litigation.

EO N-79-20. EO N-79-20 (September 2020) requires CARB to develop regulations as follows: (1) Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the State towards the target of 100% of in-state sales by 2035; (2) medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the State towards the target of 100% of the fleet transitioning to zero-emission vehicles by 2045 everywhere feasible and for all drayage trucks to be zero emission by 2035; and (3) strategies, in coordination with other State agencies, the EPA and local air districts, to achieve 100% zero-emission from off-road vehicles and equipment operations in the State by 2035. EO N-79-20 called for the development of a Zero-Emissions Vehicle Market Development Strategy, which was released February 2021, to be updated every 3 years, that ensures coordination and implementation of the EO and outlines actions to support new and used ZEV markets. In addition, the EO specifies identification of near-term actions, and investment strategies, to improve clean transportation, sustainable freight, and transit options; and calls for development of strategies, recommendations, and actions by July 15, 2021, to manage and expedite the responsible closure and remediation of former oil extraction sites as the State transitions to a carbon-neutral economy.

Advanced Clean Trucks Regulation. The Advanced Clean Trucks (ACT) Regulation was also approved by CARB in 2020. The purpose of the ACT Regulation is to accelerate the market for zero-emission vehicles in the medium- and heavy-duty truck sector and to reduce air pollutant emissions generated from on-road mobile sources (CARB

2021b). The regulation has two components including (1) a manufacturer sales requirement and (2) a reporting requirement:

- Zero-emission truck sales: Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b – 3 truck sales, 75% of Class 4 – 8 straight truck sales, and 40% of truck tractor sales.
- Company and fleet reporting: Large employers including retailers, manufacturers, brokers and others will be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, will be required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

EO B-16-12. EO B-16-12 (2012) directs state entities under the Governor’s direction and control to support and facilitate development and distribution ZEVs. This EO also sets a long-term target of reaching 1.5 million zero-emission vehicles on California’s roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on Zero-Emission Vehicles that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

SB 350. In 2015, SB 350 – the Clean Energy and Pollution Reduction Act – was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state’s 2030 and 2050 reduction targets (see Public Utilities Code section 740.12).

EO B-48-18

EO B-48-18 (2018) launched an eight-year initiative to accelerate the sale of EVs through a mix of rebate programs and infrastructure improvements. The order also set a new EV target of 5 million EVs in California by 2030. EO B-48-18 included funding for multiple state agencies, including the CEC, to increase EV charging infrastructure and for CARB to provide rebates for the purchase of new EVs and purchase incentives for low-income customers.

Solid Waste

AB 939, AB 341, AB 1826, and SB 1383. In 1989, AB 939, known as the Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state’s policy goal. CalRecycle

has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020.

Increasing the amount of commercial solid waste that is recycled, reused, or composted will reduce GHG emissions primarily by 1) reducing the energy requirements associated with the extraction, harvest, and processing of raw materials and 2) using recyclable materials that require less energy than raw materials to manufacture finished products (CalRecycle 2015). Increased diversion of organic materials (green and food waste) will also reduce GHG emissions (CO₂ and CH₄) resulting from decomposition in landfills by redirecting this material to processes that use the solid waste material to produce vehicle fuels, heat, electricity, or compost.

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multi-family residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

SB 1383 (2016) requires a 50% reduction in organic waste disposal from 2014 levels by 2020, and a 75% reduction by 2025—essentially requiring the diversion of up to 27 million tons of organic waste—to reduce GHG emissions. SB 1383 also requires that not less than 20% of edible food that is currently disposed be recovered for human consumption by 2025.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Other State Regulations and Goals

SB 97. SB 97 (August 2007) directed the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resources Agency (CNRA) adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines, Section 15064.4(a), state that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a “model or methodology” to quantify the emissions or by relying on “qualitative analysis or performance based standards” (14 CCR 15064.4[a, c]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009a), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018).

3.3 Local

City of Vista General Plan

The State of California requires cities and counties to prepare and adopt a general plan to set out a long-range vision and comprehensive policy framework for its future. The State also mandates that the general plan be updated periodically to ensure relevance and utility. The City of Vista General Plan 2030 (General Plan) was adopted by the City Council on February 28, 2012. Vista's first General Plan was adopted in 1975 and has been updated periodically. The updated General Plan reflects current court decisions, changes in the local population and economy; incorporates the most recent projections and assumptions regarding future growth; responds to the issues, challenges and opportunities created by recent trends and developments while providing an integrated and

internally consistent set of goals and policies designed to reflect the changing characteristics and growth of the city. (City of Vista 2011).

Resource Conservation and Sustainability Element. The Resource Conservation and Sustainability Element provides the overarching framework and includes policies focused on topics central to sustainability not covered elsewhere. This element provides the overarching framework for conservation and sustainability in the City and outlines policies focused on:

- Air Quality
- Climate change;
- Water Resources;
- Biological Resources;
- Open Space;
- Parks, Recreational Facilities, and Trails;

- Cultural, Historical, and Paleontological Resources
- Energy; and
- Waste Management.

The following goal identified in the Resource Conservation and Sustainability Element support reduction of GHG emissions in the City:

- **RCS Goal 2:** Reduce GHG emission from community activities and municipal facilities and operation within the City boundaries to support the State's efforts under Assembly Bill 32, Senate Bill 375, and other state and federal mandates, and to mitigate the community's contributions to global climate change.

The following policies identified in the Resource Conservation and Sustainability Element support reduction of GHG emissions in the City:

- **RCS Policy 2.1:** Prepare and implement a Climate Action Plan (CAP) within 24 months of adoption of the General Plan that, through its full implementation, will reduce GHG emissions from community activities and municipal operations by at least 15 percent by 2020 compared to the 2005 baseline community emission inventory (including any reductions required by CARB under AB 32).
- **RCS Policy 2.2:** Update the City's Greenhouse Gas Emissions Inventory periodically to incorporate improved methods, better data, and/or more accurate tools and methods, and to assess progress.
- **RCS Policy 2.3:** Participate in inter-agency and/or inter-jurisdictional meetings and planning activities to share best practices and adaption strategies to reduce GHG emission, increase community sustainability, and educate the public about climate change.
- **RCS Policy 2.4:** Develop a public outreach program to increase public awareness of climate change and climate protection challenges, publicize the importance of reducing GHG emissions; and provide information on actions community members and business can take to reduce their individual impacts.

- **RCS Policy 2.5:** Adopt City purchasing practices and standards to support reductions in GHG emission, including preferences for energy-efficient equipment and the use of recycled materials and manufacturers that have implemented green management practices; encourage other public agencies and private businesses within Vista to do the same, when feasible.
- **RCS Policy 2.6:** Establish City bidding standards and contracting practices that encourage GHG emissions reductions, including preferences or points for the use of low or zero emission vehicles and equipment, recycled materials, and provider implementation of other green management practices; encourage other public agencies and private businesses within Vista to do the same, when feasible.
- **RCS Policy 2.7:** Through California Environmental Quality Act (CEQA) document, evaluate and disclose the contribution new projects could have on climate change and require mitigation measures as appropriate.
- **RCS Policy 2.8:** Implement new or enhanced existing measure to reduce employee vehicle trips and mitigation emissions impacts from business-related travel to reduce GHG emissions.

City of Vista Climate Action Plan

The current City of Vista Climate Action Plan (CAP) was adopted in October 2021. CEQA requires local agencies to identify significant environmental impacts of their actions and avoid or mitigate those impacts, as feasible. The goals and measures to be implemented through adoption of the City CAP are considered to be a “project” subject to the environmental review process; thus, this CAP has been prepared pursuant to CEQA guidelines as a qualified plan. As a qualified plan, this CAP was developed to meet the CEQA criteria for “a plan for the reduction of greenhouse gas emissions,” such that it may be used for the specific purpose of streamlining the analysis of GHG emissions for subsequent projects. The CAP is considered a qualified plan as described in CEQA Guidelines Section 15183.5(b). With associated CEQA coverage, the city’s CAP provides environmental review streamlining benefits for development projects proposed in the city provided they demonstrate consistency with this CAP.

Through development of the CAP, the City focuses on reducing GHG emissions by 2020 and 2030, which is consistent with legislatively adopted state targets. As directed in AB 32, SB 32, and Executive Orders B-30-15 and S-3-05, the state aims to reduce annual statewide GHG emissions to:

- 1990 levels by 2020;
- 40 percent below 1990 levels by 2030; and
- 80 percent below 1990 levels by 2050.

To help the state achieve these goals, the City has identified the following adjusted reduction targets for to be achieved within the City:

- 4 percent below 2012 levels by 2020, and
- 42 percent below 2012 levels by 2030.

The City’s targets would require GHG emissions to be reduced to 580,000 MT CO₂e per year in 2020 and 350,000 MT CO₂e per year in 2030. To meet the 2030 reduction targets the CAP identifies strategies and measures to reduce GHG emissions citywide, and includes seven strategies as follows outlined in Table 5.

Table 5. Summary of City of Vista CAP GHG Reduction Strategies

Strategy No.	Description
1	Increase the Use of Zero-Emission/Alternative Fuel Vehicles
2	Reduce Vehicle Miles Traveled
3	Reduce Fossil Fuel Use
4	Increase Building Energy Efficiency
5	Increase Renewable and Zero-Carbon Energy
6	Reduce and Recycle Solid Waste
7	Carbon Sequestration

Source: City of Vista Climate Action Plan.

CAP CEQA Streamlining

The City has not adopted guidance or thresholds to account for GHG reduction target beyond 2020, GHG emissions provided herein are for informational purposes only. As outlined in Section 4.2 CEQA Streamlining, it is the intent of the CAP to implement a CAP Consistency Review Checklist (Checklist). The Checklist would contain GHG reduction measures applicable to development projects that are required to be implemented on a project-by-project basis to ensure that the specific emission targets identified in the CAP are achieved. New development projects will need to incorporate all applicable CAP measures to demonstrate consistency with the CAP. However, at the time of preparation of this analysis, the Checklist has not been prepared by the City. In the absence of the Checklist, the Project development is compared to the CAP emission reduction strategies and measure, as provide in Appendix B of the CAP, details of 2030 GHG emission reduction strategies and measures that are proposed for the City through CAP implementation.

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4 Thresholds of Significance

The significance criteria used to evaluate the Project's GHG emissions impacts are based on the recommendations provided in Appendix G of the CEQA Guidelines. For the purposes of this GHG emissions analysis, the Project would have a significant environmental impact if it would (14 CCR 15000 et seq.):

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The Appendix G thresholds for GHGs do not prescribe specific methodologies for performing an assessment, do not establish specific quantitative thresholds, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a). Additional guidance regarding assessment of GHG's is discussed below.

CEQA Guidelines

With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or performance based standards" (14 CCR 15064.4[a]). A lead agency may use a "model or methodology" to estimate greenhouse gas emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change" (14 CCR 15064.4[c]). The CEQA Guidelines provide that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment (14 CCR 15064.4[b]):

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

In addition, the CEQA Guidelines specify that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7[c]).

Governor's Office of Planning and Research Guidance

The Governor's Office of Planning and Research technical advisory titled, CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be

disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact” (OPR 2008). Furthermore, the advisory document indicates that “in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a ‘significant impact,’ individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice” (OPR 2008).

Cumulative Nature of Climate Change

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the San Diego Air Basin (SDAB), such as the Project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project’s contribution to global climate change.

While the Project would result in emissions of GHGs during construction and operation, no current guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. However, it is generally believed that an individual project is of insufficient magnitude by itself to directly influence climate change as scientific uncertainty regarding the significance a project’s individual and cumulative effects on global climate change remains.

Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). This approach is consistent with that recommended by the CNRA, which noted in its Public Notice for the proposed CEQA amendments (pursuant to SB97) that the evidence before it indicates that in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009a). Similarly, the Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an environmental impact report or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009a).

Approaches to Determining Significance

The current City of Vista Climate Action Plan (CAP) was adopted in October 2021. As outlined in CAP Section 4.2 CEQA Streamlining, it is the intent of the CAP to implement a CAP Consistency Review Checklist (Checklist). The Checklist would contain GHG reduction measures applicable to development projects that are required to be implemented on a project-by-project basis to ensure that the specific emission targets identified in the CAP are achieved. New development projects will need to incorporate all applicable CAP measures to demonstrate consistency with the CAP. However, at the time of preparation of this analysis, the Checklist has not been prepared by the City. In the absence of the Checklist, the Project development is compared to the CAP emission reduction strategies and measure, as provide in Chapter 3 of the CAP. The CAP is designed to reduce the City’s GHG emissions and streamline environmental review of future development projects in the city in accordance with the California Environmental Quality Act (CEQA). The Project will be assessed using the City’s CAP. This is discussed in detail in Section 5, Impacts.

5 Impacts

Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Project GHG Emissions

Construction GHG Emissions

Construction Scenario Assumptions

GHG emissions would be associated with the construction phase of the Project components through use of construction equipment and vehicle trips. Emissions of CO₂ were estimated using the CalEEMod, Version 2020.4.0.³

For the purposes of modeling, it was assumed that construction of Project components would commence in June 2023 and last approximately 15 months. Table 6 provides the construction timeline and potential phasing of the components that would come online to achieve the target milestones. The construction schedule has been developed based on available information provided by the Project applicant, typical construction practices, and best engineering judgment. Construction phasing is intended to represent a schedule of anticipated activities for use in estimating potential Project-generated construction emissions.

Table 6. Construction Scenario Assumptions

Construction Phase (Duration)	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Demolition	16	4	18	Concrete/Industrial Saws	1	8
				Excavator	3	8
				Rubber-tired dozers	2	8
Site preparation	18	4	0	Rubber-tired dozers	3	8
				Tractors/loaders/backhoes	4	8
Grading/Trenching/Site Work	16	4	338	Excavators	1	8
				Graders	1	8
				Rubber-tired dozers	1	8

³ CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the State. Numerous lead agencies in the State, including the SDAPCD, utilize CalEEMod to estimate GHG emissions in accordance with CEQA Guidelines section 15064.4(a)(1).

Table 6. Construction Scenario Assumptions

Construction Phase (Duration)	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Building construction	60	18	0	Tractors/loaders/backhoes	3	8
				Forklifts	3	8
				Cranes	1	7
				Generator sets	1	8
				Tractors/loaders/backhoes	3	7
				Welders	1	8
Paving	20	0	0	Pavers	1	8
				Paving equipment	2	6
				Rollers	2	6
				Tractors/Loaders/Backhoes	1	8
				Cement Mortar Mixers	2	6
Architectural coating	12	0	0	Air compressors	1	6

Note: See Appendix A for additional details.

The equipment mix assumptions were based on Project design documents, review of related documents, and CalEEMod default equipment, where appropriate. The equipment mix is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it is generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 6 days per week. Default assumptions provided in CalEEMod were utilized to determine worker trips and vendor truck trips for each potential construction phase. The default CalEEMod trip distance for construction vehicles was assumed. Based on project specific information, 2,700 cubic yards of material import is expected from the construction of the project and included in the modeling analysis.

Estimated Construction Emissions

Table 7 shows the estimated annual GHG construction emissions associated with the Project. Complete details of the emissions calculations are provided in Appendix A of this document.

Table 7. Estimated Annual Construction GHG Emissions

Year	CO ₂	CH ₄	N ₂ O	CO ₂ e
	Metric Tons			
2023	291.34	0.06	0.01	294.75
2024	278.68	0.05	0.01	281.62
Total	570.02	0.11	0.02	576.37

Source: See Appendix A for complete results.

Notes: GHG = greenhouse gas; CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent. See Appendix A for complete results.

As shown in Table 7, the estimated total GHG emissions from construction of the Project would be 576 MT CO₂e. When amortized over 30 years, the estimated annual GHG emissions from construction of the Project would be 19 MT CO₂e per year.

Operational Emissions

Operation of the Project would result in direct GHG emissions from area sources, indirect GHG emissions from use of electricity, vehicular traffic, waste, and water and wastewater.

Operational Scenario Assumptions

Area

The area source category calculates direct sources of GHG emissions located at the Project site including hearths and landscape maintenance equipment. (This source category does not include the emissions associated with natural gas usage in space heating and water heating as these are calculated in the building energy use module of CalEEMod.) The Project will not have residential unit natural gas or woodburning fireplaces or woodstoves; as such, the only area source pertinent to this analysis is landscape maintenance equipment.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, roto tillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. The emissions associated from landscape equipment use were estimated using CalEEMod defaults. For San Diego County, CalEEMod assumes that landscaping equipment would operate 180 days per year. To be conservative, emissions were estimated assuming that landscape maintenance equipment was powered by gasoline or diesel fuel, and not electrified.

Energy

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). CalEEMod default values for energy consumption were applied to each land use. The energy use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Survey (CAPCOA 2021).

Annual natural gas (non-hearth) and electricity emissions were estimated in CalEEMod using default values for emissions factors for San Diego Gas and Electric (SDG&E), which would be the energy source provider for the Project.

Mobile Sources (Motor Vehicles)

Following the completion of construction activities, the Project would generate GHG emissions from mobile sources (vehicular traffic), as a result of residents and employees associated with the 38 additional residential units. The CalEEMod Version 2020.4.0 model was used to estimate daily emissions from vehicular sources (refer to Appendix A). CalEEMod Version 2020.4.0 default data, including temperature, trip characteristics, variable start information, and emissions factors were used for the model inputs. Project specific trip rates was utilized from the City of Vista Project Information Form (PIF), SANDAGs Brief Guide of Vehicular Traffic Generation Rates, April 2002. Emission factors representing the vehicle mix and emissions for 2025 were conservatively used to estimate emissions associated with vehicular sources. The 2025 operational year represents the first full year the Project would be operational.

Solid Waste

The Project would generate solid waste, and therefore, result in CO₂e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water for the Project require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the Project requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. Water consumption estimates for both indoor and outdoor water use and associated electricity consumption from water use and wastewater generation were estimated using CalEEMod default values.

Estimated Operational Emissions

Table 8 shows the total operational GHG emissions for the Project after accounting for amortized construction emissions.

Table 8. Summary of Estimated Annual GHG Emissions

Emissions Source	MT CO ₂	MT CH ₄	MT N ₂ O	MT CO ₂ e
Area	4.66	<0.01	<0.01	4.78
Energy	73.37	<0.01	<0.01	73.70
Mobile	271.80	0.02	0.01	275.96
Waste	3.58	0.21	0	8.82
Water	15.30	0.08	<0.01	17.93
<i>Amortized Construction Emissions</i>				<i>19.21</i>
Total Project Emissions				400.40

Source: See Appendix A for complete results.

Notes: GHG = greenhouse gas; MT = metric tons; CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent; <0.01 = reported value is less than 0.01. Emissions presented represent the “mitigated” output in CalEEMod.

Implementation of the Project, as analyzed at the project-level of analysis, would emit approximately 400 MT CO₂e per year including amortized construction emissions.

Impact Analysis

As discussed in Section 4, The CAP is designed to reduce the City’s GHG emissions and streamline environmental review of future development projects in the city in accordance with the California Environmental Quality Act (CEQA). Therefore, the project’s impact analysis will be assessed based on consistency with the City’s CAP.

Consistency with the City of Vista CAP

CAP Section 4.2 provides CEQA streamlining and it is the intent of the CAP to implement a CAP Consistency Review Checklist (Checklist). The Checklist would contain GHG reduction measures applicable to development projects that are required to be implemented on a project-by-project basis to ensure that the specific emission targets identified in the CAP are achieved. New development projects will need to incorporate all applicable CAP measures to demonstrate consistency with the CAP. However, at the time of preparation of this analysis, the Checklist has not

been prepared by the City. In the absence of the Checklist, the Project development is compared to the CAP emission reduction strategies and measure, as provide in in Chapter 3 of the CAP, and as presented in Table 9.

Table 9. City of Vista CAP Consistency

Category	Strategy	Measure	Consistency Analysis
Transportation			
	1: Increase Use of Zero-Emission/Alternative Fuel Vehicles		
		T-1: Transition to a Clean and More Efficient Municipal Vehicle Fleet	Not applicable
		T-2: Increase Electric Vehicle Charging Stations at Public Facilities	Not applicable
		T-3: Require Electric Vehicle Charging Stations at New Multi-Family and Commercial Developments. Require that three percent of total parking spaces required in new multi-family projects have EV charging stations, and six percent of total parking spaces required in new commercial projects have EV charging stations, starting in 2021.	Consistent. The project will include at a minimum, three percent of total parking spaces required in new multi-family projects have EV charging stations, and six percent of total parking spaces required in new commercial projects.
	2. Reduce Vehicle Miles Traveled		
		T-4: Participate in the San Diego Association of Government's iCommute Vanpool Program	Not applicable
		T-5: Implement the City's Bicycle Master Plan Implement projects identified in the city's Bicycle Master Plan, including adding new bicycle lanes and improving existing bicycle lanes. Support the SANDAG Regional Bicycle Plan Inland Rail Trail segment that is within the city's boundary.	Not applicable. The project would not prevent the City from implanting the City's Bicycle Master Plan.
		T-6: Increase Density and Mixed-Use Development. Increase density and destination accessibility in the Opportunity Areas identified in the General Plan and the SANDAG Smart Growth Areas	Consistent. The project includes 38 two-story townhome units with a proposed land use of Medium high density and a changed zone from commercial to medium density which results in significantly less daily trips.
	3. Reduce Fossil Fuel Use		
		T-7: Require Electric-Powered or Alternative Fueled Construction Equipment. Require that 30 percent of construction equipment in new development projects be electricpowered or alternatively fueled	Consistent. As discussed in the CAP, "emissions reductions in this strategy would be achieved through working with developers and fleet owners to phase out old, fossil fuel reliant equipment." The applicant will work with the project construction

			contractors to incorporate to the extent available electric and alternative fueled construction equipment.
	4. Increase Building Energy Efficiency		
		E-1: Implement Energy Efficient Projects in Municipal Facilities	Not applicable. The Project is not a municipal facility.
		E-2: Continue Photovoltaic Installation at Municipal Facilities	Not applicable. The Project is not a municipal facility.
		E-3: Join a Program to Increase Grid-Supply Renewable and Zero-Carbon Electricity	Not applicable. The Project would not prevent the City from Joining a Program to Increase Grid-Supply Renewable and Zero-Carbon Electricity
	6. Reduce and Recycle Solid Waste		
		W-1: Reduce Solid Waste Disposal and Increase Recycling. Achieve 85 percent waste diversion citywide (equivalent to reducing per capita waste landfilled to two lbs per person) by 2030.	Consistent. The Project will adhere to any applicable City requirements developed and implemented by the City to reduce solid waste and increase recycling.
	7. Carbon Sequestration		
		C-1 Increase Tree Planting at Municipal Facilities and Public Rights-of-Way	Not applicable. The Project is not a municipal facility or Public Right-of-Way.
		C-2 Increase Tree Planting at New Private Properties. Enforce the new development tree requirements from landscape plans and track the new trees planted.	Consistent. The Project's landscape plans will incorporate applicable City requirements for trees.

In summary, for disclosure purposes, the Project operational emissions in 2025 plus amortized project construction emissions is estimated to be 400 MT CO₂e per year. The CAP is designed to reduce the City's GHG emissions and streamline environmental review of future development projects in the city in accordance with the California Environmental Quality Act (CEQA). Therefore, the project's impact analysis was assessed based on consistency with the City's CAP emission reduction strategies and measure. As provided in Table 11, the project would be consistent with the CAP and therefore Project impacts would be **less than significant**.

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Appendix A

CalEEMod Outputs

Appendix A
Project CalEEMod Modeling Files

2112 Sunset Drive Townhomes - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2112 Sunset Drive Townhomes****San Diego County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	31.00	Space	0.28	12,400.00	0
City Park	0.73	Acre	0.73	31,848.00	0
Condo/Townhouse	38.00	Dwelling Unit	2.49	59,440.00	109
Other Asphalt Surfaces	33.66	1000sqft	0.77	33,664.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per applicant provided information. City park subtype assumed for project open space = 31,848 sqft. Other asphalt surfaces represent new internal roads.

Construction Phase - Per applicant provided information. 6 days per week.

Off-road Equipment - default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Grading - per applicant provided information

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

Off-road Equipment - Default values

Off-road Equipment - Default values

Demolition - Per applicant provided information 3,000 sqft for buildings and 1,000 sqft for surfaces, total 4,000 sqft.

Trips and VMT - Default values rounded up to even values to include both arrival and departure of vehicles. Demolition, site preparation and grading include vendor trucks for watering vehicles.

Architectural Coating - As provided by applicant, low-VOC coatings to be used for the project.

Vehicle Trips - Condo/townhouse trip rate based on Project Information Form, Table A Trip Generation Summary.

Woodstoves - Project includes 2 outdoor grills and 2 outdoor fire pits, represented by 2 propane burning and 2 wood burning fireplaces. Wood mass set equal to half the default value as there are only 2 wood burning fire pits compared to the default value of 3.8.

Consumer Products - Default values

Area Coating - Per applicant project will include use of Low-VOC coatings.

Landscape Equipment - Default values

Energy Use - Default values

Water And Wastewater - Default values

Solid Waste - Default values

Construction Off-road Equipment Mitigation -

Area Mitigation - Project will use Low-VOC coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50

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tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	8.00	27.00
tblConstructionPhase	NumDays	230.00	314.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/27/2023	6/15/2023
tblConstructionPhase	PhaseEndDate	2/3/2023	6/20/2023
tblConstructionPhase	PhaseEndDate	2/15/2023	7/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2024	7/22/2024
tblConstructionPhase	PhaseEndDate	1/29/2024	8/5/2024
tblConstructionPhase	PhaseEndDate	2/22/2024	8/19/2024
tblConstructionPhase	PhaseStartDate	1/2/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	6/16/2023
tblConstructionPhase	PhaseStartDate	2/4/2023	6/21/2023
tblConstructionPhase	PhaseStartDate	2/16/2023	7/22/2023
tblConstructionPhase	PhaseStartDate	1/4/2024	7/23/2024
tblConstructionPhase	PhaseStartDate	1/30/2024	8/6/2024
tblFireplaces	FireplaceWoodMass	3,078.40	1,539.00
tblFireplaces	NumberGas	20.90	0.00
tblFireplaces	NumberNoFireplace	3.80	4.00
tblFireplaces	NumberPropane	0.00	2.00

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tblFireplaces	NumberWood	13.30	2.00
tblGrading	MaterialImported	0.00	2,700.00
tblLandUse	LandUseSquareFeet	31,847.98	31,848.00
tblLandUse	LandUseSquareFeet	38,000.00	59,440.00
tblLandUse	LotAcreage	2.38	2.49
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	17.00	18.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	8.14	8.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	6.28	8.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	7.32	8.00
tblWoodstoves	NumberCatalytic	1.90	0.00
tblWoodstoves	NumberNoncatalytic	1.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1667	1.5287	1.6228	3.3000e-003	0.1854	0.0689	0.2542	0.0798	0.0645	0.1443	0.0000	291.3409	291.3409	0.0603	6.3900e-003	294.7525
2024	0.3541	1.3119	1.6387	3.1700e-003	0.0541	0.0571	0.1112	0.0146	0.0537	0.0683	0.0000	278.6819	278.6819	0.0531	5.4000e-003	281.6173
Maximum	0.3541	1.5287	1.6387	3.3000e-003	0.1854	0.0689	0.2542	0.0798	0.0645	0.1443	0.0000	291.3409	291.3409	0.0603	6.3900e-003	294.7525

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	0.1667	1.5287	1.6228	3.3000e-003	0.1099	0.0689	0.1788	0.0431	0.0645	0.1076	0.0000	291.3407	291.3407	0.0603	6.3900e-003	294.7522
2024	0.3541	1.3119	1.6387	3.1700e-003	0.0541	0.0571	0.1112	0.0146	0.0537	0.0683	0.0000	278.6817	278.6817	0.0531	5.4000e-003	281.6170
Maximum	0.3541	1.5287	1.6387	3.3000e-003	0.1099	0.0689	0.1788	0.0431	0.0645	0.1076	0.0000	291.3407	291.3407	0.0603	6.3900e-003	294.7522

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	31.49	0.00	20.64	38.88	0.00	17.28	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)
2	4-2-2023	7-1-2023	0.3223	0.3223
3	7-2-2023	10-1-2023	0.7099	0.7099
4	10-2-2023	1-1-2024	0.6728	0.6728
5	1-2-2024	4-1-2024	0.6241	0.6241
6	4-2-2024	7-1-2024	0.6220	0.6220
7	7-2-2024	9-30-2024	0.4110	0.4110
		Highest	0.7099	0.7099

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783
Energy	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	73.3674	73.3674	3.3400e-003	8.4000e-004	73.7016
Mobile	0.1470	0.1635	1.3784	2.9400e-003	0.3247	2.2800e-003	0.3270	0.0867	2.1300e-003	0.0888	0.0000	271.7980	271.7980	0.0194	0.0123	275.9581
Waste						0.0000	0.0000		0.0000	0.0000	3.5605	0.0000	3.5605	0.2104	0.0000	8.8209
Water						0.0000	0.0000		0.0000	0.0000	0.7855	14.5103	15.2958	0.0816	2.0100e-003	17.9346
Total	0.5902	0.1943	1.8665	3.4100e-003	0.3247	0.0325	0.3572	0.0867	0.0323	0.1190	6.7194	361.9670	368.6864	0.3152	0.0155	381.1934

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783
Energy	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	73.3674	73.3674	3.3400e-003	8.4000e-004	73.7016
Mobile	0.1470	0.1635	1.3784	2.9400e-003	0.3247	2.2800e-003	0.3270	0.0867	2.1300e-003	0.0888	0.0000	271.7980	271.7980	0.0194	0.0123	275.9581
Waste						0.0000	0.0000		0.0000	0.0000	3.5605	0.0000	3.5605	0.2104	0.0000	8.8209
Water						0.0000	0.0000		0.0000	0.0000	0.7855	14.5103	15.2958	0.0816	2.0100e-003	17.9346
Total	0.5902	0.1943	1.8665	3.4100e-003	0.3247	0.0325	0.3572	0.0867	0.0323	0.1190	6.7194	361.9670	368.6864	0.3152	0.0155	381.1934

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	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	6/1/2023	6/15/2023	6	13	
2	Site Preparation	Site Preparation	6/16/2023	6/20/2023	6	4	
3	Grading	Grading	6/21/2023	7/21/2023	6	27	

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4	Building Construction	Building Construction	7/22/2023	7/22/2024	6	314
5	Paving	Paving	7/23/2024	8/5/2024	6	12
6	Architectural Coating	Architectural Coating	8/6/2024	8/19/2024	6	12

Acres of Grading (Site Preparation Phase): 6**Acres of Grading (Grading Phase): 27****Acres of Paving: 1.05****Residential Indoor: 120,366; Residential Outdoor: 40,122; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,764 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36

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Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	4.00	338.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Demolition - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9900e-003	0.0000	1.9900e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1397	0.1277	2.5000e-004		6.4800e-003	6.4800e-003		6.0300e-003	6.0300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495
Total	0.0148	0.1397	0.1277	2.5000e-004	1.9900e-003	6.4800e-003	8.4700e-003	3.0000e-004	6.0300e-003	6.3300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5401	0.5401	3.0000e-005	9.0000e-005	0.5664
Vendor	3.0000e-005	1.1500e-003	4.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5217	0.5217	2.0000e-005	8.0000e-005	0.5446
Worker	2.8000e-004	1.9000e-004	2.3700e-003	1.0000e-005	8.3000e-004	0.0000	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6599	0.6599	2.0000e-005	2.0000e-005	0.6659
Total	3.3000e-004	2.5600e-003	3.1000e-003	3.0000e-005	1.1500e-003	2.0000e-005	1.1800e-003	3.1000e-004	2.0000e-005	3.4000e-004	0.0000	1.7218	1.7218	7.0000e-005	1.9000e-004	1.7769

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 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					9.0000e-004	0.0000	9.0000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1397	0.1277	2.5000e-004		6.4800e-003	6.4800e-003		6.0300e-003	6.0300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495
Total	0.0148	0.1397	0.1277	2.5000e-004	9.0000e-004	6.4800e-003	7.3800e-003	1.4000e-004	6.0300e-003	6.1700e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5401	0.5401	3.0000e-005	9.0000e-005	0.5664
Vendor	3.0000e-005	1.1500e-003	4.1000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5217	0.5217	2.0000e-005	8.0000e-005	0.5446
Worker	2.8000e-004	1.9000e-004	2.3700e-003	1.0000e-005	8.3000e-004	0.0000	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6599	0.6599	2.0000e-005	2.0000e-005	0.6659
Total	3.3000e-004	2.5600e-003	3.1000e-003	3.0000e-005	1.1500e-003	2.0000e-005	1.1800e-003	3.1000e-004	2.0000e-005	3.4000e-004	0.0000	1.7218	1.7218	7.0000e-005	1.9000e-004	1.7769

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 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					0.0393	0.0000	0.0393	0.0202	0.0000	0.0202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3200e-003	0.0551	0.0365	8.0000e-005		2.5300e-003	2.5300e-003		2.3300e-003	2.3300e-003	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442
Total	5.3200e-003	0.0551	0.0365	8.0000e-005	0.0393	2.5300e-003	0.0418	0.0202	2.3300e-003	0.0225	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442

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	1.0000e-005	3.6000e-004	1.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1605	0.1605	0.0000	2.0000e-005	0.1676
Worker	1.0000e-004	7.0000e-005	8.2000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	1.0000e-005	0.2305
Total	1.1000e-004	4.3000e-004	9.5000e-004	0.0000	3.4000e-004	0.0000	3.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3890	0.3890	1.0000e-005	3.0000e-005	0.3981

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 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					0.0177	0.0000	0.0177	9.0900e-003	0.0000	9.0900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3200e-003	0.0551	0.0365	8.0000e-005		2.5300e-003	2.5300e-003		2.3300e-003	2.3300e-003	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442
Total	5.3200e-003	0.0551	0.0365	8.0000e-005	0.0177	2.5300e-003	0.0202	9.0900e-003	2.3300e-003	0.0114	0.0000	6.6901	6.6901	2.1600e-003	0.0000	6.7442

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	1.0000e-005	3.6000e-004	1.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1605	0.1605	0.0000	2.0000e-005	0.1676
Worker	1.0000e-004	7.0000e-005	8.2000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	1.0000e-005	0.2305
Total	1.1000e-004	4.3000e-004	9.5000e-004	0.0000	3.4000e-004	0.0000	3.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3890	0.3890	1.0000e-005	3.0000e-005	0.3981

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 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					0.0958	0.0000	0.0958	0.0463	0.0000	0.0463	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0231	0.2421	0.1991	4.0000e-004		0.0105	0.0105		9.6200e-003	9.6200e-003	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663
Total	0.0231	0.2421	0.1991	4.0000e-004	0.0958	0.0105	0.1063	0.0463	9.6200e-003	0.0559	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0229	6.1000e-003	1.0000e-004	2.8900e-003	1.9000e-004	3.0800e-003	8.0000e-004	1.8000e-004	9.7000e-004	0.0000	10.1425	10.1425	5.1000e-004	1.6100e-003	10.6359
Vendor	6.0000e-005	2.4000e-003	8.5000e-004	1.0000e-005	3.6000e-004	1.0000e-005	3.7000e-004	1.0000e-004	1.0000e-005	1.2000e-004	0.0000	1.0835	1.0835	3.0000e-005	1.6000e-004	1.1311
Worker	5.8000e-004	4.0000e-004	4.9200e-003	1.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.3707	1.3707	4.0000e-005	4.0000e-005	1.3831
Total	1.0100e-003	0.0257	0.0119	1.2000e-004	4.9800e-003	2.1000e-004	5.1900e-003	1.3600e-003	2.0000e-004	1.5600e-003	0.0000	12.5966	12.5966	5.8000e-004	1.8100e-003	13.1501

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Grading - 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					0.0431	0.0000	0.0431	0.0208	0.0000	0.0208	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0231	0.2421	0.1991	4.0000e-004		0.0105	0.0105		9.6200e-003	9.6200e-003	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663
Total	0.0231	0.2421	0.1991	4.0000e-004	0.0431	0.0105	0.0536	0.0208	9.6200e-003	0.0304	0.0000	35.1818	35.1818	0.0114	0.0000	35.4663

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0229	6.1000e-003	1.0000e-004	2.8900e-003	1.9000e-004	3.0800e-003	8.0000e-004	1.8000e-004	9.7000e-004	0.0000	10.1425	10.1425	5.1000e-004	1.6100e-003	10.6359
Vendor	6.0000e-005	2.4000e-003	8.5000e-004	1.0000e-005	3.6000e-004	1.0000e-005	3.7000e-004	1.0000e-004	1.0000e-005	1.2000e-004	0.0000	1.0835	1.0835	3.0000e-005	1.6000e-004	1.1311
Worker	5.8000e-004	4.0000e-004	4.9200e-003	1.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.3707	1.3707	4.0000e-005	4.0000e-005	1.3831
Total	1.0100e-003	0.0257	0.0119	1.2000e-004	4.9800e-003	2.1000e-004	5.1900e-003	1.3600e-003	2.0000e-004	1.5600e-003	0.0000	12.5966	12.5966	5.8000e-004	1.8100e-003	13.1501

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Unmitigated Construction 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	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1043	161.1043	0.0383	0.0000	162.0624
Total	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1043	161.1043	0.0383	0.0000	162.0624

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	1.4700e-003	0.0555	0.0196	2.6000e-004	8.3100e-003	3.3000e-004	8.6300e-003	2.4000e-003	3.1000e-004	2.7100e-003	0.0000	25.1014	25.1014	7.6000e-004	3.6400e-003	26.2042
Worker	0.0113	7.8000e-003	0.0950	2.9000e-004	0.0334	1.8000e-004	0.0336	8.8900e-003	1.7000e-004	9.0600e-003	0.0000	26.4611	26.4611	7.8000e-004	7.4000e-004	26.7007
Total	0.0128	0.0633	0.1146	5.5000e-004	0.0418	5.1000e-004	0.0423	0.0113	4.8000e-004	0.0118	0.0000	51.5625	51.5625	1.5400e-003	4.3800e-003	52.9049

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****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	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1041	161.1041	0.0383	0.0000	162.0622
Total	0.1093	0.9998	1.1290	1.8700e-003		0.0486	0.0486		0.0458	0.0458	0.0000	161.1041	161.1041	0.0383	0.0000	162.0622

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	1.4700e-003	0.0555	0.0196	2.6000e-004	8.3100e-003	3.3000e-004	8.6300e-003	2.4000e-003	3.1000e-004	2.7100e-003	0.0000	25.1014	25.1014	7.6000e-004	3.6400e-003	26.2042
Worker	0.0113	7.8000e-003	0.0950	2.9000e-004	0.0334	1.8000e-004	0.0336	8.8900e-003	1.7000e-004	9.0600e-003	0.0000	26.4611	26.4611	7.8000e-004	7.4000e-004	26.7007
Total	0.0128	0.0633	0.1146	5.5000e-004	0.0418	5.1000e-004	0.0423	0.0113	4.8000e-004	0.0118	0.0000	51.5625	51.5625	1.5400e-003	4.3800e-003	52.9049

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Unmitigated Construction 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	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8680	202.8680	0.0480	0.0000	204.0673
Total	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8680	202.8680	0.0480	0.0000	204.0673

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	1.7800e-003	0.0695	0.0241	3.2000e-004	0.0105	4.1000e-004	0.0109	3.0200e-003	4.0000e-004	3.4200e-003	0.0000	31.0520	31.0520	9.8000e-004	4.5000e-003	32.4171
Worker	0.0133	8.8300e-003	0.1118	3.5000e-004	0.0421	2.2000e-004	0.0423	0.0112	2.0000e-004	0.0114	0.0000	32.2234	32.2234	9.0000e-004	8.7000e-004	32.5047
Total	0.0151	0.0783	0.1359	6.7000e-004	0.0526	6.3000e-004	0.0532	0.0142	6.0000e-004	0.0148	0.0000	63.2754	63.2754	1.8800e-003	5.3700e-003	64.9218

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Mitigated Construction 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	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8677	202.8677	0.0480	0.0000	204.0670
Total	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8677	202.8677	0.0480	0.0000	204.0670

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	1.7800e-003	0.0695	0.0241	3.2000e-004	0.0105	4.1000e-004	0.0109	3.0200e-003	4.0000e-004	3.4200e-003	0.0000	31.0520	31.0520	9.8000e-004	4.5000e-003	32.4171
Worker	0.0133	8.8300e-003	0.1118	3.5000e-004	0.0421	2.2000e-004	0.0423	0.0112	2.0000e-004	0.0114	0.0000	32.2234	32.2234	9.0000e-004	8.7000e-004	32.5047
Total	0.0151	0.0783	0.1359	6.7000e-004	0.0526	6.3000e-004	0.0532	0.0142	6.0000e-004	0.0148	0.0000	63.2754	63.2754	1.8800e-003	5.3700e-003	64.9218

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Unmitigated Construction 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	5.2900e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054
Paving	1.3800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.6700e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054

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	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430
Total	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Mitigated Construction 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	5.2900e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054
Paving	1.3800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.6700e-003	0.0496	0.0733	1.1000e-004		2.3900e-003	2.3900e-003		2.2100e-003	2.2100e-003	0.0000	9.8282	9.8282	3.0900e-003	0.0000	9.9054

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	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430
Total	3.0000e-004	2.0000e-004	2.5500e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.7365	0.7365	2.0000e-005	2.0000e-005	0.7430

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.2020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0800e-003	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341
Total	0.2031	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341

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	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458
Total	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.2020					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0800e-003	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341
Total	0.2031	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341

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	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458
Total	1.8000e-004	1.2000e-004	1.5300e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4419	0.4419	1.0000e-005	1.0000e-005	0.4458

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1470	0.1635	1.3784	2.9400e-003	0.3247	2.2800e-003	0.3270	0.0867	2.1300e-003	0.0888	0.0000	271.7980	271.7980	0.0194	0.0123	275.9581
Unmitigated	0.1470	0.1635	1.3784	2.9400e-003	0.3247	2.2800e-003	0.3270	0.0867	2.1300e-003	0.0888	0.0000	271.7980	271.7980	0.0194	0.0123	275.9581

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	304.00	304.00	304.00	868,012	868,012
Parking Lot	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	304.00	304.00	304.00	868,012	868,012

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Condo/Townhouse	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Parking Lot	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Other Asphalt Surfaces	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	46.1463	46.1463	2.8200e-003	3.4000e-004	46.3187
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	46.1463	46.1463	2.8200e-003	3.4000e-004	46.3187
NaturalGas Mitigated	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829
NaturalGas Unmitigated	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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
Condo/Townhouse	510104	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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
Condo/Townhouse	510104	2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.7500e-003	0.0235	0.0100	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2211	27.2211	5.2000e-004	5.0000e-004	27.3829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	184066	45.0833	2.7600e-003	3.3000e-004	45.2517
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4340	1.0630	6.0000e-005	1.0000e-005	1.0670
Total		46.1463	2.8200e-003	3.4000e-004	46.3187

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.3 Energy by Land Use - Electricity****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	184066	45.0833	2.7600e-003	3.3000e-004	45.2517
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4340	1.0630	6.0000e-005	1.0000e-005	1.0670
Total		46.1463	2.8200e-003	3.4000e-004	46.3187

6.0 Area Detail**6.1 Mitigation Measures Area**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783
Unmitigated	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783

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	0.0202					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1764	4.1000e-003	0.1956	3.1000e-004		0.0267	0.0267		0.0267	0.0267	2.3735	1.8292	4.2027	3.0000e-005	3.4000e-004	4.3051
Landscaping	8.5200e-003	3.2500e-003	0.2825	1.0000e-005		1.5700e-003	1.5700e-003		1.5700e-003	1.5700e-003	0.0000	0.4621	0.4621	4.4000e-004	0.0000	0.4732
Total	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0202					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1764	4.1000e-003	0.1956	3.1000e-004		0.0267	0.0267		0.0267	0.0267	2.3735	1.8292	4.2027	3.0000e-005	3.4000e-004	4.3051
Landscaping	8.5200e-003	3.2500e-003	0.2825	1.0000e-005		1.5700e-003	1.5700e-003		1.5700e-003	1.5700e-003	0.0000	0.4621	0.4621	4.4000e-004	0.0000	0.4732
Total	0.4405	7.3500e-003	0.4781	3.2000e-004		0.0283	0.0283		0.0283	0.0283	2.3735	2.2913	4.6648	4.7000e-004	3.4000e-004	4.7783

7.0 Water Detail**7.1 Mitigation Measures Water**

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	15.2958	0.0816	2.0100e-003	17.9346
Unmitigated	15.2958	0.0816	2.0100e-003	17.9346

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.869781	2.3668	1.4000e-004	2.0000e-005	2.3757
Condo/Townhouse	2.47585 / 1.56086	12.9290	0.0814	1.9900e-003	15.5589
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		15.2958	0.0816	2.0100e-003	17.9346

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.869781	2.3668	1.4000e-004	2.0000e-005	2.3757
Condo/Townhouse	2.47585 / 1.56086	12.9290	0.0814	1.9900e-003	15.5589
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		15.2958	0.0816	2.0100e-003	17.9346

8.0 Waste Detail**8.1 Mitigation Measures Waste**

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

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.5605	0.2104	0.0000	8.8209
Unmitigated	3.5605	0.2104	0.0000	8.8209

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.06	0.0122	7.2000e-004	0.0000	0.0302
Condo/Townhouse	17.48	3.5483	0.2097	0.0000	8.7907
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		3.5605	0.2104	0.0000	8.8209

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.2 Waste by Land Use****Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.06	0.0122	7.2000e-004	0.0000	0.0302
Condo/Townhouse	17.48	3.5483	0.2097	0.0000	8.7907
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		3.5605	0.2104	0.0000	8.8209

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

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

Equipment Type	Number
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11.0 Vegetation

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2112 Sunset Drive Townhomes**

San Diego County, Summer

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	31.00	Space	0.28	12,400.00	0
City Park	0.73	Acre	0.73	31,848.00	0
Condo/Townhouse	38.00	Dwelling Unit	2.49	59,440.00	109
Other Asphalt Surfaces	33.66	1000sqft	0.77	33,664.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per applicant provided information. City park subtype assumed for project open space = 31,848 sqft. Other asphalt surfaces represent new internal roads.

Construction Phase - Per applicant provided information. 6 days per week.

Off-road Equipment - default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Grading - per applicant provided information

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

Off-road Equipment - Default values

Off-road Equipment - Default values

Demolition - Per applicant provided information 3,000 sqft for buildings and 1,000 sqft for surfaces, total 4,000 sqft.

Trips and VMT - Default values rounded up to even values to include both arrival and departure of vehicles. Demolition, site preparation and grading include vendor trucks for watering vehicles.

Architectural Coating - As provided by applicant, low-VOC coatings to be used for the project.

Vehicle Trips - Condo/townhouse trip rate based on Project Information Form, Table A Trip Generation Summary.

Woodstoves - Project includes 2 outdoor grills and 2 outdoor fire pits, represented by 2 propane burning and 2 wood burning fireplaces. Wood mass set equal to half the default value as there are only 2 wood burning fire pits compared to the default value of 3.8.

Consumer Products - Default values

Area Coating - Per applicant project will include use of Low-VOC coatings.

Landscape Equipment - Default values

Energy Use - Default values

Water And Wastewater - Default values

Solid Waste - Default values

Construction Off-road Equipment Mitigation -

Area Mitigation - Project will use Low-VOC coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50

2112 Sunset Drive Townhomes - San Diego County, Summer

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

tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	8.00	27.00
tblConstructionPhase	NumDays	230.00	314.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/27/2023	6/15/2023
tblConstructionPhase	PhaseEndDate	2/3/2023	6/20/2023
tblConstructionPhase	PhaseEndDate	2/15/2023	7/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2024	7/22/2024
tblConstructionPhase	PhaseEndDate	1/29/2024	8/5/2024
tblConstructionPhase	PhaseEndDate	2/22/2024	8/19/2024
tblConstructionPhase	PhaseStartDate	1/2/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	6/16/2023
tblConstructionPhase	PhaseStartDate	2/4/2023	6/21/2023
tblConstructionPhase	PhaseStartDate	2/16/2023	7/22/2023
tblConstructionPhase	PhaseStartDate	1/4/2024	7/23/2024
tblConstructionPhase	PhaseStartDate	1/30/2024	8/6/2024
tblFireplaces	FireplaceWoodMass	3,078.40	1,539.00
tblFireplaces	NumberGas	20.90	0.00
tblFireplaces	NumberNoFireplace	3.80	4.00
tblFireplaces	NumberPropane	0.00	2.00

2112 Sunset Drive Townhomes - San Diego County, Summer

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

tblFireplaces	NumberWood	13.30	2.00
tblGrading	MaterialImported	0.00	2,700.00
tblLandUse	LandUseSquareFeet	31,847.98	31,848.00
tblLandUse	LandUseSquareFeet	38,000.00	59,440.00
tblLandUse	LotAcreage	2.38	2.49
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	17.00	18.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	8.14	8.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	6.28	8.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	7.32	8.00
tblWoodstoves	NumberCatalytic	1.90	0.00
tblWoodstoves	NumberNoncatalytic	1.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	2.7134	27.7262	20.1389	0.0416	19.8320	1.2679	21.0998	10.1495	1.1665	11.3159	0.0000	4,044.350 5	4,044.350 5	1.1988	0.1474	4,079.872 9
2024	33.8748	14.3017	17.7817	0.0348	0.6148	0.6206	1.2353	0.1658	0.5837	0.7496	0.0000	3,372.381 6	3,372.381 6	0.6275	0.0669	3,407.993 9
Maximum	33.8748	27.7262	20.1389	0.0416	19.8320	1.2679	21.0998	10.1495	1.1665	11.3159	0.0000	4,044.350 5	4,044.350 5	1.1988	0.1474	4,079.872 9

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	2.7134	27.7262	20.1389	0.0416	9.0206	1.2679	10.2885	4.5931	1.1665	5.7596	0.0000	4,044.350 5	4,044.350 5	1.1988	0.1474	4,079.872 9
2024	33.8748	14.3017	17.7817	0.0348	0.6148	0.6206	1.2353	0.1658	0.5837	0.7496	0.0000	3,372.381 6	3,372.381 6	0.6275	0.0669	3,407.993 9
Maximum	33.8748	27.7262	20.1389	0.0416	9.0206	1.2679	10.2885	4.5931	1.1665	5.7596	0.0000	4,044.350 5	4,044.350 5	1.1988	0.1474	4,079.872 9

2112 Sunset Drive Townhomes - San Diego County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	52.88	0.00	48.41	53.87	0.00	46.05	0.00	0.00	0.00	0.00	0.00	0.00

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Energy	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Mobile	0.8424	0.8386	7.5306	0.0168	1.8272	0.0125	1.8397	0.4867	0.0117	0.4984		1,710.985 1	1,710.985 1	0.1134	0.0717	1,735.177 5
Total	6.6546	1.1035	15.4945	0.0253	1.8272	0.6925	2.5197	0.4867	0.6916	1.1784	63.8122	1,930.241 8	1,994.054 0	0.1228	0.0839	2,022.112 3

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	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Energy	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Mobile	0.8424	0.8386	7.5306	0.0168	1.8272	0.0125	1.8397	0.4867	0.0117	0.4984		1,710.985 1	1,710.985 1	0.1134	0.0717	1,735.177 5
Total	6.6546	1.1035	15.4945	0.0253	1.8272	0.6925	2.5197	0.4867	0.6916	1.1784	63.8122	1,930.241 8	1,994.054 0	0.1228	0.0839	2,022.112 3

2112 Sunset Drive Townhomes - San Diego County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	6/1/2023	6/15/2023	6	13	
2	Site Preparation	Site Preparation	6/16/2023	6/20/2023	6	4	
3	Grading	Grading	6/21/2023	7/21/2023	6	27	
4	Building Construction	Building Construction	7/22/2023	7/22/2024	6	314	
5	Paving	Paving	7/23/2024	8/5/2024	6	12	
6	Architectural Coating	Architectural Coating	8/6/2024	8/19/2024	6	12	

Acres of Grading (Site Preparation Phase): 6**Acres of Grading (Grading Phase): 27****Acres of Paving: 1.05****Residential Indoor: 120,366; Residential Outdoor: 40,122; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,764 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

2112 Sunset Drive Townhomes - San Diego County, Summer

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

Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	4.00	338.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					0.3067	0.0000	0.3067	0.0464	0.0000	0.0464			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	0.3067	0.9975	1.3042	0.0464	0.9280	0.9744		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	3.1400e-003	0.1811	0.0498	8.3000e-004	0.0242	1.5400e-003	0.0258	6.6400e-003	1.4700e-003	8.1100e-003		91.5615	91.5615	4.6100e-003	0.0146	96.0159
Vendor	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0437	0.0272	0.3840	1.1600e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		117.3863	117.3863	3.1800e-003	2.9300e-003	118.3378
Total	0.0516	0.3798	0.4955	2.8100e-003	0.1828	3.2800e-003	0.1860	0.0493	3.1200e-003	0.0524		297.3665	297.3665	0.0105	0.0303	306.6546

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					0.1380	0.0000	0.1380	0.0209	0.0000	0.0209			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.1380	0.9975	1.1355	0.0209	0.9280	0.9489	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	3.1400e-003	0.1811	0.0498	8.3000e-004	0.0242	1.5400e-003	0.0258	6.6400e-003	1.4700e-003	8.1100e-003		91.5615	91.5615	4.6100e-003	0.0146	96.0159
Vendor	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0437	0.0272	0.3840	1.1600e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		117.3863	117.3863	3.1800e-003	2.9300e-003	118.3378
Total	0.0516	0.3798	0.4955	2.8100e-003	0.1828	3.2800e-003	0.1860	0.0493	3.1200e-003	0.0524		297.3665	297.3665	0.0105	0.0303	306.6546

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2023****Unmitigated Construction 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		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.308 1	3,687.308 1	1.1926		3,717.121 9

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	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
Total	0.0540	0.2020	0.4938	2.1300e-003	0.1750	1.8300e-003	0.1768	0.0470	1.7300e-003	0.0488		220.4783	220.4783	6.2600e-003	0.0161	225.4309

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2023****Mitigated Construction 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	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	8.8457	1.2660	10.1117	4.5461	1.1647	5.7108	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	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
Total	0.0540	0.2020	0.4938	2.1300e-003	0.1750	1.8300e-003	0.1768	0.0470	1.7300e-003	0.0488		220.4783	220.4783	6.2600e-003	0.0161	225.4309

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					7.0966	0.0000	7.0966	3.4269	0.0000	3.4269			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	7.0966	0.7749	7.8716	3.4269	0.7129	4.1398		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	0.0284	1.6376	0.4499	7.4900e-003	0.2190	0.0139	0.2329	0.0600	0.0133	0.0733		827.8213	827.8213	0.0417	0.1316	868.0944
Vendor	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0437	0.0272	0.3840	1.1600e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		117.3863	117.3863	3.1800e-003	2.9300e-003	118.3378
Total	0.0769	1.8362	0.8956	9.4700e-003	0.3775	0.0156	0.3931	0.1027	0.0150	0.1176		1,033.626 3	1,033.626 3	0.0476	0.1474	1,078.733 1

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					3.1935	0.0000	3.1935	1.5421	0.0000	1.5421			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	1.7109	17.9359	14.7507	0.0297	3.1935	0.7749	3.9684	1.5421	0.7129	2.2550	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2

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	0.0284	1.6376	0.4499	7.4900e-003	0.2190	0.0139	0.2329	0.0600	0.0133	0.0733		827.8213	827.8213	0.0417	0.1316	868.0944
Vendor	4.7800e-003	0.1715	0.0618	8.2000e-004	0.0271	1.0400e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.4188	88.4188	2.6800e-003	0.0128	92.3009
Worker	0.0437	0.0272	0.3840	1.1600e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		117.3863	117.3863	3.1800e-003	2.9300e-003	118.3378
Total	0.0769	1.8362	0.8956	9.4700e-003	0.3775	0.0156	0.3931	0.1027	0.0150	0.1176		1,033.626 3	1,033.626 3	0.0476	0.1474	1,078.733 1

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Unmitigated Construction 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	0.0215	0.7716	0.2781	3.6900e-003	0.1219	4.7000e-003	0.1266	0.0351	4.5000e-003	0.0396		397.8845	397.8845	0.0121	0.0576	415.3540
Worker	0.1640	0.1018	1.4399	4.3500e-003	0.4929	2.6400e-003	0.4955	0.1307	2.4300e-003	0.1332		440.1984	440.1984	0.0119	0.0110	443.7668
Total	0.1855	0.8734	1.7180	8.0400e-003	0.6148	7.3400e-003	0.6221	0.1658	6.9300e-003	0.1728		838.0829	838.0829	0.0240	0.0686	859.1207

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Mitigated Construction 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	0.0000	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	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	0.0215	0.7716	0.2781	3.6900e-003	0.1219	4.7000e-003	0.1266	0.0351	4.5000e-003	0.0396		397.8845	397.8845	0.0121	0.0576	415.3540
Worker	0.1640	0.1018	1.4399	4.3500e-003	0.4929	2.6400e-003	0.4955	0.1307	2.4300e-003	0.1332		440.1984	440.1984	0.0119	0.0110	443.7668
Total	0.1855	0.8734	1.7180	8.0400e-003	0.6148	7.3400e-003	0.6221	0.1658	6.9300e-003	0.1728		838.0829	838.0829	0.0240	0.0686	859.1207

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Unmitigated Construction 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0207	0.7664	0.2716	3.6200e-003	0.1219	4.7200e-003	0.1266	0.0351	4.5200e-003	0.0396		390.9475	390.9475	0.0123	0.0566	408.1236
Worker	0.1540	0.0916	1.3433	4.2100e-003	0.4929	2.5200e-003	0.4954	0.1307	2.3200e-003	0.1331		425.7352	425.7352	0.0109	0.0103	429.0627
Total	0.1747	0.8579	1.6149	7.8300e-003	0.6148	7.2400e-003	0.6220	0.1658	6.8400e-003	0.1727		816.6827	816.6827	0.0232	0.0669	837.1862

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Mitigated Construction 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0207	0.7664	0.2716	3.6200e-003	0.1219	4.7200e-003	0.1266	0.0351	4.5200e-003	0.0396		390.9475	390.9475	0.0123	0.0566	408.1236
Worker	0.1540	0.0916	1.3433	4.2100e-003	0.4929	2.5200e-003	0.4954	0.1307	2.3200e-003	0.1331		425.7352	425.7352	0.0109	0.0103	429.0627
Total	0.1747	0.8579	1.6149	7.8300e-003	0.6148	7.2400e-003	0.6220	0.1658	6.8400e-003	0.1727		816.6827	816.6827	0.0232	0.0669	837.1862

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Unmitigated Construction 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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1106	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0513	0.0305	0.4478	1.4000e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		141.9117	141.9117	3.6200e-003	3.4200e-003	143.0209
Total	0.0513	0.0305	0.4478	1.4000e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		141.9117	141.9117	3.6200e-003	3.4200e-003	143.0209

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Mitigated Construction 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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1106	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0513	0.0305	0.4478	1.4000e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		141.9117	141.9117	3.6200e-003	3.4200e-003	143.0209
Total	0.0513	0.0305	0.4478	1.4000e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		141.9117	141.9117	3.6200e-003	3.4200e-003	143.0209

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	33.6632					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	33.8440	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	0.0308	0.0183	0.2687	8.4000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		85.1470	85.1470	2.1700e-003	2.0500e-003	85.8125
Total	0.0308	0.0183	0.2687	8.4000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		85.1470	85.1470	2.1700e-003	2.0500e-003	85.8125

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	33.6632					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	0.0000	281.4481	281.4481	0.0159		281.8443
Total	33.8440	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	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	0.0308	0.0183	0.2687	8.4000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		85.1470	85.1470	2.1700e-003	2.0500e-003	85.8125
Total	0.0308	0.0183	0.2687	8.4000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		85.1470	85.1470	2.1700e-003	2.0500e-003	85.8125

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8424	0.8386	7.5306	0.0168	1.8272	0.0125	1.8397	0.4867	0.0117	0.4984		1,710.985 1	1,710.985 1	0.1134	0.0717	1,735.177 5
Unmitigated	0.8424	0.8386	7.5306	0.0168	1.8272	0.0125	1.8397	0.4867	0.0117	0.4984		1,710.985 1	1,710.985 1	0.1134	0.0717	1,735.177 5

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	304.00	304.00	304.00	868,012	868,012
Parking Lot	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	304.00	304.00	304.00	868,012	868,012

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Condo/Townhouse	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Parking Lot	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Other Asphalt Surfaces	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

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	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
NaturalGas Unmitigated	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse	1397.55	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total		0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse	1.39755	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total		0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

6.0 Area Detail**6.1 Mitigation Measures Area**

2112 Sunset Drive Townhomes - San Diego County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Unmitigated	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

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	0.1107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.3019	0.1000	4.7704	7.5100e-003		0.6521	0.6521		0.6521	0.6521	63.8122	49.1803	112.9925	7.9000e-004	9.1700e-003	115.7453
Landscaping	0.0947	0.0361	3.1387	1.7000e-004		0.0174	0.0174		0.0174	0.0174		5.6593	5.6593	5.4400e-003		5.7954
Total	5.7972	0.1361	7.9091	7.6800e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

2112 Sunset Drive Townhomes - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.3019	0.1000	4.7704	7.5100e-003		0.6521	0.6521		0.6521	0.6521	63.8122	49.1803	112.9925	7.9000e-004	9.1700e-003	115.7453
Landscaping	0.0947	0.0361	3.1387	1.7000e-004		0.0174	0.0174		0.0174	0.0174		5.6593	5.6593	5.4400e-003		5.7954
Total	5.7972	0.1361	7.9091	7.6800e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

7.0 Water Detail**7.1 Mitigation Measures Water**

2112 Sunset Drive Townhomes - San Diego County, Summer

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

Equipment Type	Number
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11.0 Vegetation

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2112 Sunset Drive Townhomes****San Diego County, Winter****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	31.00	Space	0.28	12,400.00	0
City Park	0.73	Acre	0.73	31,848.00	0
Condo/Townhouse	38.00	Dwelling Unit	2.49	59,440.00	109
Other Asphalt Surfaces	33.66	1000sqft	0.77	33,664.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per applicant provided information. City park subtype assumed for project open space = 31,848 sqft. Other asphalt surfaces represent new internal roads.

Construction Phase - Per applicant provided information. 6 days per week.

Off-road Equipment - default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Off-road Equipment - Default values

Grading - per applicant provided information

2112 Sunset Drive Townhomes - San Diego County, Winter

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

Off-road Equipment - Default values

Off-road Equipment - Default values

Demolition - Per applicant provided information 3,000 sqft for buildings and 1,000 sqft for surfaces, total 4,000 sqft.

Trips and VMT - Default values rounded up to even values to include both arrival and departure of vehicles. Demolition, site preparation and grading include vendor trucks for watering vehicles.

Architectural Coating - As provided by applicant, low-VOC coatings to be used for the project.

Vehicle Trips - Condo/townhouse trip rate based on Project Information Form, Table A Trip Generation Summary.

Woodstoves - Project includes 2 outdoor grills and 2 outdoor fire pits, represented by 2 propane burning and 2 wood burning fireplaces. Wood mass set equal to half the default value as there are only 2 wood burning fire pits compared to the default value of 3.8.

Consumer Products - Default values

Area Coating - Per applicant project will include use of Low-VOC coatings.

Landscape Equipment - Default values

Energy Use - Default values

Water And Wastewater - Default values

Solid Waste - Default values

Construction Off-road Equipment Mitigation -

Area Mitigation - Project will use Low-VOC coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50

2112 Sunset Drive Townhomes - San Diego County, Winter

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

tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	8.00	27.00
tblConstructionPhase	NumDays	230.00	314.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDays	18.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/27/2023	6/15/2023
tblConstructionPhase	PhaseEndDate	2/3/2023	6/20/2023
tblConstructionPhase	PhaseEndDate	2/15/2023	7/21/2023
tblConstructionPhase	PhaseEndDate	1/3/2024	7/22/2024
tblConstructionPhase	PhaseEndDate	1/29/2024	8/5/2024
tblConstructionPhase	PhaseEndDate	2/22/2024	8/19/2024
tblConstructionPhase	PhaseStartDate	1/2/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	6/16/2023
tblConstructionPhase	PhaseStartDate	2/4/2023	6/21/2023
tblConstructionPhase	PhaseStartDate	2/16/2023	7/22/2023
tblConstructionPhase	PhaseStartDate	1/4/2024	7/23/2024
tblConstructionPhase	PhaseStartDate	1/30/2024	8/6/2024
tblFireplaces	FireplaceWoodMass	3,078.40	1,539.00
tblFireplaces	NumberGas	20.90	0.00
tblFireplaces	NumberNoFireplace	3.80	4.00
tblFireplaces	NumberPropane	0.00	2.00

2112 Sunset Drive Townhomes - San Diego County, Winter

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

tblFireplaces	NumberWood	13.30	2.00
tblGrading	MaterialImported	0.00	2,700.00
tblLandUse	LandUseSquareFeet	31,847.98	31,848.00
tblLandUse	LandUseSquareFeet	38,000.00	59,440.00
tblLandUse	LotAcreage	2.38	2.49
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	17.00	18.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	8.14	8.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	6.28	8.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	7.32	8.00
tblWoodstoves	NumberCatalytic	1.90	0.00
tblWoodstoves	NumberNoncatalytic	1.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	2.7174	27.7372	20.1223	0.0416	19.8320	1.2679	21.0998	10.1495	1.1665	11.3159	0.0000	4,038.113 2	4,038.113 2	1.1990	0.1478	4,073.724 5
2024	33.8775	14.3454	17.7257	0.0346	0.6148	0.6206	1.2354	0.1658	0.5838	0.7496	0.0000	3,349.606 5	3,349.606 5	0.6282	0.0678	3,385.523 0
Maximum	33.8775	27.7372	20.1223	0.0416	19.8320	1.2679	21.0998	10.1495	1.1665	11.3159	0.0000	4,038.113 2	4,038.113 2	1.1990	0.1478	4,073.724 5

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	2.7174	27.7372	20.1223	0.0416	9.0206	1.2679	10.2885	4.5931	1.1665	5.7596	0.0000	4,038.113 2	4,038.113 2	1.1990	0.1478	4,073.724 5
2024	33.8775	14.3454	17.7257	0.0346	0.6148	0.6206	1.2354	0.1658	0.5838	0.7496	0.0000	3,349.606 5	3,349.606 5	0.6282	0.0678	3,385.523 0
Maximum	33.8775	27.7372	20.1223	0.0416	9.0206	1.2679	10.2885	4.5931	1.1665	5.7596	0.0000	4,038.113 2	4,038.113 2	1.1990	0.1478	4,073.724 5

2112 Sunset Drive Townhomes - San Diego County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	52.88	0.00	48.41	53.87	0.00	46.05	0.00	0.00	0.00	0.00	0.00	0.00

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Energy	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Mobile	0.8225	0.9084	7.7281	0.0161	1.8272	0.0125	1.8398	0.4867	0.0117	0.4984		1,637.075 4	1,637.075 4	0.1198	0.0754	1,662.551 6
Total	6.6347	1.1733	15.6920	0.0246	1.8272	0.6925	2.5197	0.4867	0.6916	1.1784	63.8122	1,856.332 1	1,920.144 3	0.1292	0.0876	1,949.486 4

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	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Energy	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Mobile	0.8225	0.9084	7.7281	0.0161	1.8272	0.0125	1.8398	0.4867	0.0117	0.4984		1,637.075 4	1,637.075 4	0.1198	0.0754	1,662.551 6
Total	6.6347	1.1733	15.6920	0.0246	1.8272	0.6925	2.5197	0.4867	0.6916	1.1784	63.8122	1,856.332 1	1,920.144 3	0.1292	0.0876	1,949.486 4

2112 Sunset Drive Townhomes - San Diego County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	6/1/2023	6/15/2023	6	13	
2	Site Preparation	Site Preparation	6/16/2023	6/20/2023	6	4	
3	Grading	Grading	6/21/2023	7/21/2023	6	27	
4	Building Construction	Building Construction	7/22/2023	7/22/2024	6	314	
5	Paving	Paving	7/23/2024	8/5/2024	6	12	
6	Architectural Coating	Architectural Coating	8/6/2024	8/19/2024	6	12	

Acres of Grading (Site Preparation Phase): 6**Acres of Grading (Grading Phase): 27****Acres of Paving: 1.05****Residential Indoor: 120,366; Residential Outdoor: 40,122; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,764 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

2112 Sunset Drive Townhomes - San Diego County, Winter

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

Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	4.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	16.00	4.00	338.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					0.3067	0.0000	0.3067	0.0464	0.0000	0.0464			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	0.3067	0.9975	1.3042	0.0464	0.9280	0.9744		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	2.9500e-003	0.1884	0.0504	8.3000e-004	0.0242	1.5400e-003	0.0258	6.6400e-003	1.4700e-003	8.1100e-003		91.6505	91.6505	4.6000e-003	0.0146	96.1090
Vendor	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0474	0.0305	0.3649	1.1000e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		110.9342	110.9342	3.3900e-003	3.1600e-003	111.9621
Total	0.0550	0.3977	0.4789	2.7500e-003	0.1828	3.2900e-003	0.1860	0.0493	3.1200e-003	0.0524		291.1292	291.1292	0.0107	0.0306	300.5062

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					0.1380	0.0000	0.1380	0.0209	0.0000	0.0209			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.1380	0.9975	1.1355	0.0209	0.9280	0.9489	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	2.9500e-003	0.1884	0.0504	8.3000e-004	0.0242	1.5400e-003	0.0258	6.6400e-003	1.4700e-003	8.1100e-003		91.6505	91.6505	4.6000e-003	0.0146	96.1090
Vendor	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0474	0.0305	0.3649	1.1000e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		110.9342	110.9342	3.3900e-003	3.1600e-003	111.9621
Total	0.0550	0.3977	0.4789	2.7500e-003	0.1828	3.2900e-003	0.1860	0.0493	3.1200e-003	0.0524		291.1292	291.1292	0.0107	0.0306	300.5062

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2023****Unmitigated Construction 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		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.308 1	3,687.308 1	1.1926		3,717.121 9

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	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
Total	0.0580	0.2130	0.4742	2.0500e-003	0.1750	1.8400e-003	0.1768	0.0470	1.7300e-003	0.0488		213.3455	213.3455	6.4800e-003	0.0164	218.3925

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Site Preparation - 2023****Mitigated Construction 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	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	8.8457	1.2660	10.1117	4.5461	1.1647	5.7108	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	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
Total	0.0580	0.2130	0.4742	2.0500e-003	0.1750	1.8400e-003	0.1768	0.0470	1.7300e-003	0.0488		213.3455	213.3455	6.4800e-003	0.0164	218.3925

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					7.0966	0.0000	7.0966	3.4269	0.0000	3.4269			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	7.0966	0.7749	7.8716	3.4269	0.7129	4.1398		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	0.0267	1.7037	0.4555	7.5000e-003	0.2190	0.0139	0.2329	0.0600	0.0133	0.0733		828.6257	828.6257	0.0416	0.1318	868.9361
Vendor	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0474	0.0305	0.3649	1.1000e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		110.9342	110.9342	3.3900e-003	3.1600e-003	111.9621
Total	0.0787	1.9129	0.8840	9.4200e-003	0.3775	0.0157	0.3932	0.1027	0.0150	0.1177		1,028.104 4	1,028.104 4	0.0477	0.1478	1,073.333 3

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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					3.1935	0.0000	3.1935	1.5421	0.0000	1.5421			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	1.7109	17.9359	14.7507	0.0297	3.1935	0.7749	3.9684	1.5421	0.7129	2.2550	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2

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	0.0267	1.7037	0.4555	7.5000e-003	0.2190	0.0139	0.2329	0.0600	0.0133	0.0733		828.6257	828.6257	0.0416	0.1318	868.9361
Vendor	4.6500e-003	0.1787	0.0637	8.2000e-004	0.0271	1.0500e-003	0.0281	7.8000e-003	1.0000e-003	8.8000e-003		88.5445	88.5445	2.6700e-003	0.0128	92.4352
Worker	0.0474	0.0305	0.3649	1.1000e-003	0.1314	7.0000e-004	0.1321	0.0349	6.5000e-004	0.0355		110.9342	110.9342	3.3900e-003	3.1600e-003	111.9621
Total	0.0787	1.9129	0.8840	9.4200e-003	0.3775	0.0157	0.3932	0.1027	0.0150	0.1177		1,028.104 4	1,028.104 4	0.0477	0.1478	1,073.333 3

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Unmitigated Construction 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	0.0209	0.8041	0.2865	3.6900e-003	0.1219	4.7200e-003	0.1266	0.0351	4.5200e-003	0.0396		398.4502	398.4502	0.0120	0.0578	415.9583
Worker	0.1778	0.1145	1.3683	4.1200e-003	0.4929	2.6400e-003	0.4955	0.1307	2.4300e-003	0.1332		416.0034	416.0034	0.0127	0.0119	419.8577
Total	0.1987	0.9186	1.6548	7.8100e-003	0.6148	7.3600e-003	0.6222	0.1658	6.9500e-003	0.1728		814.4535	814.4535	0.0247	0.0696	835.8160

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2023****Mitigated Construction 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	0.0000	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	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	0.0209	0.8041	0.2865	3.6900e-003	0.1219	4.7200e-003	0.1266	0.0351	4.5200e-003	0.0396		398.4502	398.4502	0.0120	0.0578	415.9583
Worker	0.1778	0.1145	1.3683	4.1200e-003	0.4929	2.6400e-003	0.4955	0.1307	2.4300e-003	0.1332		416.0034	416.0034	0.0127	0.0119	419.8577
Total	0.1987	0.9186	1.6548	7.8100e-003	0.6148	7.3600e-003	0.6222	0.1658	6.9500e-003	0.1728		814.4535	814.4535	0.0247	0.0696	835.8160

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Unmitigated Construction 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0201	0.7987	0.2799	3.6200e-003	0.1219	4.7500e-003	0.1267	0.0351	4.5400e-003	0.0396		391.5192	391.5192	0.0123	0.0567	408.7329
Worker	0.1674	0.1030	1.2790	3.9800e-003	0.4929	2.5200e-003	0.4954	0.1307	2.3200e-003	0.1331		402.3883	402.3883	0.0116	0.0111	405.9825
Total	0.1874	0.9016	1.5589	7.6000e-003	0.6148	7.2700e-003	0.6221	0.1658	6.8600e-003	0.1727		793.9076	793.9076	0.0239	0.0678	814.7154

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Building Construction - 2024****Mitigated Construction 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0201	0.7987	0.2799	3.6200e-003	0.1219	4.7500e-003	0.1267	0.0351	4.5400e-003	0.0396		391.5192	391.5192	0.0123	0.0567	408.7329
Worker	0.1674	0.1030	1.2790	3.9800e-003	0.4929	2.5200e-003	0.4954	0.1307	2.3200e-003	0.1331		402.3883	402.3883	0.0116	0.0111	405.9825
Total	0.1874	0.9016	1.5589	7.6000e-003	0.6148	7.2700e-003	0.6221	0.1658	6.8600e-003	0.1727		793.9076	793.9076	0.0239	0.0678	814.7154

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Unmitigated Construction 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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1106	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0558	0.0343	0.4263	1.3300e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		134.1294	134.1294	3.8600e-003	3.7000e-003	135.3275
Total	0.0558	0.0343	0.4263	1.3300e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		134.1294	134.1294	3.8600e-003	3.7000e-003	135.3275

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Paving - 2024****Mitigated Construction 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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1106	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0558	0.0343	0.4263	1.3300e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		134.1294	134.1294	3.8600e-003	3.7000e-003	135.3275
Total	0.0558	0.0343	0.4263	1.3300e-003	0.1643	8.4000e-004	0.1651	0.0436	7.7000e-004	0.0444		134.1294	134.1294	3.8600e-003	3.7000e-003	135.3275

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	33.6632					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	33.8440	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	0.0335	0.0206	0.2558	8.0000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		80.4777	80.4777	2.3200e-003	2.2200e-003	81.1965
Total	0.0335	0.0206	0.2558	8.0000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		80.4777	80.4777	2.3200e-003	2.2200e-003	81.1965

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	33.6632					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	0.0000	281.4481	281.4481	0.0159		281.8443
Total	33.8440	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	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	0.0335	0.0206	0.2558	8.0000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		80.4777	80.4777	2.3200e-003	2.2200e-003	81.1965
Total	0.0335	0.0206	0.2558	8.0000e-004	0.0986	5.0000e-004	0.0991	0.0262	4.6000e-004	0.0266		80.4777	80.4777	2.3200e-003	2.2200e-003	81.1965

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8225	0.9084	7.7281	0.0161	1.8272	0.0125	1.8398	0.4867	0.0117	0.4984		1,637.075 4	1,637.075 4	0.1198	0.0754	1,662.551 6
Unmitigated	0.8225	0.9084	7.7281	0.0161	1.8272	0.0125	1.8398	0.4867	0.0117	0.4984		1,637.075 4	1,637.075 4	0.1198	0.0754	1,662.551 6

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	304.00	304.00	304.00	868,012	868,012
Parking Lot	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	304.00	304.00	304.00	868,012	868,012

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

2112 Sunset Drive Townhomes - San Diego County, Winter

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Condo/Townhouse	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Parking Lot	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Other Asphalt Surfaces	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

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	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
NaturalGas Unmitigated	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse	1397.55	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total		0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Condo/Townhouse	1.39755	0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Total		0.0151	0.1288	0.0548	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.4171	164.4171	3.1500e-003	3.0100e-003	165.3941

6.0 Area Detail**6.1 Mitigation Measures Area**

2112 Sunset Drive Townhomes - San Diego County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407
Unmitigated	5.7972	0.1361	7.9091	7.6700e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

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	0.1107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.3019	0.1000	4.7704	7.5100e-003		0.6521	0.6521		0.6521	0.6521	63.8122	49.1803	112.9925	7.9000e-004	9.1700e-003	115.7453
Landscaping	0.0947	0.0361	3.1387	1.7000e-004		0.0174	0.0174		0.0174	0.0174		5.6593	5.6593	5.4400e-003		5.7954
Total	5.7972	0.1361	7.9091	7.6800e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

2112 Sunset Drive Townhomes - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.3019	0.1000	4.7704	7.5100e-003		0.6521	0.6521		0.6521	0.6521	63.8122	49.1803	112.9925	7.9000e-004	9.1700e-003	115.7453
Landscaping	0.0947	0.0361	3.1387	1.7000e-004		0.0174	0.0174		0.0174	0.0174		5.6593	5.6593	5.4400e-003		5.7954
Total	5.7972	0.1361	7.9091	7.6800e-003		0.6695	0.6695		0.6695	0.6695	63.8122	54.8396	118.6518	6.2300e-003	9.1700e-003	121.5407

7.0 Water Detail**7.1 Mitigation Measures Water**

2112 Sunset Drive Townhomes - San Diego County, Winter

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

Equipment Type	Number
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11.0 Vegetation

APPENDIX E LOCAL TRANSPORTATION ASSESSMENT

LOCAL TRANSPORTATION ASSESSMENT
2112 SUNSET DRIVE TOWNHOMES
Vista, California
August 2, 2022

LLG Ref. 3-22-3543

Prepared by:
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Transportation Engineer II

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APPENDIX

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- B. Intersection Methodology
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LOCAL TRANSPORTATION ASSESSMENT
2112 SUNSET DRIVE TOWNHOMES
Vista, California
August 2, 2022

1.0 INTRODUCTION

Linscott, Law and Greenspan, Engineers (LLG) has prepared this Local Transportation Assessment (LTA) to assess the potential impacts to the street system as a result of the proposed 2112 Sunset Drive Townhomes Project. The Project proposes to develop 38 townhomes on the west side of Emerald Drive / Sunset Drive and north of Sky Haven Lane in the City of Vista.

The traffic analysis presented in this report includes the following:

- Project Description
- Existing Conditions
- CEQA Vehicle Miles Traveled (VMT) Assessment
- Local Transportation Assessment Approach and Methodology
- Substantial Effect Criteria
- Analysis of Existing Conditions
- Trip Generation/Distribution/Assignment
- Analysis of Near-Term Scenarios
- Access Assessment
- Active Transportation Discussion
- Conclusions

2.0 PROJECT DESCRIPTION

The Project site consists of 38 two-story townhomes on 4.27 acres, located west side of Emerald Drive / Sunset Drive with 24 dwelling units north of the Green Valley mobile home driveway and 14 dwelling units south of this driveway in the City of Vista. Site access is proposed via one full access driveway serving the 24 dwelling units and two driveways serving the 14 dwelling units with the south driveway (closest to Sky Haven Lane) serving as emergency access only and the north driveway providing day to day access.

The Project site is identified as Tax Assessor parcel numbers – APN 166-450-39-00, 166-450-40-00 and 166-751-44-00

The proposed 24-unit site is General Plan designated General Commercial (GC) and Zoned C-1 Commercial and will require a General Plan Amendment to Medium Density Residential (MD) and a rezone to R-M (10) Multifamily Residential. The proposed 14-unit site will remain General Plan designated Medium High Density Residential (MHD) and Zoned R-M (15) Multifamily Residential.

Figure 2–1 shows the Project vicinity and **Figure 2–2** illustrates, in more detail, the site location. **Figure 2–3** shows the Project site plan.

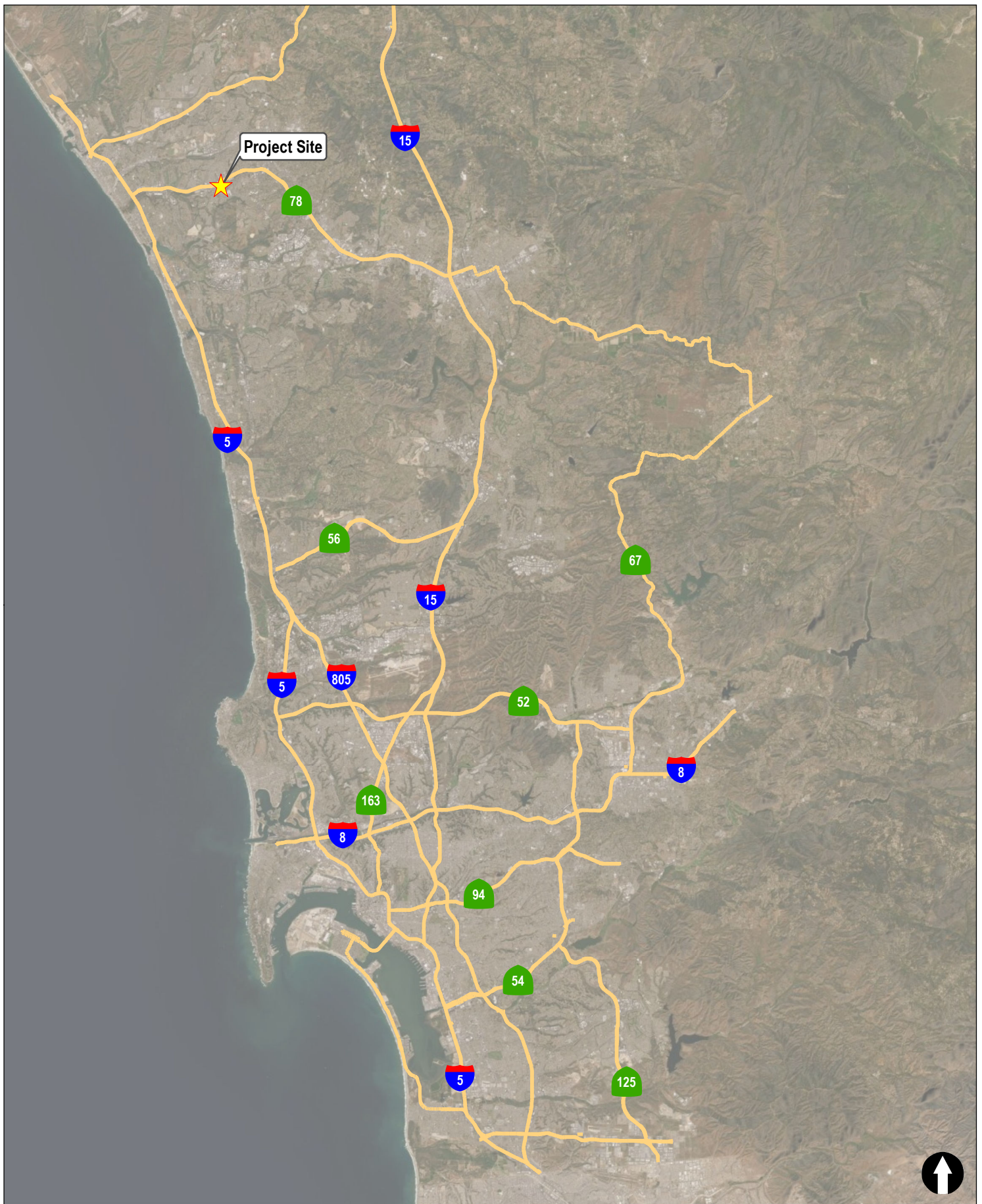


Figure 2-1

Vicinity Map

2112 Sunset Drive Townhomes





3.0 EXISTING CONDITIONS

Effective evaluation of the traffic impacts associated with the proposed 2112 Sunset Drive Townhomes requires an understanding of the existing transportation system within the project area. *Figure 3–1* shows an existing conditions diagram, including signalized intersections and lane configurations.

The study area includes the following intersections:

INTERSECTIONS

1. Emerald Drive / SR 78 WB Ramps
2. Emerald Drive / SR 78 EB Ramps
3. Emerald Drive / Hacienda Drive
4. Emerald Drive / Project Driveway #1 / Emerald Hollow Drive
5. Sunset Drive / Green Valley Mobile Home Driveway
6. Sunset Drive / Project Driveway #2
7. Sunset Drive / Sky Haven Lane

3.1 Existing Transportation Conditions

The following is a description of the existing street network in the study area.

Emerald Drive is classified as a 4-Lane Major Roadway in the City of Vista Circulation Element. It is currently constructed as a two-lane undivided roadway between Hacienda Drive and the Green Valley Mobile Home Driveway where its name transitions to Sunset Drive. Sidewalks are provided on the east side of the roadway and a portion of the west side just south of Hacienda Drive. Curbside parking is permitted intermittently on the east side of the roadway. Bike lanes are not provided. The posted speed limit is 35 mph.

Sunset Drive is classified as a 4-Lane Major Roadway in the City of Vista Circulation Element. It is currently constructed as a two-lane undivided roadway between the Green Valley Mobile Home Driveway and the City of Vista / City of Oceanside boundary line. Sidewalks are not provided. Curbside parking is not permitted. Bike lanes are not provided. The posted speed limit is 35 mph.

Hacienda Drive is classified as a 4-Lane Collector in the City of Vista Circulation Element. It is currently constructed as a three-lane undivided roadway with a two-way left turn lane west of Emerald Drive, providing two eastbound travel lanes and one westbound travel lane. East of Emerald Drive, Hacienda Drive is built as a four-lane divided roadway. Sidewalks are provided on both sides of the roadway east of Emerald Drive. Sidewalks are also provided on the south side of the roadway and on a portion of the north side just west of Emerald Drive. Curbside parking is not permitted. Class II bike lanes are provided east of Emerald Drive and Class III bike routes with sharrows are provided west of Emerald Drive. The posted speed limit is 40 mph.

Emerald Hollow Drive is classified an unclassified roadway in the City of Vista Circulation Element. It is currently constructed as a two-lane undivided roadway. Sidewalks are not provided. Curbside parking is not permitted. Bike lanes are not provided. There is no posted speed limit.

Sky Haven Lane is an unclassified roadway in the City of Vista Circulation Element. It is currently constructed as a two-lane undivided roadway. Sidewalks are not provided. Curbside parking is not permitted. Bike lanes are not provided. The posted speed limit is 25 mph.

3.2 Existing Traffic Volumes

Table 3–1 is a summary of the average daily traffic volumes conducted on Thursday, April 7, 2022 at the study area street segments. Peak hour intersection turning movement volume counts were conducted at the study area intersections on either Thursday, April 7, 2022, Tuesday, May 24, 2022 or Thursday, June 2, 2022, when schools were in session.

Figure 3–2 shows the Existing Traffic Volumes. **Appendix A** contains the existing count sheets.

**TABLE 3–1
EXISTING TRAFFIC VOLUMES**

Street Segment	ADT ^a
Emerald Drive	
Hacienda Drive to Emerald Hollow Drive	13,950
Emerald Hollow Drive to Mobile Home Driveway	12,550

Footnotes:

- a. Average Daily Traffic Volumes.

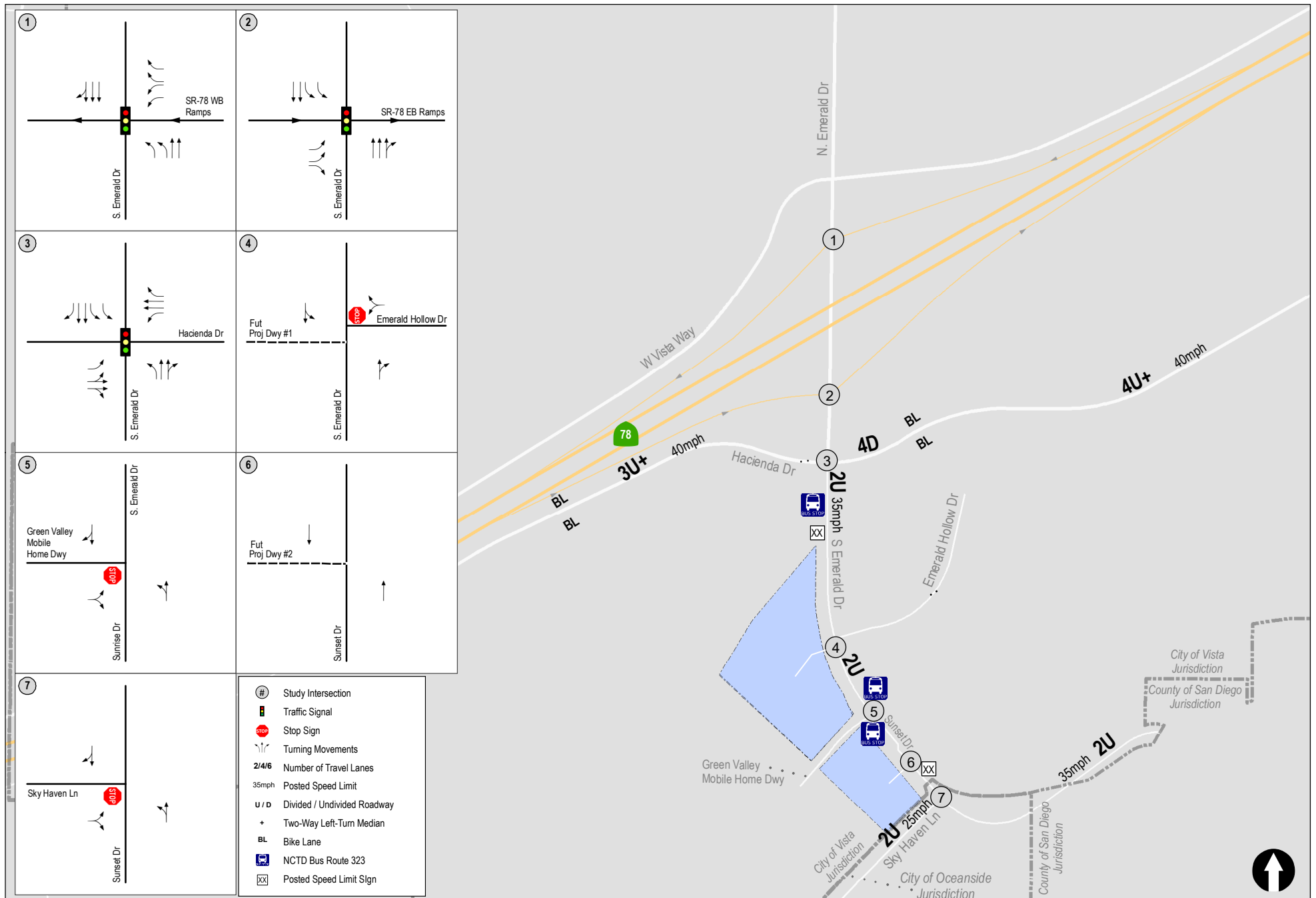


Figure 3-1

Existing Conditions Diagram

2112 Sunset Drive Townhomes

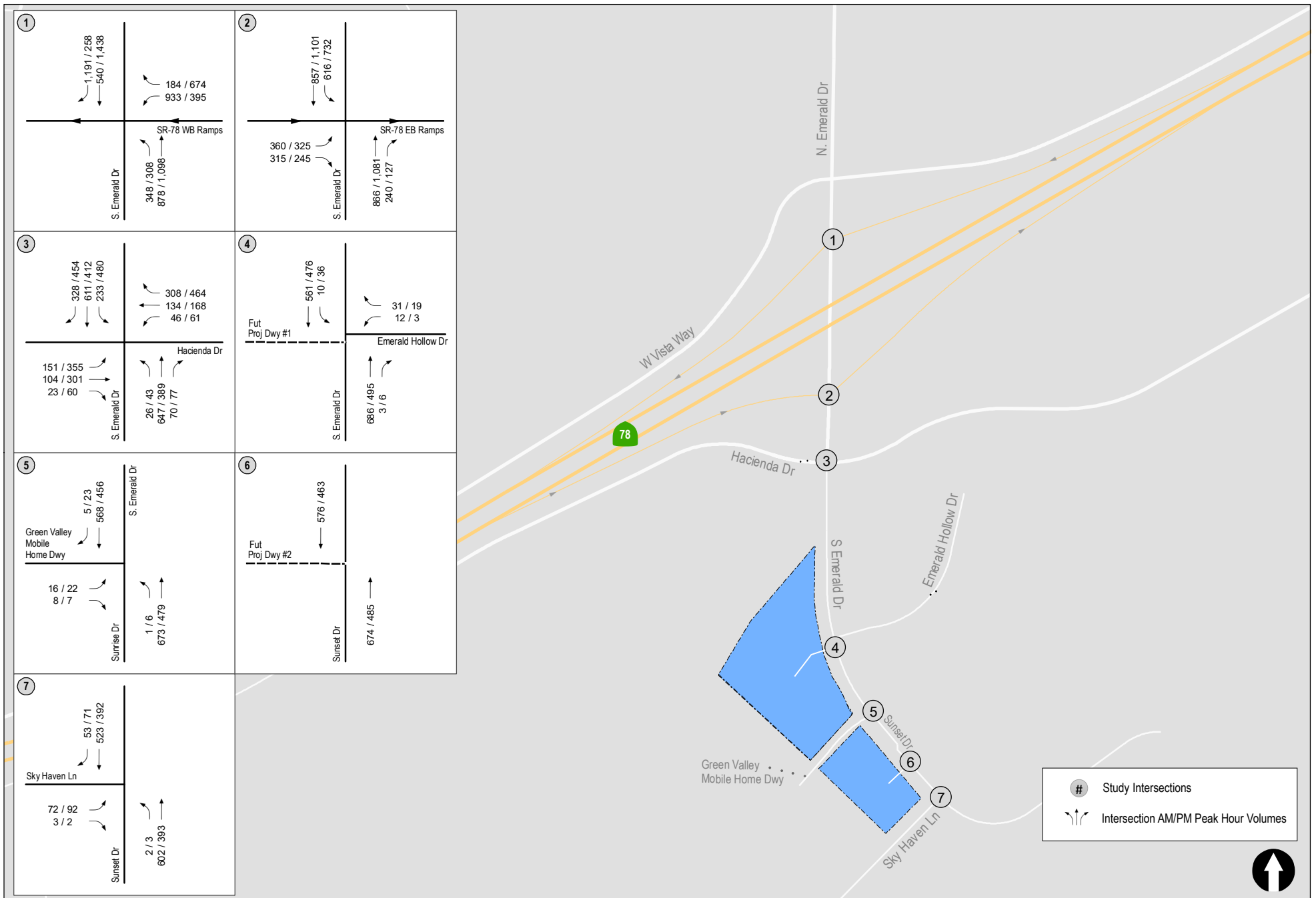


Figure 3-2

Existing Traffic Volumes

2112 Sunset Drive Townhomes

4.0 VEHICLE MILES TRAVELED (VMT) ASSESSMENT

Per the *City of Vista Transportation Impact Analysis Guidelines (dated December 2020)*, a VMT analysis for CEQA purposes will be required if a project equals to or exceeds 1,000 average daily trips (ADT) and is consistent with the adopted General Plan. If a project is inconsistent with the adopted General Plan, a VMT analysis will be required if the project is 500 or more ADT. As discussed in *Section 8.0*, the Project is calculated to generate approximately 304 ADT. Therefore, based on the VMT recommendations per the City's TIA Guidelines for projects inconsistent with the Adopted General Plan, a VMT analysis will not be required as the project would generate less than 500 ADT and VMT impacts is presumed less than significant.

5.0 LOCAL TRANSPORTATION ASSESSMENT APPROACH AND METHODOLOGY

5.1 Analysis Approach

Per the *City of Vista Transportation Impact Analysis Guidelines*, an LTA is required for projects generating 200 to 400 ADT and will analyze existing conditions and existing conditions plus project to determine the project specific traffic effects within the study.

5.2 Analysis Methodology

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

5.2.1 Intersections

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 19 of the *Highway Capacity Manual (HCM) 6th Edition*, with the assistance of the *Synchro* (version 11) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. Signalized intersection calculation worksheets and a more detailed explanation of the methodology are attached in **Appendix B**.

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapters 20 and 21 of the *HCM 6th Edition*, with the assistance of the *Synchro* (version 11) computer software. Unsignalized intersection calculation worksheets and a more detailed explanation of the methodology are attached in **Appendix B**.

5.2.2 Street Segments

Per the City's TIA Guidelines, the performance and LOS of a roadway segment is heavily influenced by the ability of the intersections to accommodate peak hour volumes. The more detailed peak hour intersection analysis explicitly accounts for factors that affect roadway capacity and is a more accurate and realistic indicator of true traffic operations. Therefore, for the purposes of this report, only intersections were analyzed and used as the basis for defining traffic impacts.

6.0 SUBSTANTIAL EFFECT CRITERIA

A project will need to implement improvements to operation of an intersection when one of the following occurs:

1. *In either the Existing Conditions Plus Project and Existing Conditions Plus Near-Term Cumulative Projects scenarios, the addition of project traffic results in a service drop from LOS D or better to LOS E or F.* Under this condition, the project is responsible for improvements necessary to restore the intersection to LOS D conditions or better.
2. *In either the Existing Conditions Plus Project and Existing Conditions Plus Near-Term Cumulative Projects scenarios, an intersection is operating at LOS E or F under the no-project scenario and the project adds more than an additional two seconds of average vehicle delay.* Under this condition, the project is responsible for improvements necessary to restore the intersection LOS to pre-development conditions or better.
3. In the longer-range cumulative condition, if the addition of project traffic results in a service drop from LOS D or better to LOS E or F, or if an intersection is operating at LOS E or F and the project contributes to the average vehicle delay (regardless of time), the project is determined to have a cumulative impact. Under this condition, the project applicant is responsible for mitigating the intersection LOS to pre-development conditions or better. Identified cumulative transportation related impacts can be mitigated by participation in the City of Vista's Impact Fees for Arterials Streets and Traffic Signals program.

7.0 ANALYSIS OF EXISTING CONDITIONS

The analysis of existing conditions include the assessment of the study area intersections and street segments using the methodologies described in *Section 5.0*.

7.1 Intersection Analysis

Table 7–1 summarizes the existing peak hour intersection operations. As shown in *Table 7–1*, all of the study area intersections are calculated to currently operate at LOS D or better with the exception of the following:

- Emerald Drive / SR 78 WB Ramps – LOS F during the AM peak hour
- Sunset Drive / Sky Haven Lane – LOS E during the AM peak hour

Appendix C contains the Existing intersection analysis worksheets.

**TABLE 7-1
EXISTING INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing	
			Delay ^a	LOS ^b
1. Emerald Dr / SR 78 WB Ramps	Signal	AM PM	205.0 28.9	F C
2. Emerald Dr / SR 78 EB Ramps	Signal	AM PM	28.3 29.4	C C
3. Emerald Dr / Hacienda Dr	Signal	AM PM	32.7 50.3	C D
4. Emerald Dr / Project Dwy #1 / Emerald Hollow Dr	TWSC ^c	AM PM	23.3 14.3	C B
5. Sunset Dr / Green Valley Mobile Home Dwy	TWSC ^c	AM PM	23.8 19.3	C C
6. Sunset Dr / Project Dwy #2	DNE	AM PM	— —	— —
7. Sunset Dr / Sky Haven Ln	TWSC ^c	AM PM	37.5 22.9	E C

Footnotes:

- a. Average delay expressed in seconds per vehicle
- b. Level of Service
- c. TWSC – Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

8.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

8.1 Project Trip Generation

Trip generation rates for the multi-family residential land use were taken from the *SANDAG (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002*, to determine the traffic generated by the proposed Project. Because the Project proposes the development of 38 units on a 4.27-acre site (approximately 8.89 dwelling units / acre), the trip generation rate for condominiums (8 / dwelling units) was utilized. **Table 8-1** shows the forecast trip generation for the project. As shown in *Table 8-1*, the Project is calculated to generate 304 ADTs, with 24 trips during the AM peak hour (5 inbound and 19 outbound), and 30 trips during the PM peak hour (21 inbound and 9 outbound).

**TABLE 8-1
PROJECT TRIP GENERATION**

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate ^a	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Townhomes	38 dwelling units	8/DU ^b	304	8%	20:80	5	19	24	10%	70:30	21	9	30

Footnotes:

- a. Rate is based on *SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002*
- b. Based on condominium rate of 8/DU

8.2 Trip Generation Comparison

A comparison between the existing commercial General Plan zoning for the site and the proposed residential project at the northern parcel was calculated. The SANDAG trip generation rates for specialty retail/strip commercial were used. Since a commercial land use covers a broad range of potential developments, a specialty retail/strip commercial was chosen as it is on the lower end of trip rates and would provide a conservative comparison. **Table 8-2** shows the trip generation comparison results. As shown in *Table 8-2*, the proposed residential Project is calculated to generate significantly fewer trips than the existing commercial General Plan zoning would allow.

A comparison between the maximum allowable number of dwelling units for the R-M Multi-Family Residential zoning and the proposed number of dwelling units at the southern parcel was also calculated. **Table 8-3** shows the trip generation comparison results. As shown in *Table 8-3*, the proposed number of dwelling units is calculated to generate fewer trips than the maximum allowable number of dwelling units.

**Table 8-2
Trip Generation Comparison – North Parcel**

Land Use	Size	Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
		Rate	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
General Plan Land Use													
Commercial	3.09 acres	400 / acre ^a	1,236	3%	60:40	22	15	37	9%	50:50	56	55	111
Proposed Project													
Townhomes	24 DU	8 / DU ^b	192	8%	20:80	3	12	15	10%	70:30	13	6	19

Footnotes:

- a. Based on SANDAG specialty retail/strip commercial rate of 400/acre
- b. Based on SANDAG condominium rate of 8/DU

**Table 8-3
Trip Generation Comparison – South Parcel**

Land Use	Size	Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
		Rate	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
General Plan Land Use													
Townhomes	18 DU	8 / DU ^a	144	8%	20:80	2	10	12	10%	70:30	10	4	14
Proposed Project													
Townhomes	14 DU	8 / DU ^a	112	8%	20:80	2	7	9	10%	70:30	8	3	11

Footnotes:

- a. Based on SANDAG condominium rate of 8/DU

8.3 Trip Distribution/Assignment

The Project traffic was distributed and assigned along Emerald Drive and Sunset Drive based on the site location, access to SR 78, existing traffic patterns in the area and anticipated traffic patterns to and from the site. Therefore, approximately 20% was assumed to be coming from the south and 25% from the north using local roadways, and 55% using the SR 78 freeway.

Figure 8–1 shows the Project traffic distribution. *Figure 8–2* shows the Project traffic volumes.

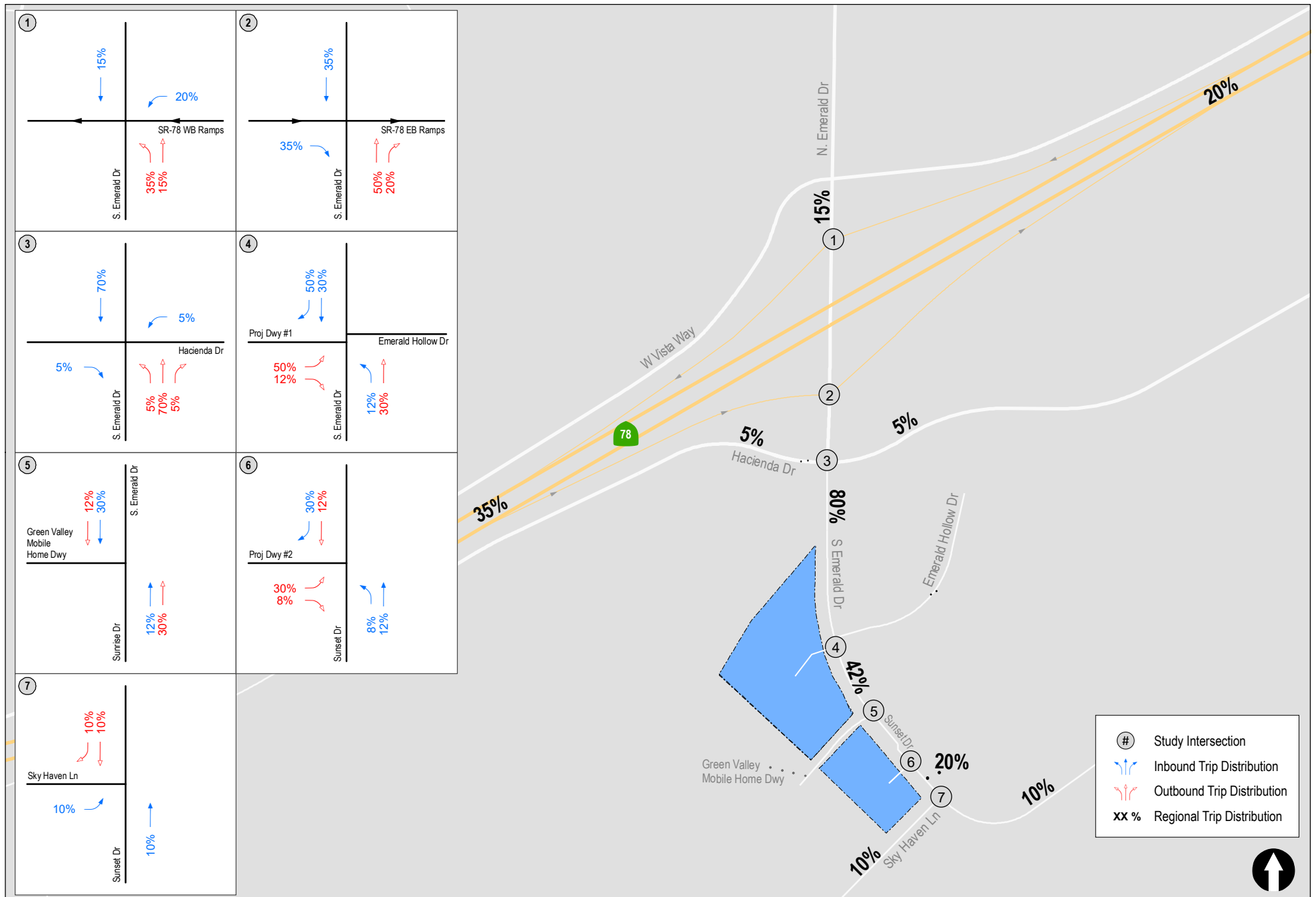
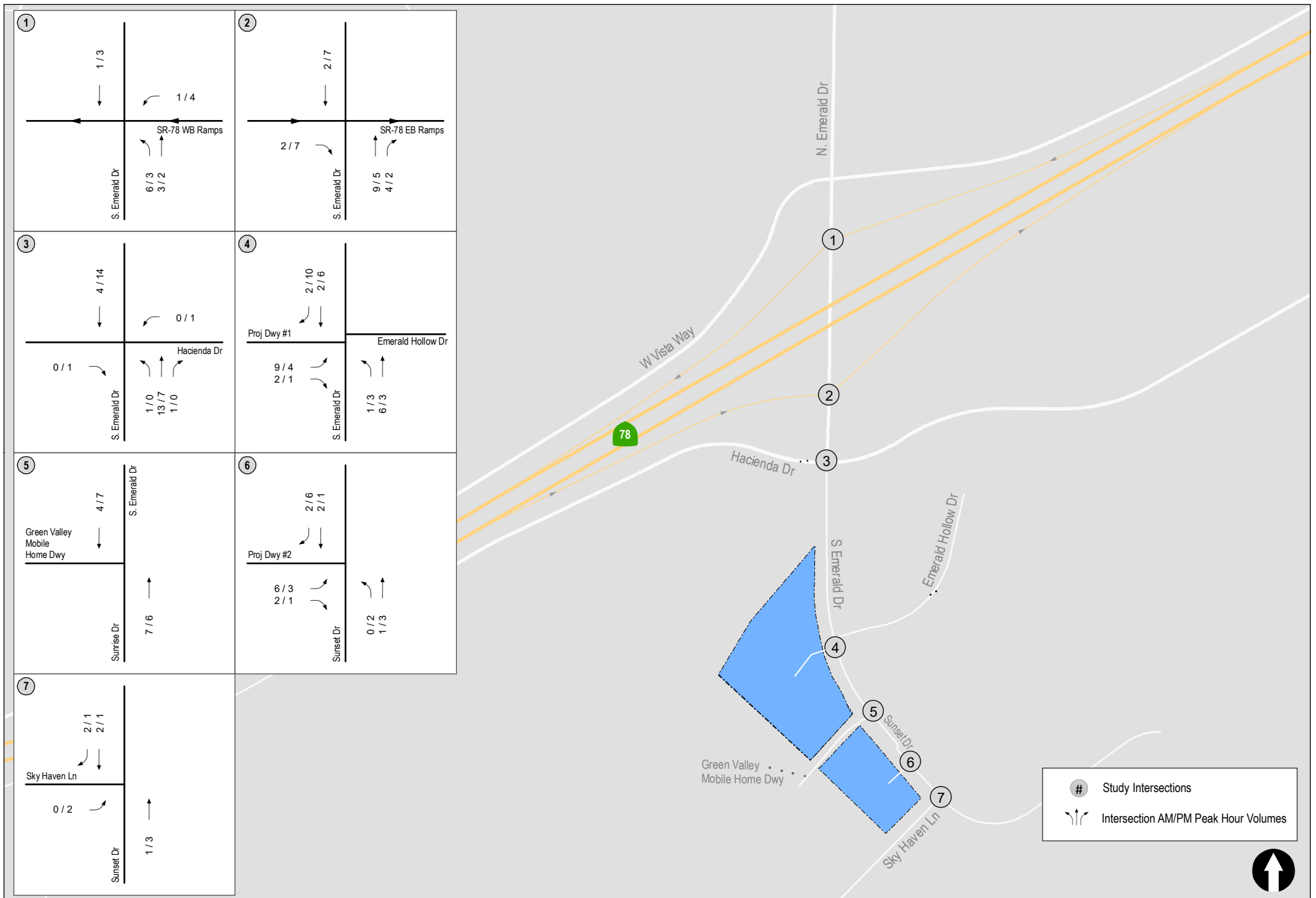


Figure 8-1

Project Traffic Distribution

2112 Sunset Drive Townhomes



9.0 ANALYSIS OF NEAR-TERM CONDITIONS

In assessing the Project's impacts to the street system, it was necessary to review nearby planned, on-going and future roadway improvements in the study area. A review of future roadway improvements indicates that the recently approved Cielo Living project proposes to realign the segment of Sunset Drive and signalize the Sunset Drive / Sky Haven Lane intersection. For the purposes of this traffic study, the implementation of these improvements was assumed in both the Existing + Project and Existing + Project + Cumulative scenarios as construction is anticipated to commence in Year 2022. The improvements at the Sunset Drive / Sky Haven Lane intersection include the following:

- Signalization
- Construct an east leg opposite to Sky Haven Lane with a shared left/thru/right-turn lane geometry
- Construct a dedicated left-turn lane on the northbound, southbound and eastbound approaches

9.1 Existing + Project Operations

Table 9-1 summarizes the Existing + Project intersection operations. As shown in *Table 9-1*, with the addition of Project traffic volumes, all of the study area intersections are calculated to operate at LOS D or better with the exception of the following:

- Emerald Drive / SR 78 WB Ramps – LOS F during the AM peak hour

Based on the City of Vista's improvement thresholds, no substantial effects are identified as the Project adds less than 2 seconds of average vehicle delay. Therefore, improvements are not required under this analysis.

Appendix D contains the Existing + Project intersection analysis worksheets. *Figure 9-1* shows the Existing + Project traffic volumes.

9.2 Existing + Project + Cumulative Operations

Since the Cielo Living project is located very close to the Project site and will soon be under construction, the traffic from this project was included in the analysis. The Cielo Living project is located on the west side of Sunset Drive and south of Sky Haven Lane and is proposed to be developed with 48 units of residential condominium. Although a Local Transportation Assessment only requires to analyze Existing without and with Project scenarios, LLG accounted for the Cielo Living project under the Existing + Project + Cumulative scenario. *Appendix E* contains the Cielo Living project traffic volume figure.

Table 9-1 summarizes the Existing + Project + Cumulative intersection operations. As shown in *Table 9-1*, with the addition of Project and the nearby Cielo Living traffic volumes, all of the study area intersections are calculated to operate at LOS D or better with the exception of the following:

- Emerald Drive / SR 78 WB Ramps – LOS F during the AM peak hour

Based on the City of Vista's improvement thresholds, no substantial effects are identified as the Project adds less than 2 seconds of average vehicle delay. Therefore, improvements are not required under this analysis.

Appendix E contains the Existing + Project + Cumulative intersection analysis worksheets. **Figure 9–2** shows the Existing + Project + Cumulative traffic volumes.

TABLE 9–1
NEAR-TERM INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ^c	Existing + Project + Cumulative Project	
			Delay ^a	LOS ^b	Delay	LOS		Delay	LOS
1. Emerald Dr / SR 78 WB Ramps	Signal	AM	205.0	F	205.8	F	0.8	206.3	F
		PM	28.9	C	29.1	C	0.2	29.2	C
2. Emerald Dr / SR 78 EB Ramps	Signal	AM	28.3	C	28.4	C	0.1	28.6	C
		PM	29.4	C	29.7	C	0.3	30.1	C
3. Emerald Dr / Hacienda Dr	Signal	AM	32.7	C	32.8	C	0.1	32.8	C
		PM	50.3	D	50.8	D	0.5	51.6	D
4. Emerald Dr / Project Dwy #1 / Emerald Hollow Dr	TWSC ^d	AM	23.3	C	33.7	D	10.4	34.2	D
		PM	14.3	B	25.1	D	10.8	26.0	D
5. Sunset Dr / Green Valley Mobile Home Dwy	TWSC ^d	AM	23.8	C	16.1	C	(7.7)	16.3	C
		PM	19.3	C	14.6	B	(4.7)	14.8	B
6. Sunset Dr / Project Dwy #2	TWSC ^d	AM	–	–	15.9	C	–	16.1	C
		PM	–	–	13.9	B	–	14.0	B
7. Sunset Dr / Sky Haven Ln	TWSC ^d / Signal	AM	37.5	E	6.8	A	(30.7)	7.0	A
		PM	22.9	C	7.0	A	(15.9)	7.2	A

Footnotes:

- Average delay expressed in seconds per vehicle
- Level of Service
- Δ denotes an increase in delay due to Project
- TWSC – Two-Way Stop Controlled intersection. Minor street left turn delay is reported.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

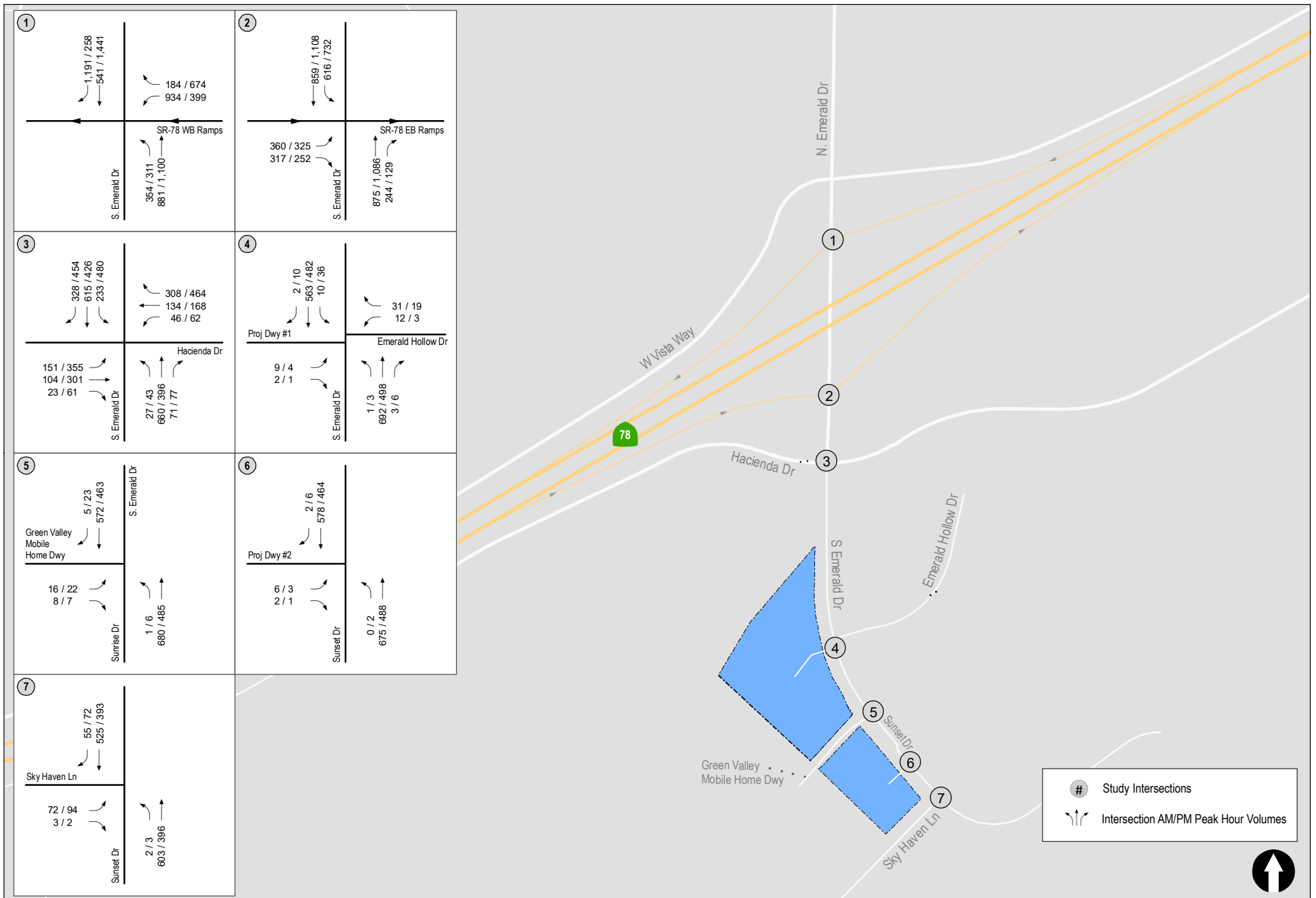


Figure 9-1

Existing + Project Traffic Volumes

2112 Sunset Drive Townhomes

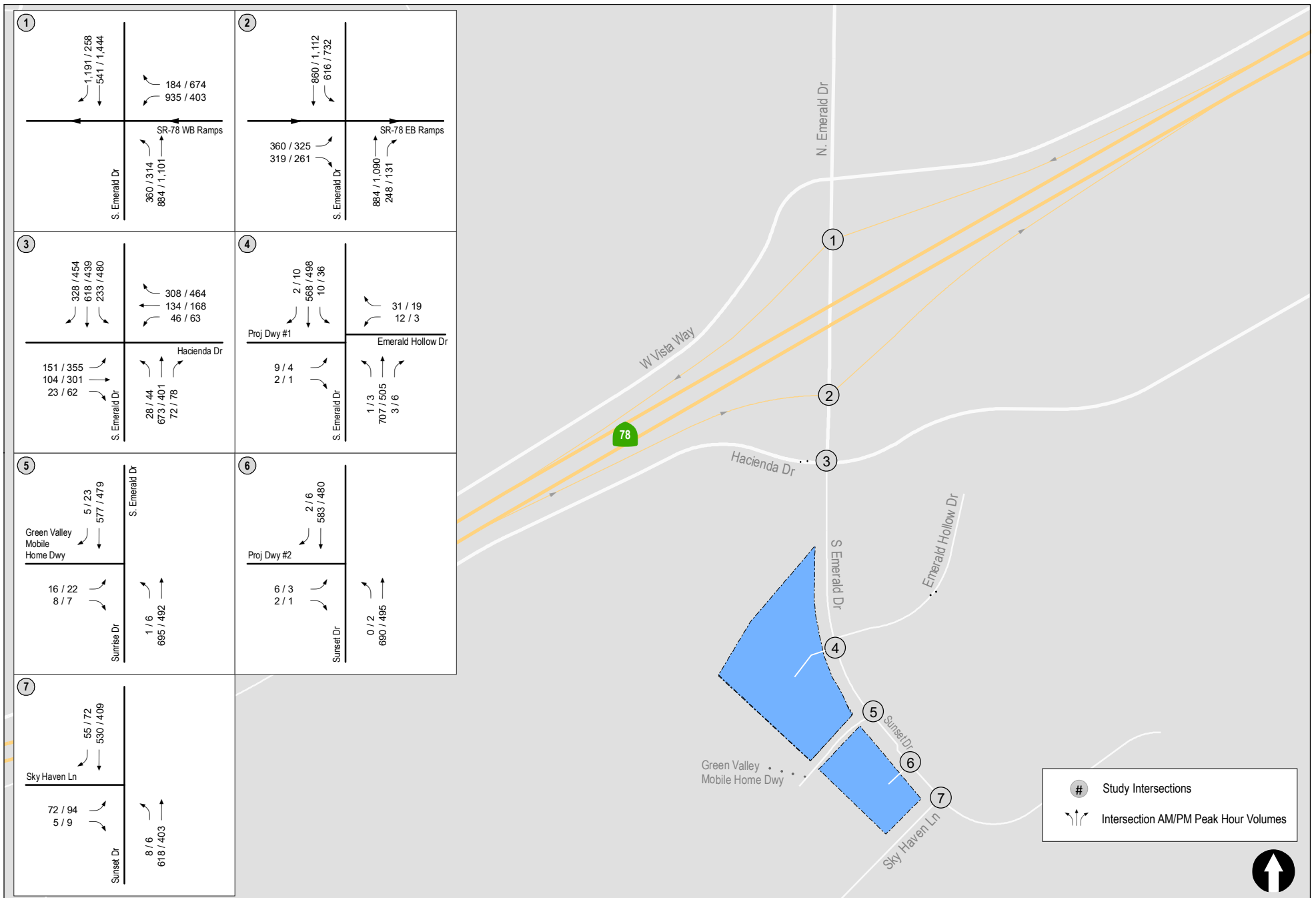


Figure 9-2

Existing + Project + Cumulative Traffic Volumes

2112 Sunset Drive Townhomes

10.0 ACCESS / SUNSET DRIVE SPEEDS

10.1 Access

As described in *Section 2.0*, the Project's access would be via one full access driveway serving the 24 dwelling units and two driveways serving the 14 dwelling units with the north driveway (closest to Green Valley Mobile Home Driveway) serving emergency vehicles only and a full access driveway to the south (closest to Sky Haven Lane). The Project site is currently fronting a two-lane undivided roadway that primarily serve residents. It is recommended that the Project construct a two-way left-turn lane as part of its frontage improvements to allow for left turn access to each Project driveway and the Green Valley Mobile Home driveway outside of the thru lanes. As shown in *Table 9-1*, with the proposed improvements, the Project driveways are calculated to operate at LOS D or better during the AM and PM peak hours.

10.2 Sunset Drive Traffic Calming

This section evaluates existing speeds traversing Emerald Drive / Sunset Drive between Sky Haven Lane and Emerald Hollow Drive, and recommends improvements that could be implemented to improve traffic conditions and slow traffic. As mentioned in *Section 3.1*, Emerald Drive / Sunset Drive has a posted speed limit of 35 mph.

To determine the current vehicular speeds along the subject segment, a 24-hour speed survey was conducted on Thursday, April 7, 2022. Approximately 12,000 data points were obtained within the 24-hour period. *Appendix A* contains these data points. *Table 10-1* summarizes the speed data obtained. As shown in *Table 10-1*, the average speed exceeds the posted speed limit by approximately 5% in the southbound direction and is below the speed limit in the northbound direction. However, the 85th percentile speed exceeds the posted speed limit by approximately 10% and 23% in the northbound and southbound direction, respectively. The 85th percentile speed is defined as the speed at or below which 85 percent of all vehicles are observed to travel.

TABLE 10-1
SPEED SURVEY RESULTS

Street Segment	Posted Speed Limit	Direction	Average Speed (mph)	85th Percentile Speed (mph)
Emerald Drive / Sunset Drive between Emerald Hollow Drive and Mobile Home Driveway	35	Northbound	33.9	38.4
		Southbound	36.8	43.2

Based on existing conditions and the speed survey data, the following improvement was developed in an effort to improve traffic conditions at the subject segment.

- ***Traffic Calming Signage / Marking***

Traffic calming features such as additional signage and markings to reduce vehicular speed are recommended. This includes speed feedback signs and advanced warning signs. Per the MUTCD, “driver comprehension may improve when the vehicle speed feedback sign is mounted on the same support below the speed limit (R2-1) sign.” Currently, there is an R2-1 speed limit sign located approximately 600 feet north of the Green Valley Mobile Home driveway in the southbound direction and another located approximately 250 feet south of the Green Valley Mobile Home driveway in the northbound direction. Installing speed feedback signs at these locations would provide proper notification to drivers along the study area street segments to achieve an overall slower speed. *Figure 3–1* shows the location for these speed limit signs.

An accident assessment was conducted and no collisions were recorded within the subject segment based on accident data provided by the Statewide Integrated Traffic Records System (SWITRS) over the past five years (January 1, 2017 to December 31, 2021). *Appendix F* contains the Collision data.

11.0 ACTIVE TRANSPORTATION

11.1 Pedestrian Mobility

Emerald Drive / Sunset Drive – Within the study area, Emerald Drive / Sunset Drive currently provides contiguous sidewalks on the east side between Hacienda Drive and approximately 200 feet north of Sky Haven Lane. There is approximately 200 feet of contiguous sidewalk on the west side south of Hacienda Drive. No sidewalks are provided in the remaining portions between Hacienda Drive and Sky Haven Lane. The nearest signalized intersection is less than $\frac{1}{4}$ mile north of the Project site, at the Emerald Drive / Hacienda Drive intersection, and provides a controlled crossing location with pedestrian push buttons and crosswalks. As mentioned in *Section 9.0*, the recently approved Cielo Living project proposes to signalize the Sunset Drive / Sky Haven Lane intersection which would also provide a controlled crossing location.

Crosswalks with pedestrian phase are provided on the east, south, and west legs of the Emerald Drive / Hacienda Drive intersection. ADA curb ramps are provided as well. Based on the *City of Vista General Plan*, no sidewalk improvements are planned within $\frac{1}{2}$ mile of the Project site. In addition, the Cielo Living project proposes to provide crosswalks with pedestrian phases on the west and south legs of the Sunset Drive / Sky Haven Lane intersection as part of their improvements.

11.2 Bicycle Mobility

A bicycle network inventory was conducted for the study area. A Class II bike lane is provided along Hacienda Drive east of Emerald Drive within the study area. A Class III bike route with sharrows are provided along Hacienda Drive west of Emerald Drive. There are currently no bike lanes or bike routes provided on Emerald Drive, Sunset Drive and Sky Haven Lane within the study area.

Based on the *City of Vista General Plan*, a Class III Bicycle Route is planned to be constructed along Hacienda Drive north of the Project site.

11.3 Transit Mobility

The nearest bus stops (one northbound and one southbound on Sunset Drive) are located near the Project site. There is also a bus stop on Emerald Drive, south of Hacienda Drive. These stops are served by NCTD bus route 323 which runs from Marron Road and Quarry Creek Center to Oceanside Boulevard and Avenida Del Oro. NCTD bus route 323 runs along Lake Boulevard, Sky Haven Lane, Sunset Drive, Emerald Drive, Oceanside Boulevard, Rancho Del Oro, Mesa Drive, Old Grove Road, and Avenida Del Oro. Weekday service begins at 5:45 AM with 30-minute headways and ends at 5:44 PM. Route 323 is not operational on the weekends. *Figure 3-1* shows the location of these bus stops. *Appendix F* contains the bus route schedule and map.

12.0 CONCLUSIONS

The Project site consists of 38 two-story townhomes on 4.27 acres, located west side of Emerald Drive / Sunset Drive with 24 dwelling units north of the Green Valley mobile home driveway and 14 dwelling units south of the Green Valley mobile home driveway in the City of Vista. Site access is proposed via one full access driveway serving the 24 dwelling units and two full access driveways serving the 14 dwelling units.

Vehicle Miles Traveled (VMT)

The Project is calculated to generate approximately 304 ADT. Therefore, based on the VMT recommendations per the City's TIA Guidelines for projects inconsistent with the Adopted General Plan, a VMT analysis will not be required as the project would generate less than 500 ADT and VMT impacts is presumed less than significant.

Local Mobility Analysis (LMA)

The study area intersections are calculated to operate acceptably at LOS D or better during the AM and PM peak hours under the Existing, Existing + Project and Existing + Project + Cumulative scenarios with the exception of the Emerald Drive / SR 78 WB Ramps which is calculated to operate at LOS F during the AM peak hour. Based on the City of Vista's improvement thresholds, no substantial effects are identified as the Project adds less than 2 seconds of average vehicle delay. Therefore, improvements are not required under this analysis.

Site Access

The Project's access would be via one full access driveway serving the 24 dwelling units and two driveways serving the 14 dwelling units with the south driveway (closest to Sky Haven Lane) serving as emergency access only and a full access driveway to the north (closest to Sky Haven Lane). The Project site is currently fronting a two-lane undivided roadway that primarily serve residents. It is recommended that the Project construct a two-way left-turn lane as part of its frontage improvements to allow for left turn access to each Project driveway and the Green Valley Mobile Home driveway outside of the thru lanes.

Traffic Calming

The 85th percentile speed exceeds the posted speed limit by approximately 10% and 23% in the northbound and southbound direction, respectively.

Based on existing conditions and the speed survey data, traffic calming features such as additional signage and marking to strategically reduce vehicular speed are recommended. This includes speed feedback signs and advanced warning signs. The speed feedback sign is recommended to be mounted on the same support below the speed limit (R2-1) sign to provide proper notification to drivers traversing along Emerald Drive / Sunset Drive between Emerald Hollow Drive and Sky Haven Lane to improve traffic conditions and slow traffic.

APPENDIX F WATER SUPPLY STUDY



2112 SUNSET DRIVE WATER SUPPLY STUDY
LN 2022-039

September 14, 2022

Prepared By: Robert Scholl, P.E.

Approvals: RSW

GENERAL POLICY STATEMENT

This water supply study is based on current criteria. It is not a representation, expressed or implied, that the Vista Irrigation District (District) will furnish water at a future date. Applications for service are governed by separate rules and regulations, and are the subject of separate District proceedings, apart from this water supply study.

The location of existing improvements and the recommendations of this hydraulic analysis are presented in schematic form only. It is the responsibility of the Developer/Engineer to design the final improvements, including independent investigation of existing conditions.

This Study is based on the current adopted land use utilized in the City of Vista's General Plan 2030 (General Plan). The study addresses the incremental facility impacts of this Project only and does not include or consider any additional projects within District's service area that have deviated from General Plan land uses. Any land use changes within the vicinity of the Study area may necessitate a revision to the Study. The District shall determine if and when revisions to the Study are necessary. Costs for revising this Study shall be borne by the Developer.

INTRODUCTION AND PURPOSE

The proposed development (Project) consists of 36 multi-family dwelling units on 4.27 acres (APNs 166-450-39, 166-450-40, 166-751-44). The property is located on the southwestern side of the intersection of Emerald Drive and Sunset Drive in the City of Vista. The Project is located within the District's Sphere of Influence and water service boundary.

The purpose of this study is to serve as a nexus document for setting development conditions. It evaluates the configuration of the proposed water system, District service rights, and the ability of the existing water distribution system to serve the Project during peak hour and maximum day plus fire flow demand conditions. Evaluation includes:

- Water distribution system; including the need to upsize or install new pipelines and appurtenances.
- Access and utility easements; including evaluation of the adequacy of existing easements, and the need for new easements.

SOURCE OF WATER, PROPOSED FACILITIES, AND EASEMENTS

The proposed Project lies completely within the District's 486 Pressure Zone, which is supplied from multiple pressure regulating stations from the District's upstream 565 and 637 Pressure Zones. Figures 1 through 3 show the development's location, existing water infrastructure within the vicinity of the development, and proposed facilities.

The Project comprises of two multi-family blocks separated by a private road. The 3.09-acre western block fronts Emerald Drive while the 1.18-acre eastern block fronts Sunset Drive. The site is mostly vacant with the exception of a single-family residence on APN 166-450-40, which is served by a 3/4-inch water meter (account #6505-0030). Based on the tentative parcel map, the developer is proposing to locate new domestic water service master meters adjacent to the blocks' entrances, and new 8-inch fire services would connect to the existing 10-inch pipeline in Emerald Drive and Sunset Drive to serve private fire suppression systems within each block. Two private fire hydrants would connect to each private fire suppression pipeline as shown in Figure 3.

The proposed Project lies within District Blanket Easements G67 and F57. Since an extension of the public water system would not occur, the District does not need any additional access and utility easements for the Project. However, a portion of the District's 10-inch asbestos cement pipeline extends into the development from Emerald Drive; this portion of pipeline will need to be abandoned, removed, and properly disposed of by the Project.

WATER FLOW PROJECTIONS AND DESIGN CRITERIA

The Project's existing zoning currently consists of two separate designations. The City of Vista's General Plan 2030 identifies the western block as General Commercial and the eastern block as Medium High Density Residential, which allows up to 15 dwelling units per gross acre. The District's 2018 Potable Water Master Plan (Master Plan) based its water demand planning on these approved land uses. The Project developer proposes to build 36 multi-family dwelling units on 4.27 acres, which equates to approximately 8.4 dwelling units per acre. In order to accommodate this dwelling unit density, the developer is proposing a General Plan Amendment to modify the western block's land use from General Commercial to Medium Density Residential. No modification is proposed for the eastern block as this already meets density requirements.

Based on the unit demand factor of 3,650 gallons per day (gpd)/acre developed in the Master Plan for multi-family residential land use and site size of 4.27 acres, the projected average annual water demand for the Project is 15,586 gpd.

The Master Plan outlines the District's water system design criteria, which are as follows:

Peaking Factors

- | | |
|------------------------|--------------------------------|
| ➤ Maximum day demands: | 200% of average annual demands |
| ➤ Peak hour demands: | 300% of average annual demands |

System Pressure

- | | |
|--------------------------------|---|
| ➤ Peak hour demand conditions: | 40 pounds per square inch (psi) minimum |
|--------------------------------|---|

- Maximum day demand plus fire flow: 20 psi minimum
- Static: 150 psi maximum

Fire Flow

- The City of Vista Fire Marshal has set the required fire demand at 1,500 gallons per minute (gpm) for the Project.

Pipeline Fluid Velocity

- Peak hour demand conditions: 8 feet per second (fps) maximum
- Maximum day demand plus fire flow: 16 fps maximum

Pipeline Diameter

- Short dead-end, no hydrants: 4-inch diameter minimum
- Feeding hydrants: 8-inch diameter minimum

HYDRAULIC ANALYSES

A hydraulic analysis was performed on the District's distribution system with the proposed Project's water demands and private facilities incorporated. The Project proposes two 8-inch diameter private fire suppression systems within the new development, connecting to the District's 10-inch pipeline within Emerald Drive and Sunset Drive as shown on the tentative parcel map and Figure 3. Two private fire hydrants are proposed along each pipeline to provide fire protection.

The analysis was carried out using the District's InfoWater® v12.5 water distribution computer model. The modeled pressure results at the Project's connection to the District's 10-inch pipeline in Emerald Drive and Sunset Drive, and at all four of the proposed fire hydrants along the development's private fire pipeline extensions, are summarized in the table below.

Hydraulic Modeling Results

Node Location	Elevation (ft)	Static Pressure (psi)	Peak Hour Pressure (psi)	Max Day + FF Pressure (psi)*
West Connection on Emerald Drive	215	117	104	N/A
Proposed Private Fire Hydrant #1	213	118	N/A	74**
Proposed Private Fire Hydrant #2	214	118	N/A	72**
East Connection on Sunset Drive	222	114	101	N/A
Proposed Private Fire Hydrant #3	226	113	N/A	70**
Proposed Private Fire Hydrant #4	228	112	N/A	66**

*Simulated fire flows are within the distribution system water mains, analyses do not represent actual flow available through a fire hydrant assembly or fire sprinkler system.

**Maximum day plus fire flow pressure results for the private infrastructure within the limits of the development assumes a 15-psi headloss through the reduced pressure detector assembly (RPDA) and an 8-inch private fire service pipeline.

No existing system deficiencies were identified in any pipe segments in the vicinity of the development during any scenario. Results from the analysis show that the required fire flow demand of 1,500 gpm can be met at all four of the proposed fire hydrants along the development's private fire pipeline extensions.

The District makes no guarantee that the available fire flow and pressures are presently available, nor guarantee that the flow and pressure will be available in the future due to continued growth that places additional demands for water on the water distribution system. Availability of flow and pressure is also subject to shutdowns and variations required by the operation of the District's distribution system.

CONCLUSION AND CONDITIONS

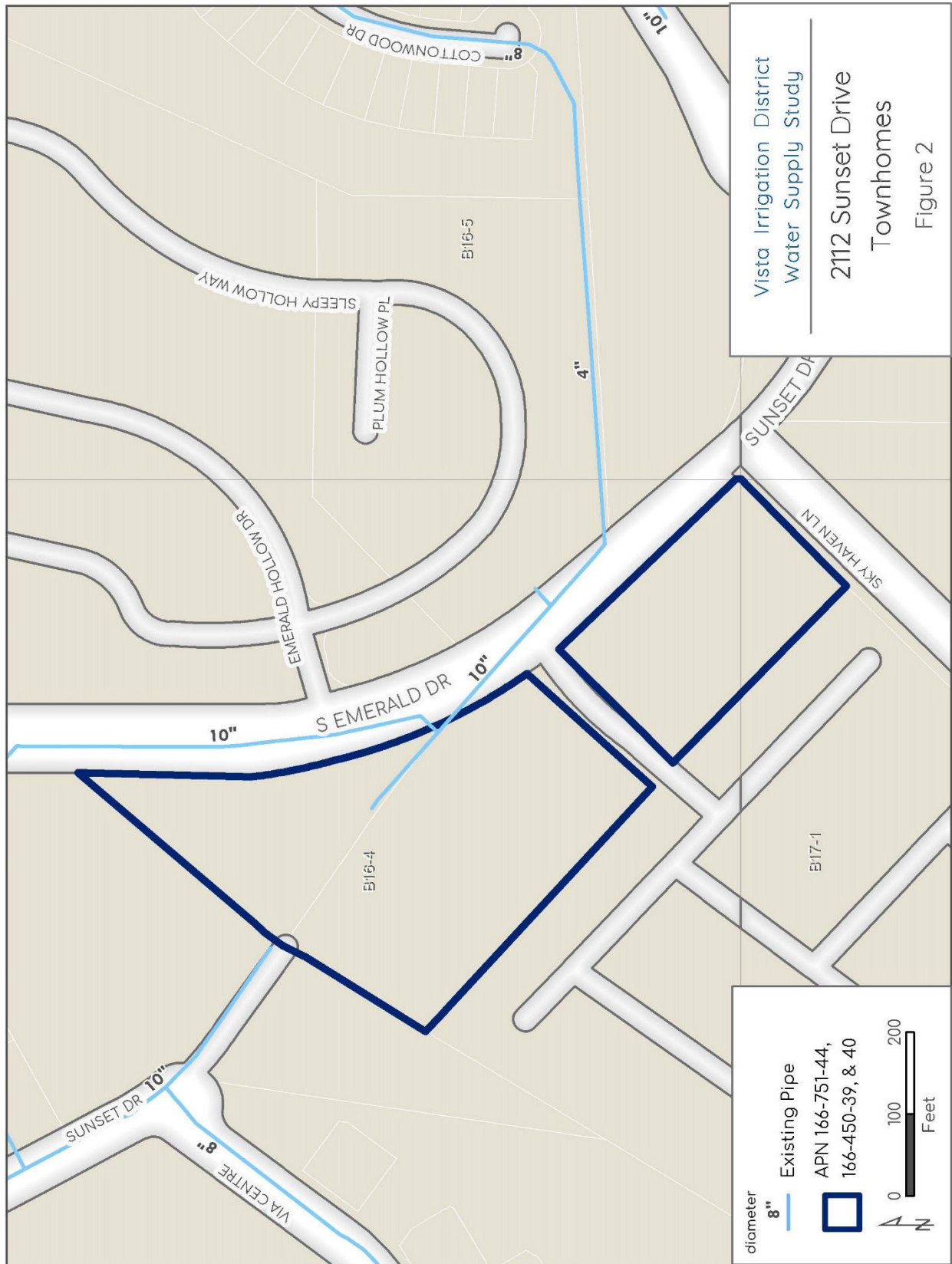
The Project is proposing a Specific Plan Amendment to modify the property's land use to Multi-Family Residential. Based on the unit demand factor of 3,650 gpd/acre for multi-family residential development and site size of 4.27 acres, the projected average annual water demand for the Project is 15,586 gpd.

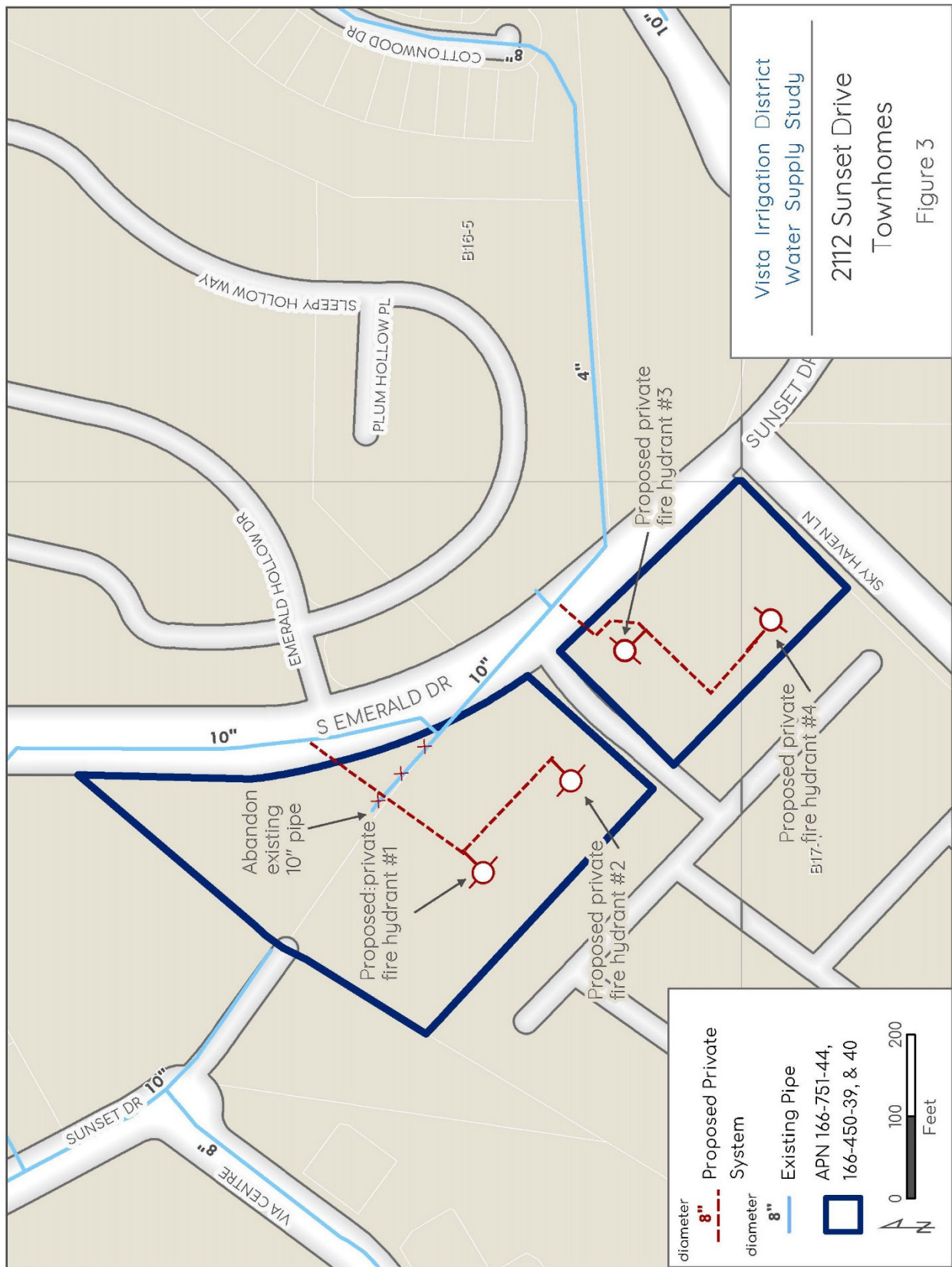
The Study did not identify any existing system deficiencies within the Project limits or in the vicinity of the development during peak hour demand or maximum day plus fire flow demand

scenarios. The following improvements were assumed to be constructed as part of this development:

- Installation of two RPDAs and fire service connections to the District's 10-inch main in Emerald Drive and Sunset Drive.
- Installation of 8-inch minimum private fire systems sized to serve the Project.
- Removal and proper disposal of the District's 10-inch asbestos cement pipeline within the development to Emerald Drive.
- Purchase of water capacity and installation of water meters sufficient to cover projected demands.
- Payment of in-lieu annexation fees for APN 166-450-39.







APPENDIX G

Noise Technical Report

Noise Technical Report

Sunset Drive Townhomes Project City of Vista, California

OCTOBER 2022

Prepared for:

LEGACY PARTNERS

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6 Typical Construction Equipment Maximum Noise Levels..... 23

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C Traffic Noise Modeling Input and Output

D Transmission Loss Prediction

E Residential HVAC Noise Prediction

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Vista
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
FTA	Federal Transit Administration
ips	inches per second
L _{dn}	day-night average noise level
L _{eq}	equivalent noise level
L _{max}	maximum sound level
L _{min}	minimum sound level
Sunset Drive Townhomes	proposed project
PPV	peak particle velocity
RCNM	Roadway Construction Noise Model
SLM	Sound level meter
SPL	Sound pressure level
ST	Short-term
STC	Sound Transmission Class
TL	Transmission Loss
VdB	Velocity Decibel

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1 Introduction

1.1 Report Purpose and Scope

This technical noise report evaluates the potential noise impacts during construction and operation of the proposed Sunset Drive Townhomes Project (proposed project). This assessment utilizes the significance thresholds in Appendix G of the California Environmental Quality Act Guidelines (14 CCR 15000 et seq.).

1.2 Project Location and Description

The approximate 4.34-acre Project site is located within the City of Vista (City), California, within San Diego County, California. The Project is a multi-family 2-story townhomes development located on a 4.34- gross acre parcel in the City of Vista at 2112 Sunset Drive (see Figure 1 and Figure 2.) 1.18 acres (14 units) of the site currently has a land use designation of MHD (Medium High Density) and zoning of RM 15 Multifamily Residential, and 3.09 acres (24 units) of the site currently has a land use designation of GC (General Commercial) and zoning of C-1 Commercial. The GC portion of the project will require a general plan amendment and zone change to medium density residential and RM-10. The Project will include 111 parking spaces of which 76 are garage spaces and 35 guest parking spaces

1.3 Fundamentals of Noise and Vibration

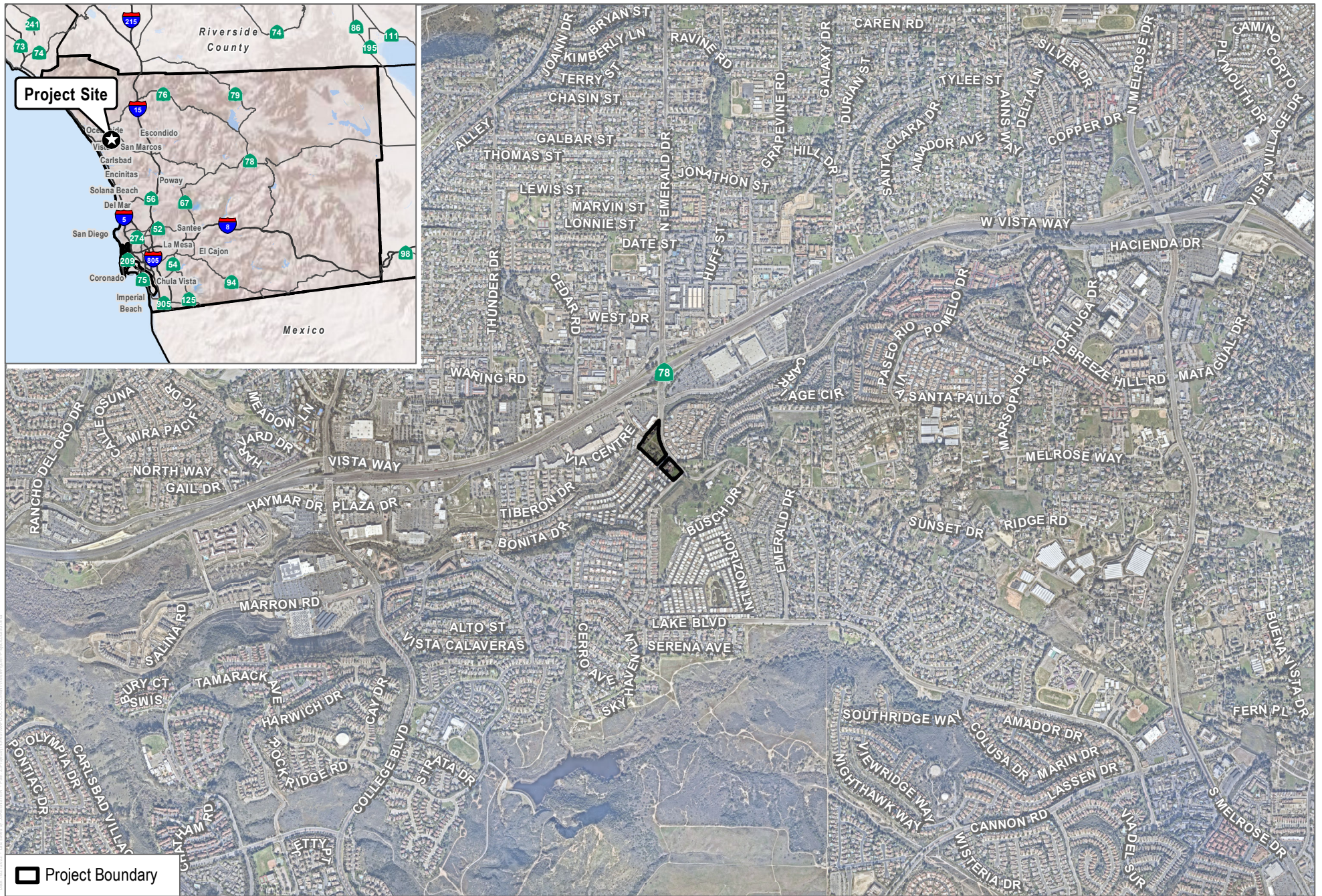
The following is a brief discussion of fundamental noise concepts and terminology.

1.3.1 Sound, Noise, and Acoustics

Sound is actually a process that consists of three components: the sound source, sound path, and sound receiver. All three components must be present for sound to exist. Without a source to produce sound, there is no sound. Similarly, without a medium to transmit sound pressure waves, there is no sound. Finally, sound must be received; a hearing organ, sensor, or object must be present to perceive, register, or be affected by sound or noise. In most situations, there are many different sound sources, paths, and receptors rather than just one of each. Acoustics is the field of science that deals with the production, propagation, reception, effects, and control of sound. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired.

1.3.2 Sound Pressure Levels and Decibels

The amplitude of a sound determines its loudness. Loudness of sound increases with increasing amplitude. Sound pressure amplitude is measured in units of micronewton per square meter, also called micropascal. One micropascal is approximately one-hundred billionth (0.0000000001) of normal atmospheric pressure. The pressure of a very loud sound may be 200 million micropascals, or 10 million times the pressure of the weakest audible sound. Because expressing sound levels in terms of micropascal would be very cumbersome, sound pressure level in logarithmic units is used instead to describe the ratio of actual sound pressure to a reference pressure squared. These units are called Bels. To provide a finer resolution, a Bel is subdivided into 10 decibels (dB).



SOURCE: SANGIS 2020, 2022

FIGURE 1

Project Location

Sunset Drive Townhomes

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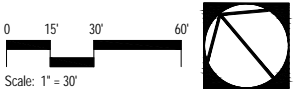


LEGEND

- Dining Lounge with Shade Structure, BBQ Island, Dining Chairs, Firepit and Lounge Furniture for small social events and group gatherings (See Community Amenity Enlargement Plans A and B on Sheet L-2 and L-3).
- Play Area, with tot-lot, benches and Lawn area with cornhole for small gatherings. (See Community Amenity Enlargement Plans A and B on Sheet L-2 and L-3).
- Passive Lawn with benches.
- Reading Nooks with Adirondacks and specimen trees.
- Three community cluster mailboxes, per USPS review and approval.
- Proposed wall, pilaster, gate or fence, per Wall & Fence Plan.
- Enhanced paving at main project entry.
- Proposed tree, per Planting Plan.
- 4' wide community natural colored concrete sidewalk, with light top-cast finish and saw-cut joints.
- Accessible parking stall and striping, per Civil plans.
- Guest parking stall.
- Natural colored concrete driveway, with light broom finish and tooled joints.
- Private patio / yard area, homeowner maintained.
- Common area landscape, builder installed and HOA maintained.
- Community dog bag station (black in color), for pet owners.
- Property line.
- Public street R.O.W.
- Proposed public street sidewalk, per Civil plans.
- Transformer to be screened with landscape, quantity and final locations to be determined.
- Short term bike parking (4 bike racks to accommodate 8 bike stalls).
- Proposed EVA Gate.
- Proposed Sign Monument.
- Existing Southern Arroyo Willow Riparian Forest.
- Existing Top of Water Bank - Jurisdictional Water Line.



*Conceptual images (provided herein are conceptual and subject to change)



SOURCE: Legacy Partners, 2022

DUDEK

FIGURE 2
Conceptual Site Plan
Sunset Drive Townhomes

1.3.3 A-Weighted Sound Level

Sound pressure level alone is not a reliable indicator of loudness. The frequency, or pitch, of a sound also has a substantial effect on how humans will respond. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness, or human response, is determined by the characteristics of the human ear.

Human hearing is limited not only in the range of audible frequencies, but also in the way it perceives the sound in that range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 hertz, and it perceives a sound within that range as more intense than a sound of higher or lower frequency with the same magnitude. To approximate the frequency response of the human ear, a series of sound level adjustments is usually applied to the sound measured by a sound level meter. The adjustments (referred to as a weighting network) are frequency-dependent.

The A-scale weighting network approximates the frequency response of the average young ear when listening to ordinary sounds. When people make judgments about the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special situations (e.g., B-scale, C-scale, D-scale), but these scales are rarely used in conjunction with most environmental noise. Noise levels are typically reported in terms of A-weighted sound levels. All sound levels discussed in this report are A-weighted decibels (dBA). Examples of typical noise levels for common indoor and outdoor activities are depicted in Table 1.

Table 1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
—	110	Rock band
Jet fly over at 300 meters (1,000 feet)	100	—
Gas lawn mower at 1 meter (3 feet)	90	—
Diesel truck at 15 meters (50 feet), at 80 kilometers per hour (50 miles per hour)	80	Food blender at 1 meter (3 feet); garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime; gas lawn mower at 30 meters (100 feet)	70	Vacuum cleaner at 3 meters (10 feet)
Commercial area; heavy traffic at 90 meters (300 feet)	60	Normal speech at 1 meter (3 feet)
Quiet urban, daytime	50	Large business office; dishwasher next room
Quiet urban, nighttime	40	Theater; large conference room (background)
Quiet suburban, nighttime	30	Library
Quiet rural, nighttime	20	Bedroom at night; concert hall (background)
—	10	Broadcast/Recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2020.

1.3.4 Human Response to Changes in Noise Levels

Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dBA when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA. A change of 5 dBA is readily perceptible, and a change of 10 dBA is *perceived* as twice (if a gain) or half (if a loss) as loud. A doubling of sound energy results in a 3-dBA increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a road) would result in a barely perceptible change in sound level.

1.3.5 Noise Descriptors

Additional units of measure have been developed to evaluate the long-term characteristics of sound. The energy-equivalent sound level (L_{eq}) is also referred to as the time-average sound level. It is the equivalent steady-state or constant sound level that in a stated period of time would contain the same acoustical energy as the time-varying sound level during the same time period. For instance, the 1-hour A-weighted equivalent sound level, $L_{eq}(h)$, is the energy average of the A-weighted sound levels occurring during a 1-hour period, and is the basis for most of the County Noise Ordinance standards.

People are generally more sensitive to and thus potentially more annoyed by noise occurring during the evening and nighttime hours. Hence, another noise descriptor used in community noise assessments—the community noise equivalent level (CNEL)—represents a time-weighted, 24-hour average noise level based on the A-weighted sound level. However, unlike an unmodified 24 hour L_{eq} value, the CNEL descriptor accounts for increased noise sensitivity during the evening (7 p.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) by adding 5 dBA and 10 dBA, respectively, to the average sound levels occurring during these defined hours within a 24-hour period.

1.3.6 Sound Propagation

Sound propagation (i.e., the traverse of sound from a noise emission source position to a receiver location) is influenced by multiple factors that include geometric spreading, ground absorption, atmospheric effects, and occlusion by natural terrain and/or features of the built environment.

Sound levels attenuate (or diminish) geometrically at a rate of approximately 6 dBA per doubling of distance from an outdoor point-type source due to the spherical spreading of sound energy with increasing distance travelled. The effects of atmospheric conditions such as humidity, temperature, and wind gradients are typically distance-dependent and can also temporarily either increase or decrease sound levels measured or perceived at a receptor location. In general, the greater the distance the receiver is from the source of sound emission, the greater the potential for variation in sound levels at the receptor due to these atmospheric effects. Additional attenuation can result from sound path occlusion and diffraction due to intervention of natural (ridgelines, dense forests, etc.) and built features (such as solid walls, buildings and other structures).

1.3.7 Groundborne Vibration Fundamentals

Groundborne vibration is fluctuating or oscillatory motion transmitted through the ground mass (i.e., soils, clays, and rock strata). The strength of groundborne vibration attenuates rapidly over distance. Some soil types transmit vibration quite efficiently; other types (primarily sandy soils) do not. Several basic measurement units are commonly used to describe the intensity of ground vibration. The descriptors used by the Federal Transit Administration (FTA) are peak particle velocity (PPV), in units of inches per second (ips), and velocity decibel (VdB) that is based on a root-mean square (RMS) of the vibration signal magnitude. The calculation to determine PPV at a given distance is as follows:

$$PPV_{\text{distance}} = PPV_{\text{ref}} * (25/D)^{1.5}$$

Where:

PPV_{distance} = the peak particle velocity in inches per second of the equipment adjusted for distance

PPV_{ref} = the reference vibration level in inches per second at 25 feet

D = the distance from the equipment to the receiver

Conversion of PPV to rms VdB involves application of a reference vibration velocity level (also in units of ips) and a “crest factor” of 4 per FTA guidance, which is expressed as follows:

$$VdB = 20 * \text{LOG}(PPV / (4 * 0.000001))$$

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2 Regulatory Setting

2.1 Federal

In its Transit Noise and Vibration Impact Assessment guidance manual, the Federal Transit Administration (FTA) recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an 8-hour period (FTA 2018) when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project. Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such noise limits at the state and local jurisdictional levels.

2.2 State

2.2.1 California Code of Regulations, Title 24

Title 24 of the California Code of Regulations sets standards that new development in California must meet. According to Title 24, interior noise levels are not to exceed 45 dBA CNEL in any habitable room (ICC 2019).

2.2.2 California Department of Health Services Guidelines

The California Department of Health Services has developed guidelines of community noise acceptability for use by local agencies (OPR 2017). Selected relevant levels are listed here:

- Below 60 dBA CNEL: normally acceptable for low-density residential use
- 50 to 70 dBA: conditionally acceptable for low-density residential use
- Below 65 dBA CNEL: normally acceptable for high-density residential use and transient lodging
- 60 to 70 dBA CNEL: conditionally acceptable for high-density residential, transient lodging, churches, educational, and medical facilities

The normally acceptable exterior noise level for high-density residential use is up to 65 dBA CNEL. Conditionally acceptable exterior noise levels range up to 70 dBA CNEL for high-density residential use.

2.2.3 California Department of Transportation

In its Transportation and Construction Vibration Guidance Manual (Caltrans 2013b), the California Department of Transportation (Caltrans) recommends 0.5 ips PPV as a threshold for the avoidance of structural damage to typical newer residential buildings exposed to continuous or frequent intermittent sources of groundborne vibration. For transient vibration events, such as blasting, the damage risk threshold would be 1.0 ips PPV (Caltrans 2013b) at the same type of newer residential structures. For older structures, these guidance thresholds would be more stringent: 0.3 ips PPV for continuous/intermittent vibration sources, and 0.5 ips PPV for transient vibration events. With respect to human annoyance, Caltrans guidance indicates that building occupants exposed to continuous groundborne vibration in the range of 0.2-0.6 ips PPV would find it “unpleasant or “annoying” and thus a likely significant impact. Although these Caltrans guidance thresholds are not regulations, they can serve as quantified standards in the absence of such limits at the local jurisdictional level.

2.3 Local

2.3.1 Noise Ordinance

The City's noise control ordinance (Municipal Code, Chapter 8.32) is wholly adopted from the County of San Diego's regulations relating to the control of noise, excepting therefrom the table set out in Section 36.404 and replacing it with the City's Table 8.32.040 (see Table 2 below). The ordinance legally sets exterior property line noise limits for various land uses in terms of 1-hour L_{eq} value, unless a variance has been applied for (citing mitigation circumstances as applicable) and granted. As specified therein, commercial areas (zone C-3) are restricted in the amount of noise that can legally be generated at the property at the property line to 60 A-weighted decibels (dBA) between 7:00 a.m. and 10:00 p.m. and 55 dBA between 10:00 p.m. and 7:00 a.m. (see Table 2 below). Moreover, in the event that the alleged offensive noise contains music or speech conveying informational content, the 1-hour L_{eq} limit is reduced by 5 dB.

Table 2. City of Vista Exterior Noise Standards

Zone	Applicable Limit (decibels)	Time Period
A-1, E-1, O & OSR R-1B, MHP	50 45	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.
R-M	55 50	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.
C-1, C-2, O-3, C-T, OP, M-U and Downtown Specific Plan	60 55	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.
M-1, I-P, all areas of the Vista Business Park Specific Plan and Specific Plan 14	70	Anytime

Source: City of Vista Municipal Code, Chapter 8.32.

In addition, a person cannot operate construction equipment that exceeds an average sound level of 75 dBA for an 8-hour period, between 7:00 a.m. and 7:00 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received. Construction equipment cannot be operated between 7:00 p.m. and 7:00 a.m., or on Sundays and holidays.

2.3.2 General Plan Noise Element

The Noise Element of the *City of Vista General Plan 2030* (City of Vista 2011) establishes target maximum noise levels in the City. Table 3 (Table NE-3 of the Noise Element) provides guidance for the acceptability of certain types of developments, which acts as criteria for assessing the compatibility of proposed land uses in corresponding land use designations. Table 3 depicts "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" exterior noise levels for those uses and land use designations. The matrix is typically used at the General Plan or zoning levels of approval, as well as for California Environmental Quality Act (CEQA) analysis.

Table 4 (reproducing Table NE-4 of the Noise Element) provides the interior and exterior guidelines for various uses and developments. The noise guidelines function as City policy for new land uses and acceptable noise levels for development of new land uses. In addition, the provisions of the State of California Noise Insulation Standards (California

Administrative Code, Title 24) are enforced to specify that the indoor noise levels for multifamily residential living spaces shall not exceed 45 dB CNEL (or day-night average sound level (L_{dn})) due to the combined effect of all noise sources. The state requires implementation of this indoor standard when the outdoor noise levels exceed 60 dB CNEL (or L_{dn}). Title 24 requires that this standard be applied to all new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings. As a matter of policy, the City also applies this standard to new single-family developments, mixed-use developments, and condominium conversions where appropriate.

Table 3. Noise and Land Use Compatibility Matrix

Vista General Plan Land Use Designations	Uses	Day-Night Noise Level (L_{dn})			
		A	B	C	D
Rural Residential (RR) Open Space Residential (OSR) Low Density (LD) Medium Low Density (MLD) Medium Density (MD)	Residential Single Family	≤ 60	55 - 70	70 - 75	≥ 75
Medium Density (MHD) High Density (HD)	Multiple Family, Duplex, Mobile Home Park	≤ 65	60 - 70	70 - 75	≥ 75
Mixed Use (MU)	Mixed-Use Residential, Commercial, and Office Development	≤ 65	60 - 72.5	72.5 - 80	≥ 80
Commercial Office (CO) Commercial Neighborhood (CN)	Professional and Private Offices, Daycare, Neighborhood-Serving Retail and Restaurants, Board Rooms, Conference Rooms, Theatres, Auditoriums, Concert Halls, Meeting Halls	≤ 65	60 - 72.5	≥ 72.5	-
Civic Activity (CA)	Schools, Parks, Playgrounds, Fire Stations, Courthouses, Libraries, Municipal Storage Yards	≤ 72.5	60 - 72.5	67.5 - 80	≥ 80
Commercial Service (CS) General Commercial (GC)	Community Serving Retail and Restaurants	≤ 70	67.5 - 75	≥ 75	-
Commercial Industrial Service (CIS) Industrial General (IG) Research Light Industrial (RLI)	Manufacturing, Kitchen, Warehousing	≤ 70	67.5 - 75	≥ 75	-
Open Space/Parks (OS)	Golf Courses, Outdoor Spectator Sports, Amusement Parks	≤ 70	67.5 - 75	≥ 75	-

A = Normally Acceptable, B = Conditionally Acceptable, C = Normally Unacceptable, D = Clearly Unacceptable

Source: Based on California Governor's Office of Planning and Research (2003); Modified for the City of Vista

Table 4. Interior and Exterior Noise Guidelines

Land Use	Maximum Noise Level (L_{dn} or CNEL, dBA)	
	Interior ^{1,2}	Exterior
Residential - Single Family, Multifamily, Duplex	45	65 ³
Residential - Nursing Homes, Hospitals	45	65 ³

Table 4. Interior and Exterior Noise Guidelines

Land Use	Maximum Noise Level (L _{dn} or CNEL, dBA)	
	Interior ^{1,2}	Exterior
Private Offices, Church Sanctuaries, Libraries, Board Rooms, Conference Rooms, Theaters, Auditoriums, Concert Halls, Meeting Halls, etc.	45	-
Schools	45	65 ⁴
General Offices, Reception, Clerical, etc.	50	-
Bank Lobby, Retail Store, Restaurant, Typing Pool, etc.	60	-
Manufacturing, Kitchen, Warehousing, etc.	65	-
Parks, Playgrounds, etc.	-	65 ⁴
Golf Courses, Outdoor Spectator Sports, Amusement Parks, etc.	-	70 ⁴

Notes:

- ¹ Noise standard with windows closed. Mechanical ventilation shall be provided per Uniform Building Code requirements to provide a habitable environment.
- ² Indoor environment excluding bathrooms, toilets, closets, and corridors.
- ³ Outdoor environment limited to rear yard of single-family homes, multifamily patios and balconies (with a depth of 6 feet or more) and common recreation areas.
- ⁴ Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.

The City's Noise Element outlines general goals, objectives, and relevant noise policies that include the following:

- NE Goal 1: Protect people who live, work, and recreate in the City from excessive transportation noise with an emphasis on protecting residential neighborhoods and other noise-sensitive receptors (i.e., picnic areas, recreation areas, playgrounds, active sports areas, golf courses, parks, residences, motels, hotels, schools, churches, libraries, and hospitals).
 - NE Policy 1.1: Discourage new noise-sensitive land uses from locating, and existing noise-sensitive land uses from expanding, in areas adjacent to roadways where noise levels are 65 dB CNEL or above.
 - NE Policy 1.2: Require California Title 24 building code noise insulation with minimum 25 dB noise reduction for new development where existing/future roadway noise levels are 65 dB CNEL or above.
 - NE Policy 1.3: Encourage the use of open and green spaces between noise sensitive land uses and roadways that create noise levels of 65 dB or above.
 - NE Policy 1.4: Require developers to implement noise abatement that meets Caltrans' acoustical criteria if new developments cause increases in traffic volumes that result in roadway or rail noise levels of 65 dB CNEL or above at existing or planned future noise-sensitive receptors.
- NE Goal 2: Protect people who live, work, and recreate in the City from unwarranted and excessive levels of noise, with special emphasis on protecting residential neighborhoods from intrusive noise.
 - NE Policy 2.2: Adopt and apply the Noise and Land Use Compatibility Matrix and the Interior and Exterior Noise Guidelines as guidelines to establish acceptable noise standards for various uses throughout the City.
 - NE Policy 2.3: Require new development to minimize noise impacts upon adjacent uses through site and building design, setbacks, berms, landscaping, and/or other noise abatement techniques.
 - NE Policy 2.5: Require that an acoustical analysis be prepared by a qualified acoustical engineer in instances where noise-sensitive uses are proposed in noise impacted areas.

- NE Policy 2.7: Encourage residential developments within mixed-use developments and located adjacent to commercial or retail and entertainment-related uses to notify potential residents that they may be affected by noise from these uses.

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3 Existing Conditions

SPL measurements were conducted near the project site on September 23, 2022, to quantify and characterize the existing outdoor ambient noise levels. Table 5 provides the location, date, and time at which these baseline noise level measurements were taken. The SPL measurements were performed by an attending Dudek field investigator using a Rion NL-52 sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 1 (Precision Grade) sound level meter (SLM). The accuracy of the SLM was verified using a reference sound signal (i.e., field calibrator) before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Three short-term noise level measurement locations (ST1–ST3) that represent the vicinities of existing sensitive receivers were selected on and near the project site. These locations are depicted as receivers ST1–ST3 on Figure 3, Noise Measurement and Modeling Locations. The L_{eq} and L_{max} noise levels are provided in Table 5. The primary noise sources at the sites identified in Table 5 consisted of traffic along adjacent roadways, distant aircraft, and birdsong. As shown in Table 5, the measured sound levels ranged from approximately 50.1 dBA L_{eq} at ST2 to 55.0 dBA L_{eq} at ST3. Noise measurement data is also included in Appendix A, Baseline Noise Measurement Field Data. These samples of daytime L_{eq} measured at the three representative receptor positions in Table 5 can be interpreted as approximations of CNEL, since evening SPL would likely be 5 dBA less, and nighttime SPL would be 10 dBA less than the daytime values (FTA 2006).

Table 5. Measured Baseline Outdoor Ambient Noise Levels

Site	Location/Address	Date/Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	Guest parking spots of mobile home park	2022-09-23, 11:40 AM to 11:55 AM	51.5	62.8
ST2	Eastern property line of proposed project boundary, adjacent to Sky Haven LN	2022-09-23, 12:20 PM to 12:35 PM	50.1	70.2
ST3	North of Emerald Hollow Drive, Entrance to mobile home park	2022-09-23, 12:50 PM to 01:05 PM	55.0	63.6

Source: Appendix A.

Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibels; ST = short-term noise measurement locations.

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SOURCE: SANGIS 2022

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4 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act Guidelines (14 CCR 15000 et seq.) and will be used to determine the significance of potential noise and vibration impacts. Impacts associated with noise and vibration would be significant if the proposed project would 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.
- Generation of excessive groundborne vibration or groundborne noise levels.
- Expose people residing or working in the project area to excessive noise levels (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).

In light of these above significance criteria, this analysis uses the following standards to evaluate potential noise and vibration impacts.

- **Construction noise** – the City’s noise ordinance states noise from construction equipment operation shall not exceed 75 dBA for an eight-hour period, between 7:00 a.m. and 7:00 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received. It shall be unlawful for any person to operate or cause to be operated, construction equipment on a Sunday or a holiday.
- **Off-site project-attributed transportation noise** – For purposes for this analysis, a direct roadway noise impact would be considered significant if increases in roadway traffic noise levels attributed to the proposed project were greater than 3 dBA CNEL at an existing noise-sensitive land use.
- **Off-site project-attributed stationary noise** – For purposes for this analysis, a noise impact would be considered significant if noise from typical operation of heating, ventilation, and air conditioning and other electro-mechanical systems associated with the proposed project exceeded the following:
 - 50 dBA hourly L_{eq} at the property line from 7:00 a.m. to 9:59 p.m., and 45 dBA hourly L_{eq} from 10:00 p.m. to 6:59 a.m.
- **Construction vibration** – Guidance from Caltrans indicates that a vibration velocity level of 0.2 ips PPV received at a structure would be considered annoying by occupants within (Caltrans 2013b). As for the receiving structure itself, aforementioned Caltrans guidance from Section 2 recommends that a vibration level of 0.3 ips PPV would represent the threshold for building damage risk.

For purposes of disclosure, since current CEQA noise criteria listed above do not consider it, this analysis also evaluates compatibility of on-site traffic noise exposure levels with the City of Vista exterior and interior noise standards of 65 dBA CNEL and 45 dBA CNEL, respectively.

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5 Impact Discussion

Potential noise and vibration impacts attributed to project construction and operation are studied in the following subsections that are categorized by the CEQA Guidelines Appendix G significance for noise.

- 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?*

Short-Term Construction

Construction noise and vibration are temporary phenomena, with emission levels varying from hour to hour and day to day, depending on the equipment in use, the operations performed, and the distance between the source and receptor. Equipment that would be in use during construction would include, in part, graders, backhoes, rubber-tired dozers, loaders, cranes, forklifts, pavers, rollers, and air compressors. The typical maximum noise levels at a distance of 50 feet from various pieces of construction equipment and activities anticipated for use on the proposed project site are presented in Table 6. Note that the equipment noise levels presented in Table 6 are maximum noise levels. Usually, construction equipment operates in alternating cycles of full power and low power, producing average noise levels over time that are less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 6 Typical Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (L_{\max} , dBA at 50 Feet)
All Other Equipment > 5 HP	85
Backhoe	78
Compressor (air)	78
Concrete Saw	90
Crane	81
Dozer	82
Excavator	81
Flat Bed Truck	74
Front End Loader	79
Generator	72
Grader	85
Man Lift	75
Paver	77
Roller	80
Scraper	84
Welder / Torch	73

Source: DOT 2006.

Note: L_{\max} = maximum sound level; dBA = A-weighted decibels.

Aggregate noise emission from proposed project construction activities, broken down by sequential phase, was predicted at two evaluation distances to the nearest existing noise-sensitive receptor: 1) from the nearest position of the construction site boundary and 2) from the geographic center of the construction site, which serves as the time-averaged location or *geographic acoustical centroid* of active construction equipment for the phase under study. The intent of the former distance is to help evaluate anticipated construction noise from a limited quantity of equipment or vehicle activity expected to be at the boundary for some period of time, which would be most appropriate for phases such as site preparation, grading, and paving. The latter distance is used in a manner similar to the general assessment technique as described in the FTA guidance for construction noise assessment, when the location of individual equipment for a given construction phase is uncertain over some extent of (or the entirety of) the construction site area. In this studied scenario, because of the equipment location uncertainty, all the equipment for a construction phase is assumed to operate—on average—from the acoustical centroid position. Table 7 summarizes these two distances to the apparent closest noise-sensitive receptor for each of the seven sequential construction phases. At the site boundary, this analysis assumes that up to only one piece of equipment (conservatively, the loudest) of each listed type per phase will be involved in the construction activity for up to half of the 8-hour period at this closest distance to the receptor. In other words, at such proximity, the operating equipment cannot “stack” or crowd the vicinity and still operate. For the acoustical centroid case, which intends to be a geographic average position for all equipment during the indicated phase, this analysis assumes that the equipment may be operating up to all 8 hours per day.

Table 7. Estimated Distances between Construction Activities and the Nearest Noise-sensitive Receptor

Construction Phase (and Equipment Types Involved)	Distance from Nearest Noise- Sensitive Receptor to Construction Site Boundary (Feet)	Distance from Nearest Noise- Sensitive Receptor to Acoustical Centroid of Site (Feet)
Demolition (concrete saw/industrial saw, dozer, excavator)	30	106
Site preparation (dozer, tractor, front end loader, backhoe)	15	106
Grading (excavator, grader, scraper, track dozer, tractor, front end loader, backhoe)	15	106
Utilities (excavator)	15	106
Streets (grader, paver)	15	106
Building construction (crane, forklift, generator, tractor, front end loader, backhoe, welder/torch)	15	106
Paving (paver, paving equipment, roller)	15	106
Architectural coating (air compressor)	15	106

A Microsoft Excel-based noise prediction model emulating and using reference data from the Federal Highway Administration Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate

construction noise levels at the nearest occupied noise-sensitive land use. (Although the RCNM was funded and promulgated by the Federal Highway Administration, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.) Input variables for the predictive modeling consist of the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of time within a specific time period, such as an hour, when the equipment is expected to operate at full power or capacity and thus make noise at a level comparable to what is presented in Table 6), and the distance from the noise-sensitive receiver. The predictive model also considers how many hours that equipment may be on site and operating (or idling) within an established work shift. Conservatively, no topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis, which is detailed in Appendix B, Construction Noise Modeling Input and Output, and produce the predicted results displayed in Table 8.

Table 8. Predicted Construction Noise Levels per Activity Phase

Construction Phase (and Equipment Types Involved*)	8-Hour L_{eq} at Nearest Noise-Sensitive Receptor to Construction Site Boundary (dBA)	8-Hour L_{eq} at Nearest Noise-Sensitive Receptor to Acoustical Centroid of Site (dBA)
Demolition (<i>concrete saw/industrial saw, dozer, excavator</i>)	85.6	77.8
Site preparation (<i>dozer, tractor, front end loader, backhoe</i>)	85.1	76.1
Grading (<i>excavator, grader, scraper, track dozer, tractor, front end loader, backhoe</i>)	89.9	76.0
Building construction (<i>crane, forklift, generator, tractor, front end loader, backhoe, welder/torch</i>)	83.9	71.8
Paving (<i>paver, paving equipment, roller</i>)	85.7	72.9
Architectural coating (<i>air compressor</i>)	79.7	63.8

Notes: L_{eq} = equivalent noise level; dBA = A-weighted decibels. *italicized equipment types are the loudest and used singularly to evaluate noise for the “nearest” assessment scenario.

As presented in Table 8, the estimated construction noise levels are predicted to be nearly as high as 90 dBA L_{eq} over an 8-hour period at the nearest occupied property (as close as 15 feet away) when grading activities take place near the western project boundaries. Note that these estimated noise levels at a source-to-receiver distance of 15 feet are conservatively high, in that they presume the noted pieces of heavy equipment would each operate, on average at this distance, for a cumulative period of four hours a day. The reality of construction progress on-site would likely be different. By way of example, a grader might make multiple passes on site that are this close to a receiving occupied property; but, for the remaining time during the day, the grader may be sufficiently farther away and either performing work at a more distant location or simply not operating.

Under the studied conditions, construction activity noise levels associated with site preparation and grading phases are expected to exceed an 8 hour L_{eq} value of 75 dBA L_{eq} and thereby exceed the City's adopted daytime threshold for construction noise exposure at an occupied property. Therefore, the following suggested practices would be incorporated into the project's construction program as a set of mitigation measures (MM) **NOI-1** as follows:

- Administrative controls (e.g., reduce operating time of equipment and/or prohibit usage of equipment type[s] within certain distances).
- Engineering controls (upgrade noise controls, such as install better engine exhaust mufflers).
- Install noise abatement on the site boundary fencing (or within, as practical and appropriate) in the form of sound blankets or comparable temporary barriers (e.g., stacked sheets of plywood supported with framing) to occlude construction noise emission between the site (or specific equipment operation as the situation may define) and offsite noise-sensitive receptor(s) of concern.
- At the outset of a project construction activity, an unattended noise level monitor might be deployed onsite to measure and document that noise exposure levels attributed to project construction activity at adjacent offsite sensitive receptors are in conformance with the 75 dBA 8 hour L_{eq} threshold.

As an example of the noise abatement option for NOI-1 listed above, Appendix B includes a worksheet that exhibits City-compliant noise levels (i.e., less than 75 dBA 8-hour L_{eq}) when an 8-foot tall temporary barrier is positioned to intervene the sound path between the equipment noise source and the receptor position.

Although nearby occupied properties such as residential to the west would be exposed to elevated construction noise levels, the increased noise levels would typically be relatively short term. It is anticipated that construction activities associated with the proposed project would take place only within the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday, in compliance with the City's noise ordinance.

In summary, construction noise during allowable daytime hours would have the potential to exceed the 75 dBA L_{eq} 8-hour threshold at the adjacent property lines on occasion. Thus, temporary construction-related noise impacts would be considered potentially significant without application of NOI-1 as part of the construction program. With proper implementation of MM **NOI-1**, anticipated construction noise impact status would remain **less than significant with mitigation**.

Long-Term Operational

Off-Site Traffic Noise Exposure

The proposed project would result in the creation of additional vehicle trips on local arterial roadways (i.e., Melrose Drive), which could result in increased traffic noise levels at adjacent noise-sensitive land uses. Appendix C, Traffic Noise Modeling Input and Output, contains a spreadsheet with traffic volume data (average daily traffic) for Melrose Drive. In particular, the proposed project would create additional traffic along Melrose Drive, which according to the Traffic Impact Assessment prepared for the proposed project (Linscott Law & Greenspan, 2022) would add 304 total average daily trips to adjacent to the project site.

According to Caltrans, a three-dBA change in sound is the beginning at which humans generally notice a barely perceptible change in sound, a five-dBA change is generally readily perceptible, and a 10-dBA increase is perceived by most people as a doubling of the existing noise level (Caltrans 2013a). Due to the

existing and proposed urban setting of the project area, a readily perceptible change in noise (five dBA) would be the appropriate threshold to determine significant increases in traffic noise.

Potential noise effects from vehicular traffic were assessed using the Federal Highway Administration's Traffic Noise Model version 2.5 (FHWA 2004). Information used in the model included the roadway geometry, existing (year 2022), and existing plus project traffic volumes and posted traffic speeds. Noise levels were modeled at representative noise-sensitive receivers ST1 through ST4, as shown in Figure 3. The receivers were modeled to be 5 feet above the local ground elevation. The noise model results are summarized in Table 9. Based on results of the model, implementation of the proposed project would not result in readily perceptible increases in traffic noise.

Table 9. Roadway Traffic Noise Modeling Results

Modeled Receiver No.	Existing (2022) Noise Level	Existing with Project Noise Level	Maximum Project-Related Noise Level Increase
	(dBA CNEL)	(dBA CNEL)	(dB)
ST1	53.8	49.6	0.0
ST2	56.8	55.6	0.0
ST3	62.8	62.8	0.0

Source: Appendix C.

Notes: dBA = A-weighted decibel; CNEL = community noise equivalent level; dB = decibel.

Table 9 shows that at all three listed representative receivers, the addition of proposed project traffic to the roadway network would result in an increase in the CNEL of less than 3 dB, which is below the discernible level of change for the average healthy human ear. In fact, noise levels at ST1 and ST2 are predicted to be lower due to the new buildings partially breaking line of site to Sunset Drive. Thus, a less-than-significant impact is expected for proposed project-related off-site traffic noise increases affecting existing residences in the vicinity.

On-site Traffic Interior Noise Exposure

Aside from exposure to aviation traffic noise, current CEQA noise-related guidelines at the state level do not require an assessment of exterior-to-interior noise intrusion, environmental noise exposure to occupants of newly-created project residences, or environmental noise exposure to exterior non-residential uses attributed to the development of the proposed project. Nevertheless, the City's General Plan and the California Building Code requires that interior background noise levels not exceed a CNEL of 45 dB within habitable rooms. Hence, the following predictive analysis of traffic noise exposure at the exteriors of occupied residences and outdoor living areas is provided below.

In addition to the prediction results presented in Table 9, the FHWA TNM software was also used to predict the existing-with-project scenario traffic noise levels at multiple on-site exterior areas, as listed in Table 10. These on-site modeled receptor locations, which appear in Appendix C, include representative positions for the exteriors of multiple floors and positions of five of the proposed project building facades. Predicted exterior sound levels presented in Table 11 that are higher than 65 dBA CNEL indicate locations where an exterior-to-interior noise analysis should be performed for the proximate occupied residential unit. Individual Modeling locations appear in Appendix D.

Table 10. Future Ambient Noise Levels at Residential Facades

Modeled Receptor	Noise Level (A-weighted CNEL)	
	1st Floor	2nd Floor
M1	61.2	61.8
M2	60.5	60.9
M3	61.4	61.7
M4	61.5	61.8
M5	56.6	56.9
OS-1	60.4	
OS-2	60.6	

The prediction results from Table 10 indicate that future traffic noise levels would not exceed 62 dBA CNEL. With the 45 dBA CNEL interior background sound level limit, this means the minimum composite sound transmission class (STC) rating for the exterior shell separating the habitable interior space from the outdoor sound level should be at least 17. The composite STC rating for the portion of a building shell that separates an interior space from the outdoors is calculated from the area-dependent contributions of its elements: windows, wall assemblies, and doors.

This study assumes an exterior wall assembly includes: one layer of 5/8" gypsum wallboard (GWB) on the interior-facing side, 2"x4" wood studs, glass fiber batt insulation in the stud cavities, and a dual-layer of 5/8" GWB on the exterior-facing side. Acoustical transmission loss (TL) data is available on this representative assembly (Halliwell 1998) and is used as part of estimating the composite STC ratings reported herein. For purposes of this analysis, the dual-layer GWB on the exterior surface approximates the mass and solidity of what may be other approved material options as determined by the Project architect, such as cement fiber siding panels, brick masonry veneer, or cement plaster attached to layers of fiberglass mat sheathing and plywood sheathing.

With respect to windows, dual-pane glazing systems are commonplace in the construction of modern homes and characterized by two 1/8"-thick glass panes separated by a 3/8" wide airgap. Viracon data indicates that such glazing should demonstrate, on its own and assuming no air leaks or gaps, an STC rating of 31 (Viracon 2019). Similarly, panels of sliding doors are typically constructed with a similar assembly so as to help maintain expected levels of thermal insulation; hence, these two would reasonably feature the same STC rating on their own (and when fully closed) as a sound-insulating element of a larger façade area to be evaluated for net STC performance.

Using the above wall and window component assumptions, Table 11 summarizes the calculated noise levels after applying the STC ratings for a set of sample occupied room facades that are anticipated to be exposed to predicted exterior noise levels greater than 60 dBA CNEL. Details of these calculations that account for the façade surface area and its composite areas of exterior wall assembly and windows appear in Appendix D.

Clearly, an open window greatly compromises the sound insulation performance of the façade wall assembly, as presented for the sample units appearing in Table 11. However, when such windows and doors are closed, all facades are anticipated to exhibit a predicted STC rating of at least 35, and thus would provide sufficient

exterior-to-interior sound insulation from outdoor traffic noise to yield interior background sound levels that are less than 45 dBA CNEL and thus compliant with the City and state standards. Recall that none of the predicted exterior traffic noise levels at the studied receptor locations exceeded 62 dBA CNEL; thus, the STC rating value (for closed windows and doors) subtracted from these exterior noise values must result in interior noise levels of less than 45 dBA CNEL (e.g., $62 - 35 = 35$ dBA CNEL, which is less than 45). This apparent requirement for closed windows and doors means that the design of these habitable rooms should feature mechanical ventilation or an air-conditioning system to provide interior comfort of the occupants. Detailed transmission loss data is included in Appendix D, Transmission Loss Predictions. Thus, the City's threshold of 45 dB CNEL within habitable rooms would not be exceeded and thus demonstrates expected project compliance with this standard.

Table 11. Predicted Net Sound Transmission Class of Occupied Room façade

Occupied Room Facade	Predicted Net Sound Transmission Class (STC) for Scenario	
	Closed Window(s) and Door *	Open Window(s) & Closed French Door*
1st floor living room w/ porch, eastern façade	35	6
2nd floor living room, eastern Façade	35	6

n/a = not applicable

* Doors are only modeled for scenarios that contain the balcony door.

Onsite Open Spaces

As analyzed herein, shared outdoor project spaces such as “OS-1” and “OS-2” are expected to experience noise levels that are compliant with the City's General Plan Noise Element guidance of 65 dBA CNEL for “parks” and “playgrounds”.

Stationary Noise Sources

The incorporation of new multi-family homes and a mix of open space uses attributed to development of the proposed project will add a variety of noise-producing electro-mechanical equipment that include those presented and discussed in the following paragraphs. Most of these noise-producing equipment or sound sources would be considered stationary, or limited in mobility to a defined area. Using a Microsoft Excel-based outdoor sound propagation prediction model, project-attributed operational noise at nearby community receptors was predicted using several assumptions:

- Treatment of exposed at-grade air-cooled condensing units as point-type sound emission sources; and,
- Point-source sound propagation (i.e., 6 dB per doubling of distance) that conservatively ignores acoustical absorption from atmospheric and ground surface effects.

Please see Appendix E for quantitative details of the inputs and outputs that form the basis of the following assessment presentations.

Residential Unit Heating, Ventilation, and Air Conditioning Noise

For purposes of this analysis, each of the new occupied residential units would be expected to feature a split-system type air-conditioning unit, with an air-cooled refrigeration (3-ton capacity) condenser unit. Assuming each condenser unit has an SPL of 68 dBA at 3 feet based on available data from a likely manufacturer (Carrier 2012), and the units would generally be installed at grade near the apparent “front porch” areas. Therefore, the closest existing noise-sensitive residential receptor to the west of the proposed project’s eastern unit would be as close as 30 horizontal feet to the nearest of these condenser units. The predicted sound emission level from the combination of all 38 operating condenser units as received by this offsite single-family home would be 45 dBA L_{eq} and thus be compliant with the City’s nighttime threshold of 45 dBA hourly L_{eq} . Under such conditions, the operation of residential air-conditioning units would result in a **less-than-significant noise impact**.

b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Construction activities may expose persons to excessive groundborne vibration, causing a potentially significant impact. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2013b). Information from Caltrans indicates that continuous vibrations with a PPV of approximately 0.2 ips is considered “annoying.” For context, heavier pieces of construction equipment, such as a bulldozer that may be expected on the project site, have peak particle velocities of approximately 0.089 ips or less at a reference distance of 25 feet (DOT 2006).

Groundborne vibration attenuates rapidly—even over short distances. And when groundborne vibration encounters a building foundation, a coupling loss occurs depending on its mass and design. For typical wood-framed houses, like those near the proposed project, this coupling loss is expected to be 5 vibration velocity decibels (VdB) according to FTA guidance (FTA 2006).

The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. By way of example, for a front-end loader operating onsite and as close as the eastern project boundary (that is 15 feet from the nearest receiving sensitive land use) the estimated groundborne vibration velocity level would be 0.15 ips as received by the residential structure, and would be compliant with the 0.3 ips PPV threshold per Caltrans guidance with respect to building damage risk.

Then, the foundation of this residential structure would, per the coupling loss, cause a reduction in the vibration as received by the building occupant. Hence, instead of the 92 VdB received at the interface of the structure foundation and the surrounding soil/strata, the occupant would experience 87 VdB (i.e., 5 VdB less) that equates to a PPV level of 0.089 ips that is less than the Caltrans guidance threshold for annoyance. Therefore, vibration-induced annoyance to occupants of nearby existing homes would be considered less than significant.

Once operational, the proposed project would not be expected to feature major producers of groundborne vibration. Anticipated mechanical systems like heating, ventilation, and air-conditioning units are designed and manufactured to feature rotating (fans, motors) and reciprocating (compressors) components that are well-balanced with isolated vibration within or external to the equipment casings. On this basis, vibration due to proposed project operation should be **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 two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

There are no private airstrips within the vicinity of the project site. The closest airport to the proposed project site is the McClellan-Palomar Airport, approximately 3.7 miles south of the site and would therefore not expose people residing or working in the project area to excessive noise levels. Impacts would be **less than significant**.

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6 Summary of Findings

This noise report was conducted for the proposed project. The results indicate that potential impacts during construction would **be less than significant with mitigation** via application of MM **NOI-1**. Noise impacts due to operation of the proposed project (including project-attributed changes in traffic noise exposures to offsite receptors) would be **less than significant**. No other noise and vibration mitigation measures are anticipated at this time.

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Appendix A

Baseline Noise Measurement Field Data

Field Noise Measurement Data

Record: 1507

Project Name	Sunset drive
Observer(s)	Connor Burke
Date	2022-09-23

Monitoring

Record #	1
Site ID	ST1
Site Location Lat/Long	33.184285, -117.279142
Begin (Time)	11:40:00
End (Time)	11:55:00
Leq	51.5
Lmax	62.8
Lmin	44.8
Other Lx?	L90, L50, L10
L90	45.9
L50	48.7
L10	54.1
Other Lx (Specify Metric)	L
Primary Noise Source	Traffic
Other Noise Sources (Background)	Birds, Distant Traffic, Rustling Leaves
Is the same instrument and calibrator being used as previously noted?	Yes
Are the meteorological conditions the same as previously noted?	Yes

Description / Photos

Site Photos

Photo



Monitoring

Record #	2
Site ID	ST2
Site Location Lat/Long	33.183357, -117.278919
Begin (Time)	12:20:00
End (Time)	12:35:00
Leq	50.1
Lmax	70.2
Lmin	44.2
Other Lx?	L90, L50, L10
L90	45.2
L50	47.5
L10	49.10
Other Lx (Specify Metric)	L
Primary Noise Source	Traffic
Other Noise Sources (Background)	Birds, Distant Traffic, Rustling Leaves
Is the same instrument and calibrator being used as previously noted?	Yes
Are the meteorological conditions the same as previously noted?	Yes

Description / Photos

Site Photos

Photo



Monitoring

Record #	3
Site ID	ST3
Site Location Lat/Long	33.186091, -117.279078
Begin (Time)	12:50:00
End (Time)	13:05:00
Leq	55
Lmax	63.6
Lmin	45.2
Other Lx?	L90, L50, L10
L90	46.3
L50	54.8
L10	59.30
Other Lx (Specify Metric)	L
Primary Noise Source	Traffic
Other Noise Sources (Background)	Birds
Other Noise Sources Additional Description	Traffic on emerald dominant.
Is the same instrument and calibrator being used as previously noted?	Yes
Are the meteorological conditions the same as previously noted?	Yes

Description / Photos

Site Photos

Photo



Monitoring	
Record #	4
Site Location Lat/Long	
Begin (Time)	08:44:00
Other Lx (Specify Metric)	L
Primary Noise Source	
Is the same instrument and calibrator being used as previously noted?	Yes
Are the meteorological conditions the same as previously noted?	Yes

Appendix B

Construction Noise Modeling Input and Output

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per San Diego County (36.409) = 75
allowable hours over which Leq is to be averaged (example: 8 per SD County 36.409) = 8

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to MRR Distance (ft)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 5-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. Horiz. Dist. (ft)	Source to Receiver Horiz. Dist. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Dist. "C" (ft)	Barrier (dB)	Lbarr (dB)	Notes
Demolition	Concrete Saw	1	20	96		30	12.0		82.4	4	240	72	5	5	8	20	10	30	20.2	10.4	30.0	0.66	11.2	12.0
	Generator	1	40	81		30	12.0		73.4	4	240	66	5	5	8	20	10	30	20.2	10.4	30.0	0.66	11.2	12.0
	Dozer	1	40	82		30	12.0		74.4	4	240	67	5	5	8	20	10	30	20.2	10.4	30.0	0.66	11.2	12.0
Total for Demolition Phase:													74.4											
Site Preparation	Backhoe	1	40	78		15	15.8		72.7	4	240	66	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
	Dozer	1	40	82		15	15.8		76	4	240	70	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
Total for Site Preparation Phase:													71.1											
Grading	excavator	1	40	81		15	16.7		74.7	4	240	68	4	5	8	5	10	15	6.4	10.4	15.0	1.81	15.0	16.7
	grader	1	40	88		15	16.7		78.7	4	240	72	4	5	8	5	10	15	6.4	10.4	15.0	1.81	15.0	16.7
	Dozer	1	40	82		15	16.7		75.7	4	240	69	4	5	8	5	10	15	6.4	10.4	15.0	1.81	15.0	16.7
Building Construction	Backhoe	1	40	78		15	15.8		71.7	4	240	65	4	5	8	5	10	15	6.4	10.4	15.0	1.81	15.0	16.7
	crane	1	16	81		15	15.8		75.7	4	240	65	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
	Man lift	1	20	79		15	15.8		69	4	240	60	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
Paving	Generator	1	50	72		15	15.8		66.7	4	240	61	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
	Backhoe	1	40	78		15	15.8		72.7	4	240	66	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
	Welder / Torch	1	40	73		15	15.8		67.7	4	240	61	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
Total for Building Construction Phase:													78.9											
Architectural Coating	Concrete Mixer Truck	1	40	78		15	15.8		73.7	4	240	67	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
	Paver	1	50	77		15	15.8		71.7	4	240	66	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
	Roller	1	20	86		15	15.8		74.7	4	240	65	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
Architectural Coating	Backhoe	1	40	78		15	15.8		72.7	4	240	66	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
	Compressor (Air)	1	40	78		15	15.8		72.7	4	240	66	5	5	8	5	10	15	5.8	10.4	15.0	1.27	14.0	15.8
Total for Architectural Coating Phase:													65.7											

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per San Diego County (36.409) = 76
allowable hours over which Leq is to be averaged (example: 8 per SD County 36.409) = 8

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to MRR Distance (ft)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barrier Horiz. Dist. (ft)	Barrier to Receiver Horiz. Dist. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Dist. "A" (ft)	Abarr (dB)	Lbarr (dB)	Notes
Demolition	Concrete Saw	1	20	96		30	0.8		93.6	4	240	84	5	5	0	20	10	30	20.6	11.2	30.0	0.00	0.1	0.8
	Generator	1	40	81		30	0.8		84.6	4	240	78	5	5	0	20	10	30	20.6	11.2	30.0	0.00	0.1	0.8
	Dozer	1	40	82		30	0.8		85.6	4	240	79	5	5	0	20	10	30	20.6	11.2	30.0	0.00	0.1	0.8
Total for Demolition Phase:													85.6											
Site Preparation	Backhoe	1	40	78		15	1.8		80.7	4	240	80	5	5	0	5	10	15	7.1	11.2	15.0	0.00	0.1	1.8
	Dozer	1	40	82		15	1.8		80.7	4	240	84	5	5	0	5	10	15	7.1	11.2	15.0	0.00	0.1	1.8
Total for Site Preparation Phase:													85.4											
Grading	excavator	1	40	81		15	1.8		80.7	4	240	83	4	5	0	5	10	15	6.4	11.2	15.0	0.00	0.1	1.8
	grader	1	40	88		15	1.8		80.7	4	240	87	4	5	0	5	10	15	6.4	11.2	15.0	0.00	0.1	1.8
	Dozer	1	40	82		15	1.8		80.7	4	240	84	4	5	0	5	10	15	6.4	11.2	15.0	0.00	0.1	1.8
Building Construction	Backhoe	1	40	78		15	1.8		86.7	4	240	80	4	5	0	5	10	15	6.4	11.2	15.0	0.00	0.1	1.8
	Welder / Torch	1	40	73		15	1.8		81.7	4	240	75	5	5	0	5	10	15	7.1	11.2	15.0	0.00	0.1	1.8
	Crane	1	16	81		15	1.8		80.7	4	240	79	5	5	0	5	10	15	7.1	11.2	15.0	0.00	0.1	1.8
Total for Building Construction Phase:													83.1											
Paving	Concrete Mixer Truck	1	40	78		15	1.8		87.7	4	240	81	5	5	0	5	10	15	7.1	11.2	15.0	0.00	0.1	1.8
	Paver	1	50	77		15	1.8		85.7	4	240	80	5	5	0	5	10	15	7.1	11.2	15.0	0.00	0.1	1.8
	Roller	1	20	88		15	1.8		88.7	4	240	79	5	5	0	5	10	15	7.1	11.2	15.0	0.00	0.1	1.8
Architectural Coating	Backhoe	1	40	78		15	1.8		86.7	4	240	80	5	5	0	5	10	15	7.1	11.2	15.0	0.00	0.1	1.8
	Compressor (Air)	1	40	78		15	1.8		86.7	4	240	80	5	5	0	5	10	15	7.1	11.2	15.0	0.00	0.1	1.8
Total for Architectural Coating Phase:													79.7											

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at occupied building, per San Diego County (36.409)

75

70

65

allowable hours over which Leq is to be averaged (example: 8 per SD County 36.409)

Construction Activity	Equipment	Total Equipment Qty	Altitude (ft) from FFWL (RCNM)	Reference Lmax @ 50 ft from FFWL (RCNM)	Client Equipment Description, Data Source and/or Notes	Source to MRR Distance (ft)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barrier Horiz. Dist. (ft)	Barrier to Receiver Horiz. Dist. (ft)	Source to Receiver Horiz. Dist. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Dist. "C" (ft)	Absorb (dB)	IL Barr (dB)	Notes
Demolition	Concrete Saw	1	20	90		106	0.0		81.0	8	480	74	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Excavator	3	40	81		106	0.0		72.0	8	480	73	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Dzer	2	40	82		106	0.0		73.0	8	480	72	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
Total for Demolition Phase:													77.7												
Site Preparation	Backhoe	3	40	78		106	0.0		69.0	8	480	70	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Dzer	4	40	85		106	0.0		73.0	8	480	75	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
Total for Site Preparation Phase:													74.2												
Grading	excavator	1	40	81		106	0.0		72.0	8	480	68	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	grader	1	40	88		106	0.0		76.0	8	480	72	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Dzer	1	40	85		106	0.0		73.0	8	480	69	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	backhoe	3	40	78		106	0.0		69.0	8	480	70	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
Total for Grading Phase:													74.4												
Building Construction	crane	1	16	81		106	0.0		72.0	7	420	64	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Man lift	3	20	79		106	0.0		68.0	8	480	64	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Generator	1	50	72		106	0.0		63.0	8	480	60	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	backhoe	3	40	78		106	0.0		69.0	7	420	69	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Welder / Torch	1	40	73		106	0.0		64.0	8	480	60	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
Total for Building Construction Phase:													71.8												
Paving	Concrete Mixer Truck	2	40	78		106	0.0		70.0	8	480	68	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Paver	1	50	77		106	0.0		68.0	8	480	65	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Roller	2	20	80		106	0.0		71.0	8	480	67	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
	Backhoe	1	40	78		106	0.0		69.0	8	480	65	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
Total for Paving Phase:													72.9												
Architectural Coating	Compressor (Air)	1	40	78		106	0.0		69.0	6	360	64	5	5	0	5	101	106	7.1	101.1	106.0	0.00	0.1	0.0	
Total for Architectural Coating Phase:													63.8												

Equipment Description	Impact Device?	Acoustical Use Factor (F _u)	Lesser of or available L _{max}	Spec. T20 L _{max}	Measured L _{max} (E50H) (dBA, slow)
All Other Equipment > 5 HP	No	50	85	85	N/A --
Auger Drill Rig	No	20	84	85	84
Backhoe	No	40	78	80	78
Bar Bender	No	20	80	80	-- N/A --
Bleeding	Yes	-- N/A --	84	84	-- N/A --
Boring Jack Packer Unit	No	20	80	80	83
Chain Saw	No	20	84	85	84
Clam Shovel (dropping)	Yes	20	87	93	87
Compactor (ground)	No	20	80	80	83
Compressor (air)	No	40	78	80	78
Concrete Batch Plant	No	15	83	83	-- N/A --
Concrete Mixer Truck	No	40	79	85	79
Concrete Pump Truck	No	20	81	82	81
Concrete Saw	No	20	80	80	80
Crane	No	15	81	85	81
Dozer	No	40	82	85	82
Drill Rig Truck	No	20	79	84	79
Drum Mixer	No	20	80	80	80
Dump Truck	No	40	76	84	76
Excavator	No	40	81	85	81
Flat Bed Truck	No	40	74	84	74
Front End Loader	No	40	78	80	78
Generator	No	50	72	72	81
Generator (<25KVA, VMS signs)	No	50	70	70	73
Grapple	No	40	83	85	83
Grapple (on backhoe)	No	40	85	85	-- N/A --
Horizontal Boring Hydr. Jack	No	25	80	80	82
Hydra Break Ram	Yes	10	90	90	-- N/A --
Impact Pile Driver	Yes	20	96	96	101
Jackhammer	Yes	20	85	85	89
Man Lift	No	20	75	85	75
Mounted Impact Hammer (free ram)	Yes	20	90	90	90
Pavement Scarifier	No	20	85	85	90
Pave	No	20	77	85	77
Pickup Truck	No	40	55	55	75
Pneumatic Tools	No	50	85	85	85
Pumps	No	50	77	77	81
Refrigerator Unit	No	100	73	82	73
Root Buster/chipping gun	Yes	20	79	85	79
Rock Drill	No	20	81	85	81
Roller	No	20	80	85	80
Sand Blasting (Gangle Nozzle)	No	20	85	85	96
Scraper	No	40	84	85	84
Shears (on backhoe)	No	40	85	85	96
Skid Plant	No	100	78	78	78
Skid Trenching Machine	No	20	80	82	80
Soil Mix Drill Rig	No	50	80	80	-- N/A --
Tractor	No	40	84	84	-- N/A --
Vacuum Excavator (Vac-truck)	No	40	85	85	85
Vacuum Street Sweeper	No	10	86	86	82
Ventilation Fan	No	100	75	85	75
Vibrating Hopper	No	50	85	85	87
Vibratory Concrete Mixer	No	20	80	80	80
Vibratory Pile Driver	No	20	96	96	101
Warning Horn	No	5	83	85	83
Welder / Torch	No	40	73	73	74

Appendix C

Traffic Noise Modeling Input and Output

INPUT: ROADWAYS

<Project Name?>

<Organization?>											
<Analysis By?>											

28 October 2022

TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT:

<Project Name?>

RUN:

<Run Title?>

 Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates	(pavement)		Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Sky Haven Lane	30.0	point17	17	6,247,023.0	2,011,972.8	0.00				Average	
		point18	18	6,246,977.5	2,011,921.1	0.00				Average	
		point19	19	6,246,881.0	2,011,824.1	0.00				Average	
		point20	20	6,246,757.0	2,011,697.8	0.00				Average	
		point21	21	6,246,670.5	2,011,609.9	0.00				Average	
		point22	22	6,246,571.0	2,011,503.2	0.00				Average	
		point23	23	6,246,509.0	2,011,415.4	0.00				Average	
		point24	24	6,246,489.5	2,011,350.5	0.00				Average	
		point25	25	6,246,486.0	2,011,225.0	0.00					
Hacienda Drive	45.0	point26	26	6,247,621.5	2,013,268.4	0.00				Average	
		point27	27	6,247,446.0	2,013,253.1	0.00				Average	
		point28	28	6,247,280.5	2,013,258.6	0.00				Average	
		point29	29	6,247,133.5	2,013,251.2	0.00				Average	
		point30	30	6,246,982.0	2,013,193.2	0.00				Average	
		point31	31	6,246,809.5	2,013,120.9	0.00				Average	
		point32	32	6,246,702.5	2,013,079.0	0.00				Average	
		point33	33	6,246,574.0	2,013,092.4	0.00				Average	
		point34	34	6,246,434.5	2,013,137.8	0.00				Average	
		point35	35	6,246,349.5	2,013,147.8	0.00				Average	
		point36	36	6,246,197.0	2,013,103.4	0.00				Average	
		point37	37	6,245,976.5	2,012,999.2	0.00				Average	
		point38	38	6,245,761.5	2,012,896.8	0.00					
Emerald Dr-Emerald Dr-2	40.0	point1	1	6,247,609.0	2,012,126.4	0.00				Average	
		point2	2	6,247,510.5	2,012,056.5	0.00				Average	
		point3	3	6,247,348.0	2,011,943.4	0.00				Average	

INPUT: ROADWAYS
<Project Name?>

		point4	4	6,247,272.5	2,011,909.2	0.00				Average	
		point5	5	6,247,225.0	2,011,897.5	0.00				Average	
		point6	6	6,247,157.5	2,011,913.9	0.00				Average	
		point7	7	6,247,095.5	2,011,943.8	0.00				Average	
		point8	8	6,246,996.5	2,012,044.8	0.00				Average	
		point9	9	6,246,877.5	2,012,183.2	0.00				Average	
		point10	10	6,246,808.0	2,012,269.6	0.00					
Emerald Dr-Emerald Dr-2-2	40.0	point40	40	6,246,808.0	2,012,269.6	0.00				Average	
		point11	11	6,246,754.5	2,012,363.4	0.00				Average	
		point39	39	6,246,711.5	2,012,459.8	0.00				Average	
		point13	13	6,246,682.5	2,012,600.0	0.00				Average	
		point14	14	6,246,681.0	2,012,738.8	0.00				Average	
		point15	15	6,246,685.0	2,012,909.4	0.00				Average	
		point16	16	6,246,684.5	2,013,030.1	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

<Project Name?>

<Organization?>													
<Analysis By?>													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	<Project Name?>												
RUN:	<Run Title?>												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Sky Haven Lane	point17	17	162	25	3	25	1	25	0	0	0	0	
	point18	18	162	25	3	25	1	25	0	0	0	0	
	point19	19	162	25	3	25	1	25	0	0	0	0	
	point20	20	162	25	3	25	1	25	0	0	0	0	
	point21	21	162	25	3	25	1	25	0	0	0	0	
	point22	22	162	25	3	25	1	25	0	0	0	0	
	point23	23	162	25	3	25	1	25	0	0	0	0	
	point24	24	162	25	3	25	1	25	0	0	0	0	
	point25	25											
Hacienda Drive	point26	26	1504	40	31	40	15	40	0	0	0	0	
	point27	27	1504	40	31	40	15	40	0	0	0	0	
	point28	28	1504	40	31	40	15	40	0	0	0	0	
	point29	29	1504	40	31	40	15	40	0	0	0	0	
	point30	30	1504	40	31	40	15	40	0	0	0	0	
	point31	31	1504	40	31	40	15	40	0	0	0	0	
	point32	32	1504	40	31	40	15	40	0	0	0	0	
	point33	33	1504	40	31	40	15	40	0	0	0	0	
	point34	34	1504	40	31	40	15	40	0	0	0	0	
	point35	35	1504	40	31	40	15	40	0	0	0	0	
	point36	36	1504	40	31	40	15	40	0	0	0	0	
	point37	37	1504	40	31	40	15	40	0	0	0	0	
	point38	38											
Emerald Dr-Emerald Dr-2	point1	1	950	35	19	35	9	35	0	0	0	0	

INPUT: TRAFFIC FOR LAeq1h Volumes
<Project Name?>

	point2	2	950	35	19	35	9	35	0	0	0	0
	point3	3	950	35	19	35	9	35	0	0	0	0
	point4	4	950	35	19	35	9	35	0	0	0	0
	point5	5	950	35	19	35	9	35	0	0	0	0
	point6	6	950	35	19	35	9	35	0	0	0	0
	point7	7	950	35	19	35	9	35	0	0	0	0
	point8	8	950	35	19	35	9	35	0	0	0	0
	point9	9	950	35	19	35	9	35	0	0	0	0
	point10	10										
Emerald Dr-Emerald Dr-2-2	point40	40	995	35	20	35	10	35	0	0	0	0
	point11	11	995	35	20	35	10	35	0	0	0	0
	point39	39	995	35	20	35	10	35	0	0	0	0
	point13	13	995	35	20	35	10	35	0	0	0	0
	point14	14	995	35	20	35	10	35	0	0	0	0
	point15	15	995	35	20	35	10	35	0	0	0	0
	point16	16										

INPUT: RECEIVERS

<Project Name?>

<Organization?>							28 October 2022				
<Analysis By?>							TNM 2.5				
INPUT: RECEIVERS											
PROJECT/CONTRACT:	<Project Name?>										
RUN:	<Run Title?>										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	L _{Aeq1h}	L _{Aeq1h}	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	6,246,610.5	2,012,132.2	0.00	4.92	51.50	66	10.0	8.0	Y
ST2	2	1	6,246,859.5	2,011,870.9	0.00	4.92	50.10	66	10.0	8.0	Y
ST3	3	1	6,246,764.5	2,012,559.4	0.00	4.92	55.00	66	10.0	8.0	Y

<Project Name?>

28 October 2022

INPUT: ROADWAYS

<Project Name?>

<Organization?>											
<Analysis By?>											

28 October 2022

TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT:

<Project Name?>

RUN:

<Run Title?>

 Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates	(pavement)		Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Sky Haven Lane	30.0	point17	17	6,247,023.0	2,011,972.8	0.00				Average	
		point18	18	6,246,977.5	2,011,921.1	0.00				Average	
		point19	19	6,246,881.0	2,011,824.1	0.00				Average	
		point20	20	6,246,757.0	2,011,697.8	0.00				Average	
		point21	21	6,246,670.5	2,011,609.9	0.00				Average	
		point22	22	6,246,571.0	2,011,503.2	0.00				Average	
		point23	23	6,246,509.0	2,011,415.4	0.00				Average	
		point24	24	6,246,489.5	2,011,350.5	0.00				Average	
		point25	25	6,246,486.0	2,011,225.0	0.00					
Hacienda Drive	45.0	point26	26	6,247,621.5	2,013,268.4	0.00				Average	
		point27	27	6,247,446.0	2,013,253.1	0.00				Average	
		point28	28	6,247,280.5	2,013,258.6	0.00				Average	
		point29	29	6,247,133.5	2,013,251.2	0.00				Average	
		point30	30	6,246,982.0	2,013,193.2	0.00				Average	
		point31	31	6,246,809.5	2,013,120.9	0.00				Average	
		point32	32	6,246,702.5	2,013,079.0	0.00				Average	
		point33	33	6,246,574.0	2,013,092.4	0.00				Average	
		point34	34	6,246,434.5	2,013,137.8	0.00				Average	
		point35	35	6,246,349.5	2,013,147.8	0.00				Average	
		point36	36	6,246,197.0	2,013,103.4	0.00				Average	
		point37	37	6,245,976.5	2,012,999.2	0.00				Average	
		point38	38	6,245,761.5	2,012,896.8	0.00					
Emerald Dr-Emerald Dr-2	40.0	point1	1	6,247,609.0	2,012,126.4	0.00				Average	
		point2	2	6,247,510.5	2,012,056.5	0.00				Average	
		point3	3	6,247,348.0	2,011,943.4	0.00				Average	

INPUT: ROADWAYS

<Project Name?>

		point4	4	6,247,272.5	2,011,909.2	0.00				Average	
		point5	5	6,247,225.0	2,011,897.5	0.00				Average	
		point6	6	6,247,157.5	2,011,913.9	0.00				Average	
		point7	7	6,247,095.5	2,011,943.8	0.00				Average	
		point8	8	6,246,996.5	2,012,044.8	0.00				Average	
		point9	9	6,246,877.5	2,012,183.2	0.00				Average	
		point10	10	6,246,808.0	2,012,269.6	0.00					
Emerald Dr-Emerald Dr-2-2	40.0	point40	40	6,246,808.0	2,012,269.6	0.00				Average	
		point11	11	6,246,754.5	2,012,363.4	0.00				Average	
		point39	39	6,246,711.5	2,012,459.8	0.00				Average	
		point13	13	6,246,682.5	2,012,600.0	0.00				Average	
		point14	14	6,246,681.0	2,012,738.8	0.00				Average	
		point15	15	6,246,685.0	2,012,909.4	0.00				Average	
		point16	16	6,246,684.5	2,013,030.1	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

<Project Name?>

<Organization?>													
<Analysis By?>													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	<Project Name?>												
RUN:	<Run Title?>												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Sky Haven Lane	point17	17	165	25	3	25	1	25	0	0	0	0	
	point18	18	165	25	3	25	1	25	0	0	0	0	
	point19	19	165	25	3	25	1	25	0	0	0	0	
	point20	20	165	25	3	25	1	25	0	0	0	0	
	point21	21	165	25	3	25	1	25	0	0	0	0	
	point22	22	165	25	3	25	1	25	0	0	0	0	
	point23	23	165	25	3	25	1	25	0	0	0	0	
	point24	24	165	25	3	25	1	25	0	0	0	0	
	point25	25											
Hacienda Drive	point26	26	1505	40	31	40	15	40	0	0	0	0	
	point27	27	1505	40	31	40	15	40	0	0	0	0	
	point28	28	1505	40	31	40	15	40	0	0	0	0	
	point29	29	1505	40	31	40	15	40	0	0	0	0	
	point30	30	1505	40	31	40	15	40	0	0	0	0	
	point31	31	1505	40	31	40	15	40	0	0	0	0	
	point32	32	1505	40	31	40	15	40	0	0	0	0	
	point33	33	1505	40	31	40	15	40	0	0	0	0	
	point34	34	1505	40	31	40	15	40	0	0	0	0	
	point35	35	1505	40	31	40	15	40	0	0	0	0	
	point36	36	1505	40	31	40	15	40	0	0	0	0	
	point37	37	1505	40	31	40	15	40	0	0	0	0	
	point38	38											
Emerald Dr-Emerald Dr-2	point1	1	963	35	19	35	9	35	0	0	0	0	

INPUT: TRAFFIC FOR LAeq1h Volumes
<Project Name?>

	point2	2	963	35	19	35	9	35	0	0	0	0
	point3	3	963	35	19	35	9	35	0	0	0	0
	point4	4	963	35	19	35	9	35	0	0	0	0
	point5	5	963	35	19	35	9	35	0	0	0	0
	point6	6	963	35	19	35	9	35	0	0	0	0
	point7	7	963	35	19	35	9	35	0	0	0	0
	point8	8	963	35	19	35	9	35	0	0	0	0
	point9	9	963	35	19	35	9	35	0	0	0	0
	point10	10										
Emerald Dr-Emerald Dr-2-2	point40	40	1017	35	20	35	10	35	0	0	0	0
	point11	11	1017	35	20	35	10	35	0	0	0	0
	point39	39	1017	35	20	35	10	35	0	0	0	0
	point13	13	1017	35	20	35	10	35	0	0	0	0
	point14	14	1017	35	20	35	10	35	0	0	0	0
	point15	15	1017	35	20	35	10	35	0	0	0	0
	point16	16										

INPUT: RECEIVERS

<Project Name?>

<Organization?>							28 October 2022				
<Analysis By?>							TNM 2.5				
INPUT: RECEIVERS											
PROJECT/CONTRACT:	<Project Name?>										
RUN:	<Run Title?>										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	L _{Aeq} 1h	L _{Aeq} 1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	6,246,610.5	2,012,132.2	0.00	4.92	51.50	66	10.0	8.0	Y
ST2	2	1	6,246,859.5	2,011,870.9	0.00	4.92	50.10	66	10.0	8.0	Y
ST3	3	1	6,246,764.5	2,012,559.4	0.00	4.92	55.00	66	10.0	8.0	Y
M1-1	5	1	6,246,607.0	2,012,502.8	0.00	4.92	0.00	66	10.0	8.0	Y
M1-2	6	1	6,246,607.0	2,012,502.8	0.00	14.92	0.00	66	10.0	8.0	Y
M2-1	7	1	6,246,635.5	2,012,372.1	0.00	4.92	0.00	66	10.0	8.0	Y
M2-2	8	1	6,246,635.5	2,012,372.1	0.00	14.92	0.00	66	10.0	8.0	Y
M3-1	9	1	6,246,804.5	2,012,135.0	0.00	4.92	0.00	66	10.0	8.0	Y
M3-2	10	1	6,246,804.5	2,012,135.0	0.00	14.92	0.00	66	10.0	8.0	Y
M4-1	11	1	6,246,921.5	2,012,000.4	0.00	4.92	0.00	66	10.0	8.0	Y
M4-2	12	1	6,246,921.5	2,012,000.4	0.00	14.92	0.00	66	10.0	8.0	Y
M5-1	13	1	6,246,891.5	2,011,941.8	0.00	4.92	0.00	66	10.0	8.0	Y
M5-2	14	1	6,246,891.5	2,011,941.8	0.00	14.92	0.00	66	10.0	8.0	Y
OS-1	16	1	6,246,580.0	2,012,553.2	0.00	4.92	0.00	66	10.0	8.0	Y
OS-2	18	1	6,246,626.0	2,012,397.8	0.00	4.92	0.00	66	10.0	8.0	Y

INPUT: BARRIERS

<Project Name?>

<Organization?>		28 October 2022																		
<Analysis By?>		TNM 2.5																		
INPUT: BARRIERS																				
PROJECT/CONTRACT:		<Project Name?>																		
RUN:		<Run Title?>																		
Barrier		Points																		
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment					
		Min	Max	\$ per	\$ per	Top	Run:Rise	\$ per			X	Y	Z	at	Seg Ht	Perturbs	On	Important		
				Unit	Unit	Width		Unit						Point	Incre-	#Up	#Dn	Struct?	Reflec-	
				Area	Vol.			Length							ment				tions?	
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft					
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	6,246,590.0	2,012,453.8	0.00	20.00	0.00	0	0			
									point2	2	6,246,539.5	2,012,502.1	0.00	20.00	0.00	0	0			
									point3	3	6,246,570.0	2,012,533.2	0.00	20.00	0.00	0	0			
									point4	4	6,246,622.0	2,012,484.4	0.00	20.00	0.00	0	0			
									point5	5	6,246,590.0	2,012,453.8	0.00	20.00						
Barrier2	W	0.00	99.99	0.00				0.00	point6	6	6,246,604.0	2,012,399.9	0.00	20.00	0.00	0	0			
									point7	7	6,246,574.0	2,012,367.1	0.00	20.00	0.00	0	0			
									point8	8	6,246,622.0	2,012,317.8	0.00	20.00	0.00	0	0			
									point9	9	6,246,655.0	2,012,351.9	0.00	20.00	0.00	0	0			
									point10	10	6,246,604.0	2,012,399.9	0.00	20.00						
Barrier3	W	0.00	99.99	0.00				0.00	point11	11	6,246,569.0	2,012,182.9	0.00	20.00	0.00	0	0			
									point12	12	6,246,601.0	2,012,149.1	0.00	20.00	0.00	0	0			
									point13	13	6,246,650.0	2,012,196.8	0.00	20.00	0.00	0	0			
									point14	14	6,246,617.5	2,012,230.5	0.00	20.00	0.00	0	0			
									point15	15	6,246,569.0	2,012,182.9	0.00	20.00						
Barrier4	W	0.00	99.99	0.00				0.00	point16	16	6,246,700.5	2,012,065.0	0.00	20.00	0.00	0	0			
									point17	17	6,246,732.0	2,012,036.9	0.00	20.00	0.00	0	0			
									point18	18	6,246,816.5	2,012,118.2	0.00	20.00	0.00	0	0			
									point19	19	6,246,784.5	2,012,151.6	0.00	20.00	0.00	0	0			
									point20	20	6,246,700.5	2,012,065.0	0.00	20.00						
Barrier5	W	0.00	99.99	0.00				0.00	point21	21	6,246,761.5	2,012,016.9	0.00	20.00	0.00	0	0			
									point22	22	6,246,793.5	2,011,986.2	0.00	20.00	0.00	0	0			
									point23	23	6,246,855.5	2,012,049.6	0.00	20.00	0.00	0	0			
									point24	24	6,246,822.5	2,012,079.6	0.00	20.00	0.00	0	0			
									point25	25	6,246,761.5	2,012,016.9	0.00	20.00						
Barrier6	W	0.00	99.99	0.00				0.00	point26	26	6,246,816.0	2,011,933.0	0.00	20.00	0.00	0	0			
									point27	27	6,246,849.0	2,011,902.5	0.00	20.00	0.00	0	0			
									point28	28	6,246,933.5	2,011,986.2	0.00	20.00	0.00	0	0			
									point29	29	6,246,899.5	2,012,016.9	0.00	20.00	0.00	0	0			
									point30	30	6,246,816.0	2,011,933.0	0.00	20.00						

RESULTS: SOUND LEVELS

<Project Name?>

<Organization?>								28 October 2022					
<Analysis By?>								TNM 2.5					
								Calculated with TNM 2.5					
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:		<Project Name?>											
RUN:		<Run Title?>											
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:		68 deg F, 50% RH											
Receiver													
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over Calculated	existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
ST1	1	1	51.5	49.6	66	-1.9	10	----	49.6	0.0	8	-8.0	
ST2	2	1	50.1	55.6	66	5.5	10	----	55.6	0.0	8	-8.0	
ST3	3	1	55.0	62.8	66	7.8	10	----	62.8	0.0	8	-8.0	
M1-1	5	1	0.0	61.2	66	61.2	10	----	61.2	0.0	8	-8.0	
M1-2	6	1	0.0	61.8	66	61.8	10	----	61.8	0.0	8	-8.0	
M2-1	7	1	0.0	60.5	66	60.5	10	----	60.5	0.0	8	-8.0	
M2-2	8	1	0.0	60.9	66	60.9	10	----	60.9	0.0	8	-8.0	
M3-1	9	1	0.0	61.4	66	61.4	10	----	61.4	0.0	8	-8.0	
M3-2	10	1	0.0	61.7	66	61.7	10	----	61.7	0.0	8	-8.0	
M4-1	11	1	0.0	61.5	66	61.5	10	----	61.5	0.0	8	-8.0	
M4-2	12	1	0.0	61.8	66	61.8	10	----	61.8	0.0	8	-8.0	
M5-1	13	1	0.0	56.6	66	56.6	10	----	56.6	0.0	8	-8.0	
M5-2	14	1	0.0	56.9	66	56.9	10	----	56.9	0.0	8	-8.0	
OS-1	16	1	0.0	60.4	66	60.4	10	----	60.4	0.0	8	-8.0	
OS-2	18	1	0.0	60.6	66	60.6	10	----	60.6	0.0	8	-8.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		15	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		0	0.0	0.0	0.0								

Appendix D

Transmission Loss Prediction

Interior Space Studied:		Exterior-to-Interior Scenario:		Calculation per Owens Corning NCDG (pg. 16):							
Living Room		Closed Window(s) and Door(s)		61.2 = exterior noise level (dBA CNEL)							
Room dimensions:		Room absorption conditions:		35 = approximate net STC of assembly							
length width		(hard, standard, soft, very soft?)		3 = incidence adj. ("G+3") per OC NCDG Table 3							
15 10		0.8		4 = source adj. ("F") per OC NCDG Table 4							
				-1 = absorption adj. per OC NCDG Table 5							
				32.0 = interior noise level (dBA CNEL)							
Calculation of net STC:											
		qty	width	height	square feet	description					
material or element #1					33	exterior wall assembly					
material or element #2		1	3	5	15	vinyl window (dual pane)					
material or element #3		2	3	7	42	entry door glazing (dual pane)					
material or element #4					0	opening					
total surface			10	9	90	arbitrary total surface area					
Octave Band Center Frequency (OBCF, Hz)											
TL Data Source				125	250	500	1000	2000	4000		
NRC-CNRC IC-IR-761 (p. 25: G16_WS90(406)_MF890_2G16)		exterior wall assembly		16	40	41	48	43	52		
2 x 5/8" GWB, 2"x4" wood, 24" o.c., fiber batt fill, 1 x 5/8" GWB		material #1 τ		0.02512	0.0001	7.9E-05	1.6E-05	5E-05	6.3E-06		
available TL data for comparable assembly:		vinyl window (dual pane)		23	23	27	35	47	36		
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass		material #2 τ		0.00501	0.00501	0.002	0.00032	2E-05	0.00025		
available TL data for comparable assembly:		entry door glazing (dual pane)		23	23	27	35	47	36		
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass		material #3 τ		0.00501	0.00501	0.002	0.00032	2E-05	0.00025		
		opening		0	0	0	0	0	0		
		material #4 τ		1	1	1	1	1	1		
enter desired STC value		35		composite TL		19	25	29	37	45	38
sum of negative differentials		-11		prospective STC curve		19	28	35	38	39	39
				differentials		0	-3	-6	-1	6	-1
Interior Space Studied:		Exterior-to-Interior Scenario:		Calculation per Owens Corning NCDG (pg. 16):							
Living Room		Open Window		61.2 = exterior noise level (dBA CNEL)							
Room dimensions:		Room absorption conditions:		14 = approximate net STC of assembly							
length width		(hard, standard, soft, very soft?)		3 = incidence adj. ("G+3") per OC NCDG Table 3							
15 10		0.8		4 = source adj. ("F") per OC NCDG Table 4							
				-1 = absorption adj. per OC NCDG Table 5							
				53.0 = interior noise level (dBA CNEL)							
Calculation of net STC:											
		qty	width	height	square feet	description					
material or element #1					33	exterior wall assembly					
material or element #2		1	3	4	12	vinyl window (dual pane)					
material or element #3		2	3	7	42	entry door glazing (dual pane)					
material or element #4		1	3	1	3	opening					
total surface			10	9	90	arbitrary total surface area					
Octave Band Center Frequency (OBCF, Hz)											
TL Data Source				125	250	500	1000	2000	4000		
NRC-CNRC IC-IR-761 (p. 25: G16_WS90(406)_MF890_2G16)		exterior wall assembly		16	40	41	48	43	52		
2 x 5/8" GWB, 2"x4" wood, 24" o.c., fiber batt fill, 1 x 5/8" GWB		material #1 τ		0.02512	0.0001	7.9E-05	1.6E-05	5E-05	6.3E-06		
available TL data for comparable assembly:		vinyl window (dual pane)		23	23	27	35	47	36		
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass		material #2 τ		0.00501	0.00501	0.002	0.00032	2E-05	0.00025		
available TL data for comparable assembly:		entry door glazing (dual pane)		23	23	27	35	47	36		
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass		material #3 τ		0.00501	0.00501	0.002	0.00032	2E-05	0.00025		
		opening		0	0	0	0	0	0		
		material #4 τ		1	1	1	1	1	1		
enter desired STC value		14		composite TL		13	14	15	15	15	
sum of negative differentials		-9		prospective STC curve		-2	7	14	17	18	
				differentials		15	7	1	-2	-3	-3
Interior Space Studied:		Exterior-to-Interior Scenario:		Calculation per Owens Corning NCDG (pg. 16):							
Living Room		Open Door		61.2 = exterior noise level (dBA CNEL)							
Room dimensions:		Room absorption conditions:		6 = approximate net STC of assembly							
length width		(hard, standard, soft, very soft?)		3 = incidence adj. ("G+3") per OC NCDG Table 3							
15 10		0.8		4 = source adj. ("F") per OC NCDG Table 4							
				-1 = absorption adj. per OC NCDG Table 5							
				61.0 = interior noise level (dBA CNEL)							
Calculation of net STC:											
		qty	width	height	square feet	description					
material or element #1					33	exterior wall assembly					
material or element #2		1	3	5	15	vinyl window (dual pane)					
material or element #3		1	3	7	21	entry door glazing (dual pane)					
material or element #4		1	3	7	21	opening					
total surface			10	9	90	arbitrary total surface area					
Octave Band Center Frequency (OBCF, Hz)											
TL Data Source				125	250	500	1000	2000	4000		
NRC-CNRC IC-IR-761 (p. 25: G16_WS90(406)_MF890_2G16)		exterior wall assembly		16	40	41	48	43	52		
2 x 5/8" GWB, 2"x4" wood, 24" o.c., fiber batt fill, 1 x 5/8" GWB		material #1 τ		0.02512	0.0001	7.9E-05	1.6E-05	5E-05	6.3E-06		
available TL data for comparable assembly:		vinyl window (dual pane)		23	23	27	35	47	36		
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass		material #2 τ		0.00501	0.00501	0.002	0.00032	2E-05	0.00025		
available TL data for comparable assembly:		entry door glazing (dual pane)		23	23	27	35	47	36		
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass		material #3 τ		0.00501	0.00501	0.002	0.00032	2E-05	0.00025		
		opening		0	0	0	0	0	0		
		material #4 τ		1	1	1	1	1	1		
enter desired STC value		6		composite TL		6	6	6	6	6	
sum of negative differentials		-10		prospective STC curve		-10	-1	6	9	10	
				differentials		16	7	0	-3	-4	-4

Interior Space Studied:		Exterior-to-Interior Scenario:		Calculation per Owens Corning NCDG (pg. 16):		
Living Room		Closed Window(s) and Door(s)		61.8 = exterior noise level (dBA CNEL)		
Room dimensions:		Room absorption conditions:		35 = approximate net STC of assembly		
length width		(hard, standard, soft, very soft?)		3 = incidence adj. ("G+3") per OC NCDG Table 3		
15 10		0.8		4 = source adj. ("F") per OC NCDG Table 4		
				-1 = absorption adj. per OC NCDG Table 5		
				32.6 = interior noise level (dBA CNEL)		
Calculation of net STC:						
material or element #1		qty	width	height	square feet	description
material or element #2		1	3	5	33	exterior wall assembly
material or element #3		2	3	7	15	vinyl window (dual pane)
material or element #4					42	entry door glazing (dual pane)
total surface					0	opening
					90	arbitrary total surface area
TL Data Source						
NRC-CNRC IC-IR-761 (p. 25: G16_WS90(406)_MF890_2G16)						
2 x 5/8" GWB, 2"x4" wood, 24" o.c., fiber batt fill, 1 x 5/8" GWB						
available TL data for comparable assembly:						
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass						
available TL data for comparable assembly:						
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass						
enter desired STC value 35						
sum of negative differentials -11						
Octave Band Center Frequency (OBCF, Hz)						
125 250 500 1000 2000 4000						
exterior wall assembly						
material #1 τ						
0.02512 0.0001 7.9E-05 1.6E-05 5E-05 6.3E-06						
vinyl window (dual pane)						
material #2 τ						
0.00501 0.00501 0.002 0.00032 2E-05 0.00025						
entry door glazing (dual pane)						
material #3 τ						
0.00501 0.00501 0.002 0.00032 2E-05 0.00025						
opening						
material #4 τ						
1 1 1 1 1 1						
composite TL						
19 25 29 37 45 38						
prospective STC curve						
19 28 35 38 39 39						
differentials						
0 -3 -6 -1 6 -1						
Interior Space Studied:		Exterior-to-Interior Scenario:		Calculation per Owens Corning NCDG (pg. 16):		
Living Room		Open Window		61.8 = exterior noise level (dBA CNEL)		
Room dimensions:		Room absorption conditions:		13 = approximate net STC of assembly		
length width		(hard, standard, soft, very soft?)		3 = incidence adj. ("G+3") per OC NCDG Table 3		
15 10		0.8		4 = source adj. ("F") per OC NCDG Table 4		
				-1 = absorption adj. per OC NCDG Table 5		
				54.6 = interior noise level (dBA CNEL)		
Calculation of net STC:						
material or element #1		qty	width	height	square feet	description
material or element #2		1	3	4	33	exterior wall assembly
material or element #3		2	3	7	12	vinyl window (dual pane)
material or element #4		1	3	1	42	entry door glazing (dual pane)
total surface					3	opening
					90	arbitrary total surface area
TL Data Source						
NRC-CNRC IC-IR-761 (p. 25: G16_WS90(406)_MF890_2G16)						
2 x 5/8" GWB, 2"x4" wood, 24" o.c., fiber batt fill, 1 x 5/8" GWB						
available TL data for comparable assembly:						
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass						
available TL data for comparable assembly:						
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass						
enter desired STC value 13						
sum of negative differentials -6						
Octave Band Center Frequency (OBCF, Hz)						
125 250 500 1000 2000 4000						
exterior wall assembly						
material #1 τ						
0.02512 0.0001 7.9E-05 1.6E-05 5E-05 6.3E-06						
vinyl window (dual pane)						
material #2 τ						
0.00501 0.00501 0.002 0.00032 2E-05 0.00025						
entry door glazing (dual pane)						
material #3 τ						
0.00501 0.00501 0.002 0.00032 2E-05 0.00025						
opening						
material #4 τ						
1 1 1 1 1 1						
composite TL						
13 14 15 15 15 15						
prospective STC curve						
-3 6 13 16 17 17						
differentials						
16 8 2 -1 -2 -2						
Interior Space Studied:		Exterior-to-Interior Scenario:		Calculation per Owens Corning NCDG (pg. 16):		
Living Room		Open Door		61.8 = exterior noise level (dBA CNEL)		
Room dimensions:		Room absorption conditions:		6 = approximate net STC of assembly		
length width		(hard, standard, soft, very soft?)		3 = incidence adj. ("G+3") per OC NCDG Table 3		
15 10		0.8		4 = source adj. ("F") per OC NCDG Table 4		
				-1 = absorption adj. per OC NCDG Table 5		
				61.6 = interior noise level (dBA CNEL)		
Calculation of net STC:						
material or element #1		qty	width	height	square feet	description
material or element #2		1	3	5	33	exterior wall assembly
material or element #3		1	3	7	15	vinyl window (dual pane)
material or element #4		1	3	7	21	entry door glazing (dual pane)
total surface					21	opening
					90	arbitrary total surface area
TL Data Source						
NRC-CNRC IC-IR-761 (p. 25: G16_WS90(406)_MF890_2G16)						
2 x 5/8" GWB, 2"x4" wood, 24" o.c., fiber batt fill, 1 x 5/8" GWB						
available TL data for comparable assembly:						
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass						
available TL data for comparable assembly:						
Viracon 5/8" overall - 1/8" glass + 3/8" airspace + 1/8" glass						
enter desired STC value 6						
sum of negative differentials -10						
Octave Band Center Frequency (OBCF, Hz)						
125 250 500 1000 2000 4000						
exterior wall assembly						
material #1 τ						
0.02512 0.0001 7.9E-05 1.6E-05 5E-05 6.3E-06						
vinyl window (dual pane)						
material #2 τ						
0.00501 0.00501 0.002 0.00032 2E-05 0.00025						
entry door glazing (dual pane)						
material #3 τ						
0.00501 0.00501 0.002 0.00032 2E-05 0.00025						
opening						
material #4 τ						
1 1 1 1 1 1						
composite TL						
6 6 6 6 6 6						
prospective STC curve						
-10 -1 6 9 10 10						
differentials						
16 7 0 -3 -4 -4						

Appendix E

Residential HVAC Noise Prediction



SOURCE: Dudek 2022

DUDEK



0 135 270 Feet

FIGURE 1
HVAC Noise Levels
 Sunset Drive Townhomes Project

