



150 Vista Del Sol

Initial Study – Mitigated Negative Declaration

prepared by

City of Laguna Beach

Planning Division, Department of Community Development

505 Forest Avenue

Laguna Beach, California 92651

prepared with the assistance of

Rincon Consultants, Inc.

706 South Hill Street, Suite 1200

Los Angeles, California 90014

March 2023



RINCON CONSULTANTS, INC.

Environmental Scientists | Planners | Engineers

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Initial Study

1. Project Title

150 Vista Del Sol Project

2. Lead Agency Name and Address

City of Laguna Beach
505 Forest Avenue
Laguna Beach, California 92651

3. Contact Person and Phone Number

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Planning Division
City of Laguna Beach
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Laguna Beach, California 92651
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Email: adobson@lagunabeachcity.net

4. Project Location

The project site is located on a hillside at 150 Vista Del Sol (“project site”), Laguna Beach in Orange County. Specifically, development of the site is proposed to be located on one parcel with an assessor parcel number of (APN) 670-241-07. The parcel consists of a total buildable lot area of roughly 82,819 square-feet (sq. ft.). The project site is located along Vista Del Sol which is approximately 2,251 feet (0.43 miles) east of the Pacific Ocean and approximately 1,561 feet (0.30 miles) east of California State Route 1 (SR-1), also known as the Coast Highway. Figure 1, below, shows the project site within the boundaries of the City of Laguna Beach. Figure 2, below, shows the existing project site conditions and parcel layout.

5. Existing Regional Setting

The City of Laguna Beach is a coastal community in southern Orange County. It is located approximately 20-miles southwest of the City of Santa Ana, and 15-miles southwest of John Wayne International Airport. Laguna Beach is surrounded by Crystal Cove State Park and the City of Newport Beach to the north, the Cities of Laguna Woods, Aliso Viejo, and Laguna Niguel to the east, the City of Dana Point to the south, and the Pacific Ocean to the west. Regional access to the City is available from the Coast Highway (SR-1) and Laguna Canyon Road/SR-133.

Figure 1 Regional Location



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- ★ Project Location
- ▭ City of Laguna Beach

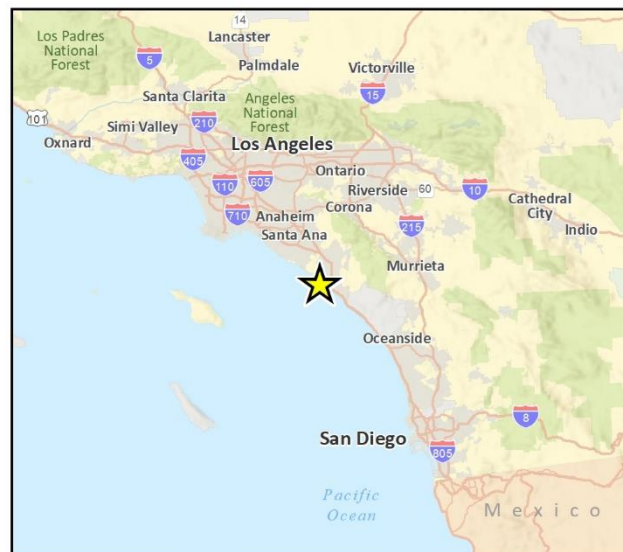


Fig 1 Regional Location

Figure 2 Project Site Location and Parcel Layout



Access to the project site is located through Vista Del Sol. The project site currently consists of a vacant parcel, which has been disturbed previously to install underground water tanks. Vegetation on the project site includes trees, shrubs, plants, and untouched soil.

6. Description of Project

The proposed development (“project” or “proposed project”) involves the construction of a new single-family residential structure on a vacant lot in the foothills of the City of Laguna Beach. As mentioned above, the project site consists of one parcel with a total buildable lot area of roughly 82,819 sq. ft. The proposed project consists of a new three level structure with a total of approximately 10,522 sq. ft. of livable space with related landscape walls, terrace, pool, pool deck, courtyard, and an attached three-car garage. Table 1, below, is a project summary to help illustrate what is proposed.

7. General Plan Designation and Zoning

The project site is situated within the Residential Hillside Protection (R/HP) and Open Space/Conservation Zones (OSC). Specifically, the project site includes one parcel, with the 26,781 sq. ft. of the parcel within the R/HP zoning designation and 47,135 sq. ft. within the OSC zone. The entirety of the proposed structure is situated within the R/HP zone. The General Plan established R/HP Land Use Designation and Zones in 1995 to promote development sensitive to the environmental constraints of the land, including unique landforms, scenic hillsides, sensitive biological habitat, and conservation of existing natural open space lands. R/HP Zones are required to be a minimum of 14,500 sq. ft. in total lot size (City of Laguna 2012). Further, the Open Space/Conservation Zone falls under the Permanent Open Space land use category, which is intended to protect and preserve publicly owned open-space lands of ecological, scenic, cultural, and/or scientific value so that such lands remain a permanent community resource (City of Laguna 2012). Nevertheless, the R/HP zoning designation allows single-family residential structures and uses.

8. Surrounding Land Uses and Setting

The project site is situated on a hillside in an urbanized area of the City primarily characterized by single-family residential homes with various commercial and retail uses along Coast Highway. The proposed project overlooks the Pacific Ocean to the west of the project site, which is only viewable through private properties. The proposed project has one direct point of entry via Vista Del Sol, which is accessible via SR-1, also known as the Coast Highway. The nearest bus stop to the project is the Orange County 1 Long Beach-San Clemente bus and the Coastal Trolley found west of the project site approximately 0.3 miles below Vista Del Sol along Coast Highway.

9. Other Public Agencies Whose Approval is Required

The City of Laguna Beach is the lead agency for this project. No approvals are required from any other agency

Table 1 Project Summary

Living Area				
First Floor (Basement)	3,432 sq. ft.			
First Floor (Utility/Storage)	650 sq. ft.			
Second Floor	4,604 sq. ft.			
Third Floor	1,836 sq. ft.			
Total	10,522 sq. ft.			
Pool	Dimensions (L x W x D)	Volume/Gallons		
Pool	49'-0" x 10'-3" x 5'-0"	18,851 gal		
Total	18,851 gal			
Site Work				
Grading	Outside Building (CY)	Inside Building (CY)	Pool (CY)	Total (CY)
Cut	1,950	4,070	80	6,100
Fill	1,742	–	–	1,742
Net Export	-208	4,070	80	4,358
% of Lot Area				
Impervious Surface	Lot Area Existing	Proposed (sq. ft.)	Existing	Proposed
Structure	–	7,958	–	9.6%
Hardscape	–	5,212	–	6.3 %
Total	–	13,170	–	16.0%
Zoning Standards				
Description	Required	Existing	Proposed	
Lot Area	14,500 Min	82,819 (RHP+OSC)	26,781 (RHP Only)	
Lot Width (Average)	80' Min	113'-0"	113'-0"	
Lot Depth (Average)	150' Min	284'-2"	284'-2"	
Max Building Height	25' Max	0'-0"	25'-0"	
Max Height from Grade	25' ABV FG, NG, FF	0'-0"	25' ABV FG, NG, FF	
Setbacks				
Description	Required	Existing	Proposed	
Front Yard	20' Min	20'-0"	20'-0"	
Rear Yard	25' Min	25'-0"	25'-0"	
Side Yards (combined/each)	22'-7" Combined	22'-7" Combined	14'7"/8'-0" Each	
Lot Coverage	8,034 sq. ft. (30%)	–	7,958 sq. ft. (29.7%)	
Irrigated Area	48,812 (Fuel Mod)	–	45,812 sq. ft.	
Parking	3	–	4	

10. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code Section 21080.3.1?

Yes. As part of the process of identifying cultural resources issues in or near the project site, Rincon, on behalf of the City, sent letters inviting tribes to consult with the City on June 23, 2022. The City requested a response within 30-days of receipt as specified by AB 52. The City received a request for consultation from the Gabrielino Tongva Indians of California July 7, 2022. During the consultation the Gabrielino Tongva Indians discussed the incorporation of additional mitigation measures, which were provided and incorporated into this document. No additional consultation was requested.

11. Scheduled Public Meeting or Hearings

After comment letters are received from the public and a staff report is developed, a public hearing will be scheduled with the City of Laguna Beach's Design Review Board.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology and Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities and Service Systems | <input checked="" type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

Determination

Based on this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “less than significant with mitigation incorporated” 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 potential 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.

Signature

Date

Printed Name

Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

Except as provided in Public Resources Code Section 21099, would the project:

a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

For purposes of determining significance under CEQA, scenic resources are the visible natural and cultural features of the landscape that contribute to the public’s enjoyment of the environment. A scenic vista is defined as a public viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Public views are those that are experienced from a publicly accessible vantage point, such as a roadway or public park. Scenic vistas can be officially designated by public agencies. The California Department of Transportation (Caltrans) manages the California State Scenic Highway Program, which designates state scenic highways. Scenic highways are highways located in areas of natural beauty. A scenic highway becomes officially designated when the local governing body applies to and is approved by Caltrans for scenic highway designation and adopts a Corridor Protection Program that preserves the scenic quality of the land that is visible from the highway right of way (Caltrans 2021a).

Existing Aesthetic Setting

Scenic Resources

According to the City's Landscape and Scenic Highways Element, aesthetic resources in the city predominantly consist of the San Joaquin Hills that surround the city, the Pacific Ocean to the west, and the Aliso and Laguna Creeks. Public views of these resources are primarily available from Coast Highway, Laguna Canyon Road, other local roads, and public areas such as parks, beaches, and trails (Laguna Beach 2018a). The Laguna Beach Landscape and Scenic Highways Resources Document (LSHRD), which was adopted along with the Landscape and Scenic Highways General Plan Element, provides guidelines for the preservation and enhancement of the city's landscape and scenic streets (Laguna Beach 2018b).

Scenic Highways

The California Scenic Highway System indicates that no existing or proposed state scenic highways are located in the vicinity of the project site (Caltrans 2021b). However, the stretch of Coast Highway that runs through Laguna Beach is eligible for designation as a state scenic highway (Laguna Beach 2018a). According to the City's Landscape and Scenic Highways Element, the City intends to eventually implement a Corridor Protection Plan for Coast Highway (Laguna Beach 2018a). The LSHRD classifies the Coast Highway into zones and provides landscaping and streetscape improvement recommendations for each zone (Laguna Beach 2018b).

Light and Glare

The proposed project consists of a single-family residential lot and associated structure, which includes outdoor and safety lighting, as necessary. Primary sources of light in the project vicinity are associated with vehicles traveling along Vista Del Sol, street and parking area lighting, and existing nearby residential buildings, including building-mounted lighting. Glare is generally a result of reflections off of pavement, vehicle windows and chrome, and building materials that include reflective glass and other shiny materials. Potential impacts from light and glare are directly related to the level of urbanization in the vicinity of the project site and the design of the proposed single-family home.

a. Would the project have a substantial adverse effect on a scenic vista?

A significant impact would occur if a project were to introduce incompatible development within a field of view containing a scenic vista or substantially block views of a scenic vista. Viewsheds refer to the visual qualities of the geographical area that is defined by the horizon, topography, and other natural features that give an area its visual boundary and context, or by artificial developments that have become prominent visual components of an area.

The project site is located on a hillside within the R/HP-OSC zone, which is primarily developed with single-family residential land uses. The proposed project would be overlooking the Pacific Ocean and is relatively adjacent to SR-1. Views from the project site include existing one- and two-story residential homes and intermittent glimpses of the ocean to the west. As discussed above, scenic views in the project vicinity are available from private properties and generalized areas along Vista Del Sol and primarily consist of the Pacific Ocean. Detailed views of the coastline from the project site are limited due to intervening single-family residences.

The project would result in the construction of a multi-story single-family residential structure on an undeveloped hillside lot. Badlands Park of the City of Laguna Niguel lies northeast of the project site, it is possible that the project site may be visible from the park. The project would not substantially block views of any neighboring hills or peaks to the north, east, and south, including Badlands Park, due to the relatively low height of the project and existing development surrounding the project site. As discussed above, views of the Pacific Ocean to the south and west are limited by site topography and existing structures near the project site. While development of the project could partially obstruct views of the Pacific Ocean from properties in the vicinity, views of these scenic vistas would not be significantly impacted. Thus, impacts would be considered less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

A significant impact would occur if scenic resources would be damaged or removed by a project within a designated scenic highway. The California Scenic Highway System indicates that no existing or proposed State scenic highways are located in the vicinity of the project site (Caltrans 2021b). The nearest designated scenic highway is State Route 38, located approximately 67 miles northeast of the project site in San Bernardino County. However, Coast Highway is eligible for listing as a state scenic highway in this particular area of the city (Laguna Beach 2018). Also, there are no designated historic buildings located on or around the project site. As further discussed in Section 5, *Cultural Resources*, of this MND, the site does not contain natural vegetation or landscape features that would contribute to the scenic quality of the Coast Highway corridor. In addition, the project would not substantially damage scenic resources. The proposed project would require the removal of various ornamental trees and shrubs on the project site, but would not otherwise affect any rock outcroppings, historic buildings, or other identified scenic resources within a state scenic highway. The proposed project would not result in substantial damage to scenic resources in a state scenic highway. Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The proposed project is in an urban area of the City that is primarily developed with single-family residences. The project site currently consists of a vacant parcel, which has been disturbed previously to install underground water tanks. Vegetation on the project site includes trees and shrubs throughout, as mentioned above. The project involves the construction of a three-level structure with a total of 10,522 sq. ft. of livable space and three-car attached garage.

Implementation of the proposed project would develop the site and essentially change the character and use of the project site. While development of the project would modify the appearance of the site relative to existing condition, it is not anticipated to degrade the existing visual character or quality of the site.

Upon approval of the project, the addition of the new residence would not degrade the existing visual character or quality of the site and its immediate surroundings and would be consistent with

the City's envisioned visual character and quality of the project site and surrounding neighborhoods. Additionally, the project would include Mitigation Measure AES-1, which would reduce temporary construction impacts by screening public views of construction equipment, to the extent feasible, during construction of the project. With implementation of mitigation, impacts would be less than significant.

Mitigation Measure

AES-1 Construction Staging Areas

Construction equipment staging areas shall be located, to the greatest extent feasible, away from nearby existing residential uses, and utilize appropriate screening (i.e., temporary fencing with opaque material) to shield public views of construction equipment and material. Prior to issuance of a grading permit, the City Engineer shall verify that staging areas are identified on final grading/development plans and that appropriate perimeter screening is included as a construction specification.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- d. *Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

Spill light occurs when lighting standards such as streetlights, parking lot lighting, exterior building lighting, and landscape lighting are not properly aimed or shielded to direct light to the desired location and light escapes and partially illuminates a surrounding location. Glare is the result of improperly aimed or blocked lighting sources that are visible against a dark background such as the night sky. Glare generally does not result in illumination of off-site locations but results in a visible source of light viewable from a distance.

The project is in an urban area of the City that is primarily developed with single-family residences. Existing lighting and glare sources in the project area consists of streetlights and exterior lighting/glare associated with surrounding residential vehicles. Development of the project would include adding lighting to the site with outdoor on-site lighting, internal walking paths, landscaping/street frontage lights, and safety-related lighting. However, it would not represent a substantial increase in daytime and nighttime lighting. For these reasons, the proposed project would not result in a substantial new source of light such that day or nighttime views in the area would be adversely affected. Rather, the proposed exterior lighting and building materials would be consistent with those of surrounding uses.

In addition, the project design does not propose any new highly reflective materials that could potentially cause significant glare during the day, such as stainless-steel panels. The design of this project, including its finish, colors, and materials, would be reviewed for approval through the City's review process. This regulatory procedure provides the City with an additional layer of review for aesthetics including light and glare, and an opportunity to incorporate additional conditions to improve the project's building materials and lighting plans. The project is consistent with the Design Guidelines for Hillside Development established in 1989. Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on 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 non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

-
- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
 - b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*
 - c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*
 - d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

- e. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

The project site is not located on or near land mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance mapped by the California Department of Conservation's (CDOC) Farmland Mapping and Monitoring Program (CDOC 2016a). In addition, the project site is not on land enrolled under the Williamson Act or zoned for agricultural use (City of Laguna Beach 2021a). The project site does not include forest land and is not zoned for forest land and timberland (City of Laguna Beach 2021a). Therefore, due to the absence of agricultural land, forest land, and timberland at the project site, the project would not involve changes to the existing environment that could result in conversion of Farmland to a non-agricultural use or the conversion of forest land to non-forest use. No impact to agriculture and forestry resources would occur.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<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"/>

Overview of Air Pollution

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for “criteria pollutants” and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),¹ nitrogen oxides (NO_x), particulate matter with diameters of ten microns or less (PM₁₀) and 2.5 microns or less (PM_{2.5}), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO_x. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.

¹ CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this IS-MND.

- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air Quality Standards and Attainment

The project site is located in the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). As the local air quality management agency, SCAQMD must monitor air pollutant levels to ensure that the NAAQS and CAAQS are met, if they are not met, to develop strategies to meet the standards.

Depending on whether the standards are met or exceeded, the SCAB is classified as being in “attainment” or “nonattainment.” In areas designated as nonattainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants. The human health associated with these criteria pollutants, presented in Table 2, is already occurring in those areas as part of the environmental baseline condition.

Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The SCAB is in nonattainment for ozone and PM_{2.5} federal standards. Also, the SCAB is in nonattainment for the state standard for PM₁₀ and designated unclassifiable or in attainment for all other federal and state standards (CARB 2020). The nonattainment statuses result from several factors. These factors include the combination of emissions from a large urban area, the regional meteorological conditions adverse to the dispersion of air pollution emissions, and the mountainous terrain surrounding the SCAB that traps pollutants. (SCAQMD 2017).

Table 2 Health Effects Associated with Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	Reduces oxygen delivery leading to: (1) aggravation of chest pain (angina pectoris) and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.
Nitrogen dioxide (NO ₂)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide (SO ₂)	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended particulate matter (PM ₁₀)	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma). ¹
Suspended particulate matter (PM _{2.5})	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma.
Lead	(1) Short-term overexposures: lead poisoning can cause (a) anemia, (b) weakness, (c) kidney damage, and (d) brain damage; (2) long-term exposures: long-term exposure to lead increases risk for (a) high blood pressure, (b) heart disease, (c) kidney failure, and (d) reduced fertility.

Source: United States Environmental Protection Agency (U.S. EPA) 2021a

Air Quality Management

Since the SCAB currently exceeds ozone and PM_{2.5} NAAQS standard, the SCAQMD is required to implement strategies to reduce pollutant levels to achieve attainment of the NAAQS. The SCAQMD 2016 Air Quality Management Plan (2016 AQMP) is a regional blueprint designed to meet the NAAQS and demonstrate how attainment will be reached. The 2016 AQMP represents a thorough analysis of existing and potential regulatory control options, includes available, proven, and cost-effective strategies, and seeks to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The 2016 AQMP determines that, with implementation of the proposed control strategy, the SCAB can expect to reach attainment of the 1997 8-hour ozone standard by July 15, 2024, and the 2012 annual PM_{2.5} by 2025. The 2006 24-hour PM_{2.5} did not meet the attainment date of December 31, 2019, which required SCAQMD to revise the plan to meet standard as early as possible. SCAQMD expects the 2006 24-hour PM_{2.5} to achieve attainment status by 2023 (SCAQMD 2017; SCAQMD 2020). SCAQMD's 2022 AQMP, an update to the 2016 AQMP, is being prepared and would be developed to address current nonattainment pollutants, such as the 2006 24-hour PM_{2.5}.

Air Emission Thresholds

The SCAQMD approved the *CEQA Air Quality Handbook* in 1993. Since then, the SCAQMD has provided supplemental guidance on their website to address changes to the methodology and nature of CEQA since the publication of the Handbook. Some of these changes include recommended thresholds for emissions associated with both construction and operation of the project are used to evaluate a project’s potential regional and localized air quality impacts (SCAQMD 2019).

Regional Thresholds

Table 3 presents the significance thresholds for regional construction and operational-related criteria air pollutant and precursor emissions being used for the purposes of this analysis.

Table 3 Air Quality Thresholds of Significance

Pollutant	Construction (pounds per day)	Operation (pounds per day)
NO _x	100	55
VOC	75	55
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150
CO	550	550

NO_x = Nitrogen Oxides; VOC = Volatile Organic Compounds; PM₁₀ = Particulate Matter with a diameter no more than 10 microns; PM_{2.5} = Particulate Matter with a diameter no more than 2.5 microns; SO_x = Sulfur Oxide; CO = Carbon Monoxide

Source: SCAQMD 2019

Localized Significance Thresholds

In addition to the above regional thresholds, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to the Governing Board’s Environmental Justice Enhancement Initiative (1-4), which was prepared to update the *CEQA Air Quality Handbook* (1993). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities and have been developed for NO_x, CO, PM₁₀, and PM_{2.5}. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or State ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), distance to the sensitive receptor, and project size. LSTs have been developed for emissions generated in construction areas up to five acres in size. However, LSTs only apply to emissions in a fixed stationary location and are not applicable to mobile sources, such as cars on a roadway (SCAQMD 2009).

The SCAQMD provides LST lookup tables for project sites that measure one, two, or five acres. If a site is greater than five acres, SCAQMD recommends a dispersion analysis be performed. The project parcel totals approximately 4.58 acres, but project construction would only disturb a total area of approximately 1.7 acres. Therefore, the LST analysis conservatively uses one- acre LSTs. LSTs are provided for receptors at a distance of 82 feet (25 meters) 164 feet (50 meters), 328 feet (100 meters), 656 (200 meters), 1,640 feet (500 meters) from the project disturbance boundary to the sensitive receptors. The project analysis assumes main construction activity would occur approximately 20 feet (6 meters) southeast of the closest sensitive receptor, which are single-family

residential properties. According to the SCAQMD’s publication, *Final LST Methodology*, projects with boundaries located closer than 82 feet to the nearest receptor should use the LSTs for receptors located at 82 feet (SCAQMD 2009). Therefore, the analysis below uses the LST values for 82 feet. The project site is located in SRA – 20 (Central Orange County Coastal) on a one-acre site with a receptor 82 feet away, as shown in Table 4.

Table 4 SCAQMD LSTs for Construction Emissions

Pollutant	Allowable Emissions from a One-acre Site in SRA-20 for a Receptor 82 Feet Away
Gradual conversion of NO _x to NO ₂	51 ¹
CO	647
PM ₁₀	4
PM _{2.5}	2 ²

SRA: source receptor area; NO_x: nitrogen oxides; NO₂: nitrogen dioxide; CO: carbon monoxide; PM₁₀: coarse particulate matter; PM_{2.5}: fine particulate matter

Allowable Emissions for a 1-acre Site in SRA-20 for a Receptor 82 Feet Away

¹The screening criteria for NO_x were developed based on the 1-hour NO₂ CAAQS of 0.18 ppm. Subsequently to publication of the SCAQMD’s guidance the USEPA has promulgated a 1-hour NO₂ NAAQS of 0.100 ppm. This is based on a 98th percentile value, which is more stringent than the CAAQS. Because SCAQMD’s LSTs have not been updated to address this new standard, to determine if project emissions would result in an exceedance of the 1-hour NO₂ NAAQS, an approximated LST was estimated to evaluate the federal 1-hour NO₂ standard. The revised LST threshold is calculated by scaling the NO₂ LST for by the ratio of 1-hour NO₂ standards (federal/state) (i.e., 92 lb/day * (0.10/0.18) =51 lb/day).

²The screening criteria for PM_{2.5} were developed based on an Annual CAAQS of 15 mg/m³. Subsequently to publication of the SCAQMD’s guidance the annual standard was reduced to 12 mg/m³. Because SCAQMD’s LSTs have not been updated to address this new standard, to determine if project emissions would result in an exceedance of the annual PM_{2.5} CAAQS, an approximated LST was estimated. The revised LST threshold is calculated by scaling the NO₂ LST for by the ratio of 1-hour NO₂ standards (federal/state) (i.e., 3 lb/day * (12/15) =2.4 lb/day).

Source: SCAQMD 2009

Toxic Air Contaminants

SCAQMD has developed significance thresholds for the emissions of toxic air contaminants (TACs) based on health risks associated with elevated exposure to such compounds. For carcinogenic compounds, cancer risk is assessed in terms of incremental excess cancer risk. A project would result in a potentially significant impact if it would generate an incremental excess cancer risk of 10 in 1 million (1 x 10⁻⁶) or a cancer burden of 0.5 excess cancer cases in areas exceeding a one-in-one-million risk. In addition, non-carcinogenic health risks are assessed in terms of a hazard index. A project would result in a potentially significant impact if it would result in a chronic and acute hazard index greater than 1.0 (SCAQMD 2019).

Methodology

Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod uses project-specific information, including the project’s land uses, square footage for different uses (e.g., residential and parking), and location, to model a project’s construction and operational emissions. The analysis reflects the construction and operation of the project as described under Section 10, *Description of Project*.

Construction emissions modeled include emissions generated by construction equipment used on-site and vehicle trips associated with construction, such as worker and vendor trips. CalEEMod

estimates construction emissions by multiplying the time equipment is in operation by emission factors. Construction of the proposed project was analyzed based on the applicant-provided construction schedule and construction equipment list. Construction would occur over approximately two years, and approximately 3,798 cubic yards of material would be exported from the site over a six-month period. The material would be exported approximately 39 miles to Brea Landfill and would require 760 hauling trips for 10 cubic yard hauling capacity trucks². Since the hauling would be heavier during the first 2-3 months of the hauling phase, the CalEEMod provides a conservative estimate of hauling emissions with truck trips occurring in a two-month span. The project assumes that all construction equipment used would be diesel-powered and would comply with all applicable regulatory standards. In particular, the project would comply with SCAQMD Rule 403 for dust control measures and Rule 1113 for architectural coating VOC limits.

Operational emissions modeled include mobile source emissions (i.e., vehicle emissions), energy emissions, and area source emissions. Mobile source emissions are generated by vehicle trips to and from the project site. The trip generation rates for the single-family unit were based on average trip rates from the Institute of Transportation Engineers (ITE) 10th edition of the Trip Generation Manual (California Air Pollution Control Officers Association [CAPCOA] 2021). The swimming pool is part of the overall housing development, therefore, would not increase vehicle trips and is excluded in the model. Emissions attributed to energy use include natural gas consumption by appliances as well as for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products, and architectural coatings.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

A project may be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding forecasts used in the development of the AQMP. The 2016 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates local city general plans and the Southern California Association of Governments (SCAG)'s 2016 RTP/SCS socioeconomic forecast projections of regional population, housing, and employment growth (SCAQMD 2017, SCAG2016).

The proposed project involves the development of a single-family residential unit, three-car garage, pool, and landscaping. The population growth forecasts in SCAG's 2016 RTP/SCS estimate that the City of Laguna Beach population would remain the same in 2040, which is 23,100 (SCAG 2016). The population addition of one family would be negligible to the overall population of the City.

The 2016 RTP/SCS projects an increase from 10,800 households to 11,000 households by 2040. The proposed project would develop one single family residential unit; therefore, the project's contribution to housing in the city would be within SCAG growth projections.

Given the aforementioned, the proposed project would be consistent with the underlying assumptions of the emissions forecasts contained in the 2016 AQMP. In addition, as shown in Table 5 and Table 6 below, the project would not generate criteria pollutant emissions that would exceed SCAQMD thresholds for ozone precursors (ROG and NO_x) and PM_{2.5}. Impacts would be less than significant.

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² CalEEMod assumes that one haul truck exporting material will also have a return trip with an empty truck.

- b. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

The SCAB has been designated as a federal nonattainment area for ozone and PM_{2.5} and a state nonattainment area for ozone, PM₁₀, and PM_{2.5}. The SCAB is designated unclassifiable or in attainment for all other federal and state standards.

Construction Emissions

Project construction would generate temporary air pollutant emissions associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction equipment and construction vehicles in addition to VOC emissions that would be released during the drying of architectural coating and paving phases. Table 5 summarizes the estimated maximum daily emissions of pollutants during project construction. As shown therein, construction-related emissions would not exceed SCAQMD thresholds. Therefore, project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.

Table 5 Project Construction Emissions

Year	Maximum Daily Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2023	6	53	53	<1	9	6
2024	6	37	46	<1	2	2
SCAQMD Regional Thresholds	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = nitrogen oxide; CO = carbon monoxide; PM₁₀ = particulate matter with a diameter no more than 10 microns; PM_{2.5} = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: Some numbers may not add up precisely due to rounding considerations. Maximum on-site emissions are the highest emissions that would occur on the project site from on-site sources, such as heavy construction equipment and architectural coatings, and excludes off-site emissions from sources such as construction worker vehicle trips and haul truck trips

Source: Table 2.1 "Overall Construction-mitigated" emissions. Highest of Summer and Winter emissions results are shown for all emissions. See CalEEMod worksheets in Appendix B.

Operational Emissions

Operation of the project would generate criteria air pollutant emissions associated with area sources (e.g., architectural coatings, consumer products, and landscaping equipment), energy sources (i.e., use of natural gas for space and water heating), and mobile sources (i.e., vehicle trips to and from the project site). Table 6 summarizes the project's maximum daily operational emissions by emission source. As shown therein, operational emissions would not exceed SCAQMD regional thresholds for criteria pollutants. Therefore, project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, and impacts would be less than significant.

Table 6 Project Operational Emissions

Emission Source	Maximum Daily Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	<1	<1	<1	<1	<1	<1
Project Emissions	<1	<1	<1	<1	<1	<1
SCAQMD Regional Thresholds	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = nitrogen oxide; CO = carbon monoxide; PM₁₀ = particulate matter with a diameter no more than 10 microns; PM_{2.5} = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: Some numbers may not add up precisely due to rounding considerations.

Source: Table 2.2 “Overall Operation-Mitigated” emissions. Highest of Summer and Winter emissions results are shown for all emissions. The mitigated emissions account for project sustainability features and/or compliance with specific regulatory standards. No mitigation measures are required for this project. See CalEEMod worksheets in Appendix B.

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c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Sensitive Receptors

According to SCAQMD, sensitive receptors to air pollution are typically located in any residence (e.g., private homes, condominiums, apartments, and living quarters), schools (including preschools and daycare centers), health facilities (e.g., hospitals, retirement and nursing homes, long-term care hospitals, hospices). Sensitive receptors in the project vicinity include single-family residences located southwest and north of the project site, approximately 20 feet and 50 feet, respectively. The proposed project would include the siting of new sensitive receptors. Localized air quality impacts to sensitive receptors typically result from criteria air pollutants, and TACs, which are discussed in the following subsections.

Localized Significance Thresholds

The LST methodology was developed to be used as a tool to analyze localized impacts associated with project-specific level proposed projects. If the calculated emissions for the proposed construction or operational activities are below the LST emission levels found on the LST mass rate look-up tables and no potentially significant impacts are found to be associated with other environmental issues, then the proposed construction or operation activity is not significant for air quality. The project analysis assumes main construction activity would occur immediately southwest of the closest sensitive receptor. The allowable emission for project utilizes the 82 feet receptor distance, and the project is in SRA-20 (Central Orange County Coastal). Table 7 summarizes the project’s maximum localized daily construction emissions from the proposed project. As shown therein, localized construction emissions would not exceed SCAQMD LST thresholds for criteria pollutants. Therefore, project construction would not result in a local air quality impact. Project impact would be less than significant.

Table 7 Project LST Construction Emissions

Year	Maximum Daily Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Maximum Onsite Emissions	3	27	31	<1	3	2 ¹
SCAQMD LST	N/A	51	647	N/A	4	2
Threshold Exceeded?	N/A	No	No	N/A	No	No

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = nitrogen oxide; CO = carbon monoxide; PM₁₀ = particulate matter with a diameter no more than 10 microns; PM_{2.5} = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: Some numbers may not add up precisely due to rounding considerations. Maximum on-site emissions are the highest emissions that would occur on the project site from on-site sources, such as heavy construction equipment and architectural coatings, and excludes off-site emissions from sources such as construction worker vehicle trips and haul truck trips

¹ Maximum Onsite emissions for PM_{2.5} is 1.96 µg/m³ and rounded to 2 µg/m³ in the table. See Appendix B for calculations. Source: Table 3.2 – 3.6 “Overall Construction-mitigated” emissions. Highest of Summer and Winter emissions results are shown for all emissions. See CalEEMod worksheets in Appendix B.

Toxic Air Contaminants

TACs are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The following subsections discuss the project’s potential to result in impacts related to TAC emissions during construction and operation.

CONSTRUCTION

Construction-related activities would result in short-term, project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation grading, building construction, and other construction activities. DPM was identified as a toxic air contaminant (TAC) by CARB in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (CARB 2022).

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately one year. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., 24 months) is approximately seven percent of the total exposure period used for 30-year health risk calculations. Additionally, localized diesel particulate matter emissions are below localized thresholds as presented in Table 7. Although the localized analysis does not directly measure health risk impacts, it does provide data that can be used to evaluate the potential to cause health risk impacts. The low level of PM emissions coupled with the short-term duration of construction activity will result in a low level of diesel particulate matter concentrations in the project area. In addition, per the project applicant no more than three pieces of construction equipment would be on-site, and no more than two construction equipment would

be operation at the same time. Therefore, given the aforementioned, DPM generated by project construction is not expected to create conditions where the probability that the Maximally Exposed Individual would contract cancer is greater than ten in one million or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than one for the Maximally Exposed Individual. This impact would be less than significant.

OPERATION

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides recommended buffer distances between sensitive land uses and potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). The project would not be located with prominent TAC sources mentioned above. In addition, residential land uses are not considered land uses that generate substantial TAC emissions based on reviewing the air toxic sources listed in CARB's guidelines. Therefore, the expected hazardous TACs generated on-site (e.g., cleaning solvents, paints, landscape pesticides, etc.) for the proposed land uses would be below thresholds warranting further study under the California Accidental Release Program. The project would not expose off-site sensitive receptors to significant amounts of carcinogenic or toxic air contaminants. Therefore, impacts would be less than significant.

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

During construction activities, heavy equipment and vehicles would emit odors associated with vehicle and engine exhaust and during idling. However, these odors would be intermittent and temporary and would cease upon completion, and odors disperse with distance. In addition, project construction would be required to comply with SCAQMD Rule 402, which specifies that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Overall, project construction would not generate other emissions, such as those leading to odors, affecting a substantial number of people. Construction-related impacts would be less than significant.

With respect to operation, the SCAQMD's *CEQA Air Quality Handbook* (1993) identifies land uses associated with odor complaints as agricultural uses, wastewater treatment plants, chemical and food processing plants, composting, refineries, landfills, dairies, and fiberglass molding. Residential uses are not identified on this list. In addition, solid waste generated by the proposed on-site uses would be properly stored in lidded dumpsters and/or trash cans and collected by a contracted waste hauler, ensuring that on-site waste would be managed and collected in a manner to prevent the proliferation of odors. Therefore, the proposed project would not generate other emissions such as those leading to odors affecting a substantial number of people, and no operational impact would occur.

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4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife 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, or regulations, or by the California Department of Fish and Wildlife 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 state or federally protected wetlands (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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Existing Biological Resource Setting

The following analysis is based on the Biological Technical Report prepared by Glenn Lukos Associates, Inc. and peer reviewed by Rincon Consultants, which included general biological surveys, focused botanical surveys, and vegetation mapping at the Project site (Glenn Lukos Associates, Inc. 2021). The analysis also included an updated database and literature review of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB; CDFW 2022a), CDFW Biogeographic Information and Observation System (BIOS; CDFW 2022b), California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2022), U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS 2022a), United States Geological Survey (USGS) National Hydrography Dataset (NHD; USGS 2022), and the USFWS National Wetlands Inventory (NWI; USFWS 2022b).

The 1.9-acre project site is located in a mostly undeveloped area along a hillslope at the terminus of Vista del Sol in the City of Laguna Beach. Existing residential development occurs to the north and southwest of the project site.

Vegetation Communities and Land Cover Types

Vegetation communities and land cover types found on the project site were classified according to the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009) and include lemonade berry scrub, big pod ceanothus chaparral, desert brittle bush scrub, fountain grass swards, upland mustards, tocalote fields, disturbed mixed scrub/fuel modification zone, roads, cliffs, and ornamental. These vegetation communities and land cover types are described in detail below.

LEMONADE BERRY SCRUB (*RHUS INTEGRIFOLIA* SHRUBLAND ALLIANCE)

This vegetation community comprises approximately 1.9 acres of the project site and is dominated by lemonade berry (*Rhus integrifolia*). Within the project site, monocultural stands of lemonade berry are present east of the access road that bisects the northern portion of the site. This vegetation community has a State Rarity Ranking of S3 and is therefore classified as sensitive (CDFW 2021).

BRITTLE BUSH SCRUB (*ENCELIA FARINOSA* SHRUBLAND ALLIANCE)

This vegetation community comprises approximately 0.21 acre of the project site and is dominated by desert brittle bush (*Encelia farinosa*). This species was planted for erosion control and is not native to Laguna Beach. The vegetation community has a State Rarity Ranking of S4, which indicates it is not sensitive per CDFW jurisdiction (CDFW 2021).

FOUNTAIN GRASS SWARDS (*PENNISETUM SETACEUM* HERBACEOUS SEMI-NATURAL ALLIANCE)

This vegetation community comprises approximately 0.04 acre of the project site and is dominated by non-native fountain grass (*Pennisetum setaceum*). The community is not ranked sensitive by CDFW (CDFW 2021).

UPLAND MUSTARDS (*BRASSICA NIGRA* HERBACEOUS SEMI-NATURAL ALLIANCE)

This vegetation community comprises approximately 0.88 acre of the project site and is dominated by summer mustard (*Hirschfeldia incana*). The community is not classified as sensitive by CDFW (CDFW 2021).

TOCALOTE FIELDS (*CENTAUREA MELITENSIS* HERBACEOUS SEMI-NATURAL ALLIANCE)

This vegetation community comprises approximately 0.17 acre of the project site and is dominated by tocalote (*Centaurea melitensis*). This community is not ranked sensitive by CDFW (CDFW 2021).

DISTURBED MIXED SCRUB/FUEL MODIFICATION ZONE

This land cover type comprises approximately 0.23 acre of the project site. The land cover is not ranked sensitive by CDFW (CDFW 2021).

ROADS

The project site contains a previously graded dirt road and dirt paths that cover approximately 0.36 acre and are generally unvegetated.

CLIFFS

The project site contains a small area of vertical rock cliff comprising approximately 0.04 acre. This land cover type is not ranked sensitive by CDFW (CDFW 2021).

ORNAMENTAL

Ornamental vegetation covers approximately 0.06 acre of the project site and is dominated by Aleppo pine (*Pinus halepensis*) and myoporum (*Myoporum laetum*). This land cover type is not ranked sensitive by CDFW (CDFW 2021).

SOILS

The project site contains two soil types: Chesterton loamy sand and Soper gravelly loam. Chesterton loamy sands are moderately well-drained soils that occur on terraces and form from uplifted marine deposits. Soper gravelly loams are well-drained and form in residuum weathered from sandstone (USDA NRCS 2022).

WILDLIFE HABITAT

The project site and surrounding area provide habitat for wildlife species that commonly occur in the region such as desert cottontail (*Sylvilagus audubonii*), house finch (*Haemorhous mexicanus*), and common raven (*Corvus corax*). The chaparral and coastal sage scrub vegetation communities on the project site may also provide suitable habitat for regionally occurring special status wildlife species.

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Special status species are those plants or animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the United States Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA); those listed or candidates for listing as Rare, Threatened, or Endangered by the CDFW under the California Endangered Species Act (CESA); animals designated as “Fully Protected” by the California Fish and Game Code (CFGC); animals listed as Species of Special Concern “SSC” by the CDFW; and plants with California Rare Plant Ranks (CRPR) of 1B, 2, 3, and 4 in the California Native Plant Society’s (CNPS) Inventory of Rare, Threatened, and Endangered

Plants of California. A list of special status plant and wildlife species with potential to occur at the project site was developed based on a three-quad search (Dana Point, San Juan Capistrano, and Laguna Beach) of the California Natural Diversity Database (CNDDDB) and CNPS. The potential for each special status species to occur on the project site was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDDB, other reports) on the site recently (within the last 5 years).

Impacts to Special Status Plants

Queries of the CNDDDB (CDFW 2022a) and the CNPS Online Inventory of Rare, Threatened, and Endangered Plants (CNPS 2022) identified 42 special status plant species with records in the Dana Point, San Juan Capistrano, and Laguna Beach 7.5-minute USGS topographic quadrangles. Of these 42 species, one was observed during the biological surveys: intermediate mariposa lily (*Calochortus weedii* var. *intermedius*), which has a CRPR of 1B.2 but is not State or federally listed. Approximately 53 intermediate mariposa lily individuals were observed within the project site during focused botanical surveys. Three of the individual intermediate mariposa lilies were observed within the project footprint (grading and Fuel Modification Zone A), 11 were within Fuel Modification Zone B, and the remaining 39 individuals were within open space on the project site. Habitat occupied by plant species with a CRPR of 1B are typically considered Environmentally Sensitive Habitat Areas (ESHA) per Policy 8F of the Open Space Element of the City's General Plan (2006). Impacts to ESHA are considered significant. Impacts to all individuals of intermediate mariposa lily found within the project site would be avoided, except for the three individuals located in Zone A. Impacts to intermediate mariposa lily would be less than significant with mitigation measures BIO-1 and BIO-2 incorporated.

The remaining special status plant species identified in the database queries are not expected to occur due to a lack of suitable habitat and/or were not observed during focused botanical surveys during the appropriate blooming periods.

Impacts to Special Status Wildlife

The CNDDDB query results include 34 special status wildlife species with records in the Dana Point, San Juan Capistrano, and Laguna Beach 7.5-minute USGS topographic quadrangles. The potential for

special status wildlife species to occur on the site was assessed based on known distribution, habitat requirements, and existing site conditions. Two special status wildlife species were observed within the project site: orange-throated whiptail (*Aspidoscelis hyperythra*) and Cooper's hawk (*Accipiter cooperi*). Orange-throated whiptail is a Species of Special Concern (SSC) that is endemic to southwestern California. One orange-throated whiptail was observed in the center of the project site within open chaparral habitat in the lemonade berry scrub vegetation community. The open habitat within lemonade berry scrub on site is suitable foraging and breeding habitat for this species, but most of this habitat will be avoided during project implementation (Glenn Lukos Associates, Inc. 2021). If the species is present near the property during initial vegetation clearance, the proposed project has the potential to directly (mortality) or indirectly (construction noise, dust, or other human disturbances) impact this species.

Additionally, the proposed project has been designed to fully avoid any impacts to the two mapped drainage courses (as shown in Appendix C to this MND) as well as a 25-foot buffer zone around each drainage course. No construction activity is anticipated to occur in close proximity of the drainage on the northern end of the project site, but construction activity will occur adjacent to the buffer around the drainage on the southern end of the project site. To ensure no inadvertent impacts to the drainages and associated biological resources, standard BMPs, which may include silt fencing, fiber rolls, and sandbags, will be installed prior to any vegetation removal or ground disturbance where construction activity will occur near the 25-foot buffer around the drainages on the southern end of the project site. With that, and to further ensure impacts would be avoided, implementation of mitigation measure BIO-3 would reduce impacts to a less than significant level.

Cooper's hawk is a CDFW Watch List species. An individual was observed soaring over the project site, which provides potentially suitable foraging habitat for this species. The project would impact approximately 0.06 acre of marginally suitable nesting habitat on site. In addition, the ornamental trees adjacent to the project site provide marginally suitable nesting habitat. The proposed project has the potential to directly (by destroying a nest) or indirectly (removal of habitat, construction noise, dust, and other human disturbances that may cause a nest to fail) impact the species. Impacts to Cooper's hawk would be less than significant with implementation of mitigation measures BIO-3 and BIO-4.

An additional four special status wildlife species that were not observed during the biological surveys were determined to have a moderate potential to occur on the project site: coastal western whiptail (*Aspidoscelis tigris stejnegeri*), ashly rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Amphispiza belli belli*), and San Diego desert woodrat (*Neotoma lepida*). Development of the project site would not have a substantial, adverse effect on these species and impacts to these species would be less than significant with implementation of mitigation measures BIO-3 and BIO-4.

Nesting Birds

While common birds are not designated as special status species, destruction of their eggs, nests, and nestling is prohibited by federal and state law. The vegetation present on the project site provides potential nesting habitat for common resident birds. Nesting birds are protected under Sections 3503, 3503.5, and 3513 of the CFGC and under the Migratory Bird Treaty Act (MBTA). Construction activities have the potential to harm protected birds either through direct contact with birds or their eggs, or through elevated noise levels in the surrounding area. Construction activities may negatively affect breeding or reproduction of birds on or adjacent to the project site. Mitigation Measure BIO-4 is required to assure compliance with the California Fish and Game Code CFGC which

establishes the basis of fish, wildlife, and native plant protections and management in the state. It also must assure compliance with MBTA.

Roosting Bats

Construction activities may cause direct injury (i.e., removal of roosting habitat) or indirect impacts (i.e., roost abandonment) to roosting bats. Many trees provide suitable roosting habitat for foliage-dwelling bat species, or contain cavities, crevices, snags, and exfoliating bark which provide roosting for crevice dwelling species. Mitigation Measures BIO-5 and BIO-6 will reduce the potential for adverse effects to roosting bats to a less-than-significant level.

Mitigation Measures

BIO-1 Pre-Construction Rare Plant Survey

Impacts to intermediate mariposa lilies will be minimized and/or avoided through implementation of the City of Laguna Beach *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* dated May 27, 2020, which states:

“For all Coastal Development Permit Fuel Modification Zones (FMZ’s), a qualified biologist shall inspect proposed fuel modification sites for the presence of sensitive species prior to the initiation of work. If the presence of sensitive species is identified, a trained biological monitor shall be present at all times while work is conducted in the immediate vicinity of identified habitat to ensure no accidental takings occur, and sensitive species are protected. Crews conducting fuel modification work shall receive instruction and training in sensitive species management and avoidance prior to initiation of work.”

BIO-2 Intermediate Mariposa Lily Restoration Program

Impacts to intermediate mariposa lilies will be mitigated through the following:

- Replacement of the three individuals affected by grading at a ratio of 4:1 within the project’s open space areas.
- Preservation of the 11 individuals within the fuel modification zones through the guidelines outlined in BIO-1.
- Preservation of the 39 individuals within the project’s open space areas.

Prior to issuance of a grading permit, the applicant shall prepare a Rare Plant Restoration Plan that will provide the details of the intermediate mariposa lily restoration program. The Rare Plant Restoration Plan will be prepared by a Biologist or Habitat Restoration Specialist familiar with the ecology of the intermediate mariposa lily and with implementing restoration of rare plants in southern California. The plan shall be submitted to the City of Laguna Beach for review and approval prior to ground and/or vegetation disturbance activities. The plan shall include the performance criteria outlined above, as well as the following information:

- Locations for planting, outside of the fuel modification zones
- Methods of propagation and installation
- Methods for site preparation
- Maintenance procedures
- Performance standards

- Reporting requirements
- Contingency measures

BIO-3 Qualified Biological Monitor

A qualified biological monitor familiar with special status species with potential to occur on the project site will be present during initial ground disturbance or vegetation removal activities. The biological monitor shall have the authority to temporarily stop work if one or more individuals of these special status species are observed; the monitor will then relocate those individuals to suitable undisturbed habitat, outside the areas directly and indirectly affected by ground disturbance activities. Confirmation of a monitor at the project site shall be submitted to the City of Laguna Beach for review and approval prior to ground and/or vegetation disturbance activities.

BIO-4 Nesting Bird Avoidance

Project-related activities shall occur outside of the bird breeding season (February 1 to August 31) to the extent practicable. If construction must occur within the bird breeding season, then no more than 14 days prior to initiation of ground disturbance and/or vegetation removal, a nesting bird pre-construction survey shall be conducted by a qualified biologist within the disturbance footprint plus a 300-foot buffer, where feasible. If the proposed project is phased or construction activities stop for more than two weeks, a subsequent pre-construction nesting bird survey shall be completed prior to each phase of construction.

Pre-construction nesting bird surveys shall be conducted during the time of day when birds are active and shall factor in sufficient time to perform this survey adequately and completely. A report of the nesting bird survey results, if applicable, shall be submitted to the City of Laguna Beach for review and approval prior to ground and/or vegetation disturbance activities.

If nests are found, their locations shall be flagged to facilitate avoidance. An appropriate avoidance buffer of 150 feet for passerines and up to 300 feet for raptors, and depending on the proposed work activity, shall be determined, and demarcated by a qualified biologist with bright orange construction fencing or other suitable flagging. Active nests shall be monitored at a minimum of once per week until it has been determined that the nest is no longer being used by either the young or adults. No ground disturbance shall occur within this buffer until the qualified biologist confirms that the breeding/nesting is completed, and all the young have fledged. If project activities must occur within the buffer, they shall be conducted at the discretion of the qualified biologist. If no nesting birds are observed during pre-construction surveys, no further actions would be necessary.

BIO-5 Bat Habitat Assessment Survey

Construction activities should occur outside the bat maternity season (April 1 – August 31), as-feasible. If construction activities must occur during the maternity season, a bat habitat assessment survey shall be conducted by a qualified biologist prior to any construction activities. The survey will document any evidence of bat species use within the project site through direct observation (e.g., roosting bats) and/or sign (e.g., bat guano). If no observance and/or sign of bats are detected during these surveys, then construction-related activities may proceed. If observance or sign of special status bat species are detected during the survey, special status bat species emergence survey(s) will need to be conducted in accordance with BIO-6.

BIO-6 Special-Status Bat Species Emergence Survey(s)

If special status bat species and/or sign are documented within the project site during implementation of BIO-5, and construction activities must occur during the bat maternity season (April 1 through August 31), special-status bat species emergence survey(s) will be conducted. As part of BIO-6, a habitat assessment survey generally outlined in BIO-5 will be conducted on the first night of the emergence survey(s) to document the areas of suitable bat habitat within the project site. Emergence surveys will be conducted in areas of suitable bat habitat (e.g., near trees) during the bat maternity season to document any special status bat species emerging from features identified during the habitat assessment survey. Multiple emergence surveys may be required depending on the size and number of suitable habitat locations. The emergence survey(s) will be conducted 30 minutes before sunset and may last until midnight. Any special status bat species maternity roosting within or adjacent to the project site should be avoided and provided a minimum buffer as determined by the qualified biologist (a 100-foot to 300-foot buffer is recommended) until roosting is complete.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Vegetation communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in the CNDDB.

Approximately 0.12 acre of lemonade berry scrub is proposed for grading in Zone A and 0.32 acres is subject to fuel modification in Zone B. This vegetation community is ranked S3 and is considered sensitive; therefore, impacts would be considered significant prior to mitigation. In addition, this vegetation community meets the City’s LCP definition of High or Very High Value Habitat and is considered an ESHA. In particular, Impacts to this community would be mitigated to less than significant with implementation of mitigation measure BIO-7.

Further, the project as proposed is in full compliance with the City’s LCP and its policies related to sensitive habitat areas. These policies are illustrated below:

- **Policy 7.4** Ensure that development, including subdivisions, new building sites and remodels with building additions, is evaluated to ascertain potential negative impacts on natural resources. Proposed development shall emphasize impact avoidance over impact mitigation. Any mitigation required due to an unavoidable negative impact should be located on-site, where feasible. Any off-site mitigation should be located within the City’s boundaries close to the project, where feasible.
- **Policy 7.6** Implement individualized fuel modification programs for existing legal building sites whenever environmentally sensitive resources are present.

To note, big pod ceanothus chaparral is not classified as sensitive by CDFW but is considered a Very High Value Habitat and is therefore considered sensitive within the City of Laguna Beach. However, this vegetation community is located outside of the grading and fuel modification zones. What’s more, the project will be consistent with the above action items by allowing fuel modification zones and programs for existing and future structures near the project site. Finally, the below mitigation

measures are proposed to reduce any potential impacts. Therefore, no significant impacts are anticipated.

Mitigation Measures

BIO-7 Lemonade Berry Scrub Restoration and Habitat Mitigation and Monitoring Plan

Mitigation for grading impacts to lemonade berry scrub shall be provided at a ratio of 4:1 and would include the following:

- On-site replacement of lemonade berry scrub within the existing trail that would be closed and within the area of tocalote fields, brittle bush scrub, and other disturbed areas within the lemonade berry scrub alliance on the northern portion of the site totaling 0.12 acres
- On-site dedication of 0.36 acre of lemonade berry scrub

Impacts associated with fuel modification to lemonade berry scrub totaling 0.32 acre shall be mitigated at a ratio of 4:1 and would include the following:

- On-site dedication of 1.28 acres of lemonade berry scrub

Prior to issuance of a grading permit, the applicant shall prepare a Habitat Mitigation and Monitoring Plan (HMMP) that will provide the details of the lemonade berry scrub restoration program. The HMMP will be prepared by a Biologist or Habitat Restoration Specialist familiar with southern California scrub restoration. The plan shall include the performance criteria specified above, and the following information:

- Locations for planting, outside of the fuel modification zones
- Methods of propagation and installation
- Methods for site preparation
- Maintenance procedures
- Performance standards
- Reporting requirements
- Contingency measures

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. *Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

The project site does not contain any wetlands as defined by the state of California, including by the California Coastal Act and the City of Laguna Beach LCP. The site does not contain any wetlands as defined by the U.S. Army Corps of Engineers pursuant to Section 404 of the federal Clean Water Act.

The site is traversed by segments of two ephemeral drainages that are identified by the City of Laguna Beach's GIS map as Significant Water Courses (2022b). Neither drainage area is considered a blue line stream and both drainages will be fully avoided by the project. Additionally, the project includes setbacks from these ephemeral drainages that exceed the City's 25-foot requirement

(Glenn Lukos Associates, Inc. 2021). Therefore, no impacts are anticipated to state or federally protected wetlands.

NO IMPACT

- d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Wildlife corridors are generally defined as connections between habitat areas that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Examples of barriers or impediments to movement include housing and other urban development, roads, fencing, unsuitable habitat, or open areas with little vegetative cover.

Given the existing development to the northeast and southwest of the project site, the site is not located within a significant wildlife movement corridor and does not contain native wildlife nursery sites. In addition, surveys did not detect any sign of use of the area as a significant wildlife corridor (Glenn Lukos Associates, Inc. 2021). There would be no significant impacts to wildlife movement.

NO IMPACT

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

The project is subject to review under the City of Laguna Beach (2022a) LCP, which has identified areas of High Value Habitat and Very High Value Habitat in the vicinity of the project site. In addition, Policy 8F of the Open Space Element of the General Plan (City of Laguna Beach 2006) includes a definition, excerpted below, for Environmentally Sensitive Areas (ESA) that includes a requirement for on-site surveys to identify unmapped areas as potential ESAs.

“Environmentally Sensitive Area (ESA) as defined in Section 30107.5 of the California Coastal Act shall be identified and mapped on a Coastal ESA Map. The following areas shall be designated as Environmentally Sensitive Areas: those areas shown on the Biological Resource Values Map in the Open Space/Conservation Element as “Very High” habitat value and any other areas which contain environmentally sensitive habitat resources as identified through an onsite biological assessment process, including areas of “High” and “Moderate” habitat value on the Biological Resources Value Map and areas which meet the definition of ESAs in Section 30107.5 of the Coastal Act.”

The project site contains areas that are not included as High or Very High Value Habitat in the City’s GIS database (2022b), that nevertheless, meet the definition of ESAs in Section 30107.5 of the Coastal Act, specifically the areas of lemonade berry scrub, which has a State Rarity Ranking of S3. Implementation of mitigation measure BIO-7 would assure the project does not conflict with local policies or ordinances regarding special-status biological resources.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- f. *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The project is located in the Plan Area of the Orange County Central/Coastal Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) but the City of Laguna Beach is not a signatory. Therefore, no impacts are anticipated.

NO IMPACT

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

Cultural Resources Regulatory Setting

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (PRC Section 21084.1). CEQA Guidelines Section 15064.5 states the term “historical resources” shall include the following:

1. A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources PRC Section 5024.1, Title 14 California Code of Regulations [CCR], Section 4850 et. seq.).
2. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in an historical resource survey meeting the requirements of PRC Section 5024.1(g), shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing in the California Register of Historical Resources [CRHR] (PRC Section 5024.1, Title 14 CCR, Section 4852) as follows:
 - Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage
 - Is 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 (State CEQA Guidelines Section 15064.5)

Properties listed on the National Register of Historic Places (NRHP) are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

Per PRC Section 21084.1, a project that may cause a substantial adverse change in the significance of a historical resource may have a significant impact on the environment. A “substantial adverse change” in the significance of a historical resource is defined as “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.” CEQA Guidelines Section 15064.5(b) states the significance of an historical resource is “materially impaired” when a project does any of the following:

- 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
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources or its identification in an historical resources survey, 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
- 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 CRHR as determined by a lead agency for purposes of CEQA

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b]).

PRC Section 21083.2(g) defines a unique archaeological resource as an 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:

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

The significance of cultural resources and impacts to those resources is determined by whether or not they can increase our collective knowledge of the past. The primary determining factors are site content and degree of preservation.

A Cultural Resources Assessment was completed for the project by evaluating project impacts to historical and archaeological resources. The assessment included a cultural resources records search of the California Historical Resources Information System (CHRIS) at the South-Central Coastal Information Center (SCCIC), historical maps and aerial imagery review, Native American consultation

including a Sacred Lands File (SLF) search conducted by the Native American Heritage Commission (NAHC), a site visit of the project site, and archival research. The following analysis is based on the results of the Cultural Resources Assessment, which is provided in full as Appendix C.

- a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

Rincon completed a review of historical topographic maps and aerial imagery to ascertain the development history of the project site. Historical topographic maps from 1904 to 1948 depict the project site as undeveloped land (USGS 2022). From 1904 to 1942, historical topographic maps depict residential development outside of and to the west of the project site (USGS 2022). Aerial imagery from 1967 confirms the presence of some residential development to the northeast of the project site and outside of the current project site footprint (NETR Online 2022). By 1972, the slope to the east of the current project site had been graded for development. Additional residential development continued on the slope to the east of the project site in 1987 with it infill residential in the years immediately following until 2000 (NETR Online 2022). In 2000, the residential development to the east of the project site was extended westward, toward the project site but did not extend into the current project site. The current project site has remained undeveloped (NETR Online 2022). As no historical resources exist on the project site, the project would have no impact on historical resources.

NO IMPACT

- b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

On March 29, 2022, Rincon received California Historical Resources Information System (CHRIS) records search results (records search #23638) from the South-Central Coastal Information Center (SCCIC). The SCCIC is the official state repository for cultural resources records and reports for the county in which the proposed project falls. The purpose of the records search was to identify previously recorded cultural resources, as well as previously conducted cultural resources studies within the project site and a 0.5-mile radius surrounding it. Rincon also reviewed the National Register of Historic Places (NRHP), the CRHR, the California Historical Landmarks list, and the Built Environment Resources Directory (BERD), as well as its predecessor the California State Historic Property Data (HPD) File. Additionally, Rincon reviewed the Archaeological Determination of Eligibility (ADOE) list.

Sacred Land File Search

Rincon contacted the Native American Heritage Commission (NAHC) on March 29, 2022 to request a search of the Sacred Lands File (SLF), as well as a contact list of Native Americans culturally affiliated with the project site vicinity. A response was received from NAHC on May 10, 2022, stating the SLF search had been completed with positive results and provided a tribal consultation list of Native American contacts. The City of Laguna Beach sent letters on June 23, 2022 to 22 Native American contacts in the area to request information on potential cultural resources in the project site vicinity that may be impacted by the proposed projects development.

On July 5, Christina Conley, Chairman of the Gabrieleño Tongva Indians of California (GTIOC), responded requesting AB 52 consultation for the project. An AB 52 meeting between the representatives of GTIOC, the City of Laguna Beach, and Rincon was held on July 19, 2022. The AB 52 meeting between the GTIOC, the City of Laguna Beach, and Rincon resulted in consultation

recommendations of the GTIOC, which has been incorporated in this Initial Study. The City did not receive any other requests for Tribal consultation. Native American Tribes wishing to partake in AB 52 consultation are required to have responded by July 20, 2022.

Survey Results

Rincon conducted a pedestrian survey of the project site on May 6, 2022. Rincon conducted a pedestrian survey using transect intervals spaced 10 meters and oriented generally from north to south. Exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were also visually inspected. Survey accuracy was maintained using a handheld Global Positioning Satellite unit and a georeferenced map of the project site. Site characteristics and survey conditions were documented using field records and a digital camera. Results of the field survey identified no evidence of archaeological remains or Native American cultural resources within the project site.

Additionally, the assessment did not identify any archaeological resources or archaeological deposits in the project site. The lack of surface evidence of archaeological materials does not preclude their subsurface existence. The absence of substantial prehistoric or historic-period archaeological remains within the immediate vicinity coupled with the results of previously conducted nearby surveys indicates that no known resources occur within the project site. However, as the positive SLF result suggests there is moderate potential for encountering intact subsurface archaeological deposits, therefore the following recommended mitigation measures, CR-1 and CR-2 for monitoring and for unanticipated discoveries during construction and to reduce impacts to a less than significant level.

Mitigation Measures

CR-1 Unanticipated Discovery of Archaeological Resources

During initial ground disturbance for the project site, an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall monitor construction activities. Initial ground disturbance is defined as disturbance within previously undisturbed native soils. If, during initial ground disturbance, the qualified archaeologist determines that the construction activities have little or no potential to impact cultural resources (e.g., excavations are within previously disturbed, non-native soils, or within soil formation not expected to yield cultural resources deposits), the qualified archaeologist may recommend that monitoring be reduced or eliminated. If cultural resources are identified during initial monitoring, work in the immediate vicinity should halt until the resource has been evaluated for significance. Should cultural resources be discovered during excavation, additional studies including data recovery efforts may be needed to reduce project impacts.

CR-2 On-Site Tribal Monitoring

A qualified and certified indigenous tribal member of GTIOC and direct lineal descendant of the project site (NAGPRA section 10.14) to provide the professional Native American Monitoring required for only the *ground disturbing activity* on the site. Ground disturbances including but not

limited to the removal of asphalt/cement/slurry, trenching, boring, excavation, auguring, grubbing, tree removal, grading and drilling will be monitored. The Tribal Monitor will only be required on site when these ground disturbing activities occur. The GTIOC monitor will be responsible for observing all mechanical and hand labor excavations to include paddle scrapers, blade machines, front-end loaders, backhoe, boring and drill operations as well as hydraulic and electric chisels. Associated work using tools such as picks and other non-electric or gasoline tools that are not regarded as mechanical will be monitored for their soil disturbances. Soils that are removed from the work site are considered culturally sensitive and are subject to inspection. These soils whether placed in a dump truck or spots piles are to be inspected. The monitor will temporarily hold excavations until a determination is made on the sensitivity of the of the soil. If the soils are sensitive, an archeological monitor will verify the find and notify site supervisor.

The GTIOC monitor may make recommendations during the course of the project when a cultural area has been impacted. The GTIOC monitor will be authorized to halt or redirect excavation activities to another area as an assessment is made. Both archeological and GTIOC will work together to ensure that the area is warranted as being culturally sensitive before a determination is made. Avoidance and directing an alternative route from this culturally sensitive area is highly recommended. Any artifacts associated within the site that are not associated with any burials are subject to collection by the designated archaeologist for purposes of data and information vital for their final report. The GTIOC monitor does not collect artifacts for any reason. Unauthorized removal of artifacts will jeopardize sites orientation and successful data recovery. Only a qualified archeologist will remove artifacts for their reports. The landowner will work with the GTIOC monitor to ensure that a proper repository is established. A final report will be issued to the cultural consultant by the archeological company.

It is the sole responsibility of the GTIOC monitor to provide the client with a written daily field report that includes photos of their accounting of the soil disturbances of the daily activities. This perspective of the daily activities by the GTIOC monitor will enhance the information gathered by the field archeologist. The daily report will include observations the GTIOC visually observed the project site at the beginning of each workday (i.e., weather conditions, overnight disturbances). Written daily monitoring reports will include daily observations on surface soil as well as disturbed soil. Photographic documentation is included in the daily reports. When project is completed, GTIOC will certify that work performed was done so within compliance of AB52 and SB18 within 5 days of completion of the Native American monitoring aspect of the project.

CR-3 Unanticipated Discovery of Cultural Resources

In the unlikely event that cultural resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area should be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the find is prehistoric, then a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the proposed project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

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c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

No known human remains have been documented within the project site or the immediate vicinity. While the project site is unlikely to contain human remains, the potential for the recovery of human remains during ground-disturbing activities is always a possibility. If human remains are found, existing regulations outlined in the California Health and Safety Code Section 7050.5 state that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. Mitigation Measure CR-4 would require that the project comply with California Health and Safety Code Section 7050.5 and the GTIOC's guidelines regarding recovery and reburial of the remains. With implementation of mitigation, impacts to human remains would be less than significant.

CR-4 Unanticipated Discovery of Human Remains

In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the County Coroner will notify the Native American Heritage Commission under the California Health and Safety Code (Senate Bill 297, Chapter 1492, statutes of 1982 and section 7050.50), which will determine and notify a most likely descendant (MLD). The MLD must not be a Native American Monitor assigned to monitor the site where human remains were unearthed to avoid a conflict of interest. The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

If any archaeological or paleontological, or cultural deposits, are discovered, including but not limited to skeletal remains and grave related artifacts, artifacts of traditional cultural, religious, or spiritual sites, or any other artifacts relating to the use or habitation sites, all construction shall cease within at least 50 feet of the discovery and held until the proper authorities are contacted. In the event blade machines are operating in an adjacent area, a maximum of 2" cuts or less will be permitted in all cultural areas. If more than one area is being excavated for extraction of remains simultaneously, an additional GTIOC monitor must be required. Each excavated burial will be monitored exclusively. Wooden tools are preferred for process of recovery; electric chisels and other power tools should be avoided. If remains are pedestaled, they will be placed on plywood for removal. If remains cannot be pedestaled due to soil conditions, remains just be carefully placed in cloth bags. Soils adjacent to burials will be saved for reburial in plastic containers. No photography (both film and digital) or video is allowed to be taken of the remains or the site. Drawings of remains are permitted to retain the orientation of the ancestors for reinterment purposes only. Coroner photographs of the remains may not be published for any purpose.

Authorities, to include the county corner, a certified osteologist, and law enforcement, will evaluate, make a determination and a formal review of the find. DNA or invasive testing that would compromise the integrity of the remains is not permitted by GTIOC. Macroscopic analysis is permitted, and any associated grave goods may be used for dating purposes of each burial. When remains are unearthed, the 1'X 1' test pits will be allowed to establish the extent of the burial area when necessary. All windrows within a 50-foot area must be screened (either wet or dry).

A certified osteologist will be retained to verify the human remains authenticity and work to help remove the ancestor(s) from the site area with the discretion and advise from the MLD. The county coroner has the legal responsibility for determining whether or not the remains are native indigenous people. The GTIOC monitor(s) assigned to the project will assist the osteologist and

archeological monitors in the recovery process. The MLD will determine where the ancestors will be housed pending a final decision for the reinterment of the ancestor(s).

Natural cotton bags and sheeting or cotton drop cloths will be used to store remains and bone fragments until the time of reinterment. Deer or other native hides may be used to cover the bagged and wrapped remains until the reburial and may become the burial wrapping. Until the scope of the project is completed, storage of ancestors should be done in close proximity to location of excavation or protected area must be provided by landowner or archeologist.

Reburial efforts of the remains and associated grave goods should be made to keep the remains within the same location or in close proximity to the removal site as possible, preferably within a 0.5-mile radius of the original site. If the preponderance of remains is uncovered in or excavated from one area, the reinterment should be in that area. Each reburial requires approximately 4' X 5 1/2' when fully articulated and should be at a depth of 6-10 feet. All associated grave goods and artifacts along with soils will be buried together with the ancestors and any isolated bone fragments uncovered on site may be buried together in an individual burial pit with indigenous animal skins, seaweed, or the cotton cloth used for all bagged fragments. The landowner(s) will be responsible for all costs related to the proper storage and reburial of remains excavated on their property to include all burial materials as required in these procedure guidelines. Landowner(s) will be financially responsible for providing reburial plots that are acceptable by the MLD.

Confidentiality

Any and all information provided about the location of an archeological or sacred site by the GTIOC cultural consultant will not be disclosed or reproduced both digitally and on paper. Furthermore, the location must not be published for public viewing which includes any reports either preliminary or final and must be kept confidential to maintain the integrity and compliance of the archeological or sacred site.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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6 Energy

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

As a state, California is one of the lowest per capita energy users in the United States, ranked 50th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2021). Electricity and natural gas are primarily consumed by the built environment for lighting, appliances, heating and cooling systems, fireplaces, and other uses such as industrial processes in addition to being consumed by alternative fuel vehicles. Energy resources consumed by project activities would be limited to petroleum fuels. Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being one of the top petroleum-producing states in the nation (California Energy Commission [CEC] 2021a). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with 12.6 billion gallons sold in 2020 (CEC 2021b). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 1.7 billion gallons sold in 2021 (CEC 2021b). Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the project’s energy consumption are discussed in detail in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, respectively.

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

Construction Energy Consumption

During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to deliver materials to the site. The project would require site preparation and grading, including hauling material offsite; pavement and asphalt installation; building construction; architectural coating; and landscaping and hardscaping.

Energy use during project construction would be primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary grid power may also be provided to construction trailers or electric construction equipment. However, energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. Furthermore, in the interest of cost efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not result in a potential impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and no construction-related energy impact would occur.

Operational Energy Consumption

Operation of the project would use natural gas and electricity for heating and cooling systems, lighting, appliances, and water use. As discussed above under methodology, operation of the project would not result in a net increase of gasoline or diesel consumption due to vehicle trips. Gasoline consumption would be limited to emergency use of a backup generator.

The project would also comply with all standards set in California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation. California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11) requires implementation of energy efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the Energy Commission. As the name implies, these standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. The standards are updated every three years and each iteration is more energy efficient than the previous standards. For example, according to the CEC, residential buildings meeting 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards; once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards (CEC 2018c).

Furthermore, the project would further reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by Southern California Edison (SCE) continues to increase to comply with state requirements through Senate Bill 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Overall, the construction of the project would be temporary and typical of similar projects, and not result in wasteful use energy. The operation of the project would increase the use of electricity on-site. However, the increase would be in conformance with the latest version of California's Green Building Standards Code and Building Energy Efficiency Standards. In addition, SCE and the Southern California Gas Company (SCG) have sufficient supplies to serve the project. Therefore, the operation would not result in wasteful or unnecessary energy consumption and potential impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Because the project would be powered by the existing electricity grid, the project would eventually be powered by renewable energy mandated by SB 100 and would not conflict with this statewide plan. Additionally, as discussed above, the project would be subject to more stringent energy efficiency standards pursuant to updated CALGreen requirements.

The City of Laguna Beach adopted the Laguna Beach Climate Protection Action Plan (CPAP) in 2009 (Laguna Beach 2009). The goal of the plan was to reduce GHG emissions seven percent below 1990 levels by 2012. The plan provides recommendations for achieving the GHG emissions reduction, including increasing energy efficiency, increasing the use of public transit and active transportation, and providing public outreach and education. The CPAP also contains a chapter on reducing GHG emissions from government operations, which includes energy-use reduction measures like providing natural and day lighting, increased reliance on natural ventilation, and installation of solar panels in government buildings where feasible. The project would include a solar ready roof and would comply with CALGreen standards, which include a number of measures, such as energy efficient lighting fixtures, fans, and HVAC systems, to increase energy efficiency within buildings that align with the CPAP goals and recommendations. Furthermore, as demonstrated in Section 8, *Greenhouse Gas Emissions*, the project is consistent with and would not conflict with or obstruct the state plan for renewable energy; therefore, no impact would occur.

NO IMPACT

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7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Directly or indirectly cause 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 a known fault?	<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 checked="" type="checkbox"/>	<input 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 direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<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 geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Geologic Setting

The project site is within the northern Peninsular Ranges geomorphic province, one of 11 major provinces in California (California Geological Survey [CGS] 2002). The Peninsular Ranges are comprised of a series of ranges separated by northwest trending valleys which trend northwest-southeast and extend into lower California. The Peninsular Ranges are bound on the east by the Colorado Desert (CGS 2002).

According to the California Geological Survey (CGS), the project site is not located in an Alquist-Priolo Fault Zone or a liquefaction zone (CGS 2016). There are no faults present on the project site, and the closest fault to the project site is the Newport-Inglewood fault zone, a Quaternary fault approximately two miles southwest of the project site (United States Geological Survey [USGS] 2022). However, the project site is located within a landslide zone, as identified by the CGS and the Safety Element of the Laguna Beach General Plan (CGS 2016; City of Laguna Beach 2021).

Topography at the project site exhibits an approximate 71 percent slope trending north-south from an elevation of approximately 742 feet at the project site's northernmost border abutting structures at 31982 Monarch Crest, which is an adjacent street near the project site. East-west trending slopes exhibit an approximate 58 percent slope.

GMU Geotechnical (GMU) prepared a Preliminary Geotechnical Investigation Report (Report) for the project site on September 11, 2009, which was updated in a Geotechnical Update Letter sent to the Brent Engineering Inc. on May 28, 2020. Together, these documents provide background review, laboratory testing results, surface and subsurface exploration, and updated regulatory statutes and recommendations (GMU 2009, GMU 2020). The project site and surrounding area contain three primary mapped soil units: undocumented fill (Qafu), Surficial Slope Failure (Qsp), and San Onofre Breccia (Tso) (GMU 2009). Undocumented fill was observed on the downslope side of the existing access road, up to four feet in thickness at the edge of the road. Other undocumented fill was observed as above-ground piles or excess road materials. Surficial Slope Failure, present along the southern end of the access road stretching north to south, appeared to be the result of previously placed undocumented road fill soils, and consisted of loose, medium grained to cobbly silty sand with some clay. Bedrock materials of the San Onofre Breccia was observed and consisted of lenticular bedding of conglomeratic sandstone, sandstone, and breccia. The bedding was observed to be poor, discontinuous, and variable. The bedrock was observed to be generally very dense to hard, locally cemented, and resistant to erosion (GMU 2009). Site conditions remain essentially identical to those described in the Report (GMU 2020).

Overview of Paleontological Sensitivity

Rincon evaluated the paleontological sensitivities of the geologic units underlying the project site using the results of an online paleontological locality search and review of existing information in the scientific literature concerning known fossils within geologic units mapped within the project site. The following analysis is based on the results of the Paleontological Resources Assessment, which is provided in full as Appendix D. Fossil collections records from the Paleobiology Database and University of California Museum of Paleontology online database were reviewed for known fossil localities in Orange County (Paleobiology Database 2021; University of California Museum of Paleontology 2021). In addition, a request for a list of known fossil localities from the project site and immediate vicinity (i.e., localities recorded on the United States Geological Survey *San Juan Capistrano*, 7.5-minute topographic quadrangle) was submitted to the Natural History Museum of Los Angeles County (NHMLAC). Based on the NHMLAC records search and available information contained within existing scientific literature and the University of California Museum of

Paleontology database, paleontological sensitivities were assigned to the geologic units underlying the project site. The potential for impacts to scientifically important paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The Society of Vertebrate Paleontology (SVP) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources (SVP 2010). This system is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

A search of the paleontological locality records at the NHMLAC did not identify previously recorded fossil localities in the project site; however, the NHMLAC reports two invertebrate localities near the project site from San Onofre Breccia. LACMIP 6997 yielded unspecified fossilized invertebrates approximately four miles northwest of the project site near the Laguna Ridge Trail in Laguna Hills. LACMIP 24377 also produced unspecified invertebrates approximately four miles southeast from the project site near Dana Point. A supplemental review of the museum records maintained in the UCMP online collections database did not yield records of any vertebrate fossil localities from the Miocene San Onofre Breccia in the immediate vicinity of the project site. Based on the lithology and NHMLAC records search results, intact (native) deposits of Miocene San Onofre Breccia are assigned a high paleontological sensitivity.

- a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*
- a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?*

The project site is located in a seismically active region of Southern California; however, there are no known faults on the project site and the nearest Alquist-Priolo earthquake fault zone, the Newport-Inglewood-Rose Canyon Fault Zone, is approximately 18 miles northwest of the project site (CGS 2016). The project is not in a liquefaction-prone area (CGS 2016, City of Laguna Beach 2021). The project would comply with State standards for building design through the California Building Standards Code (CBC) (California Code of Regulations, Title 24) which requires all construction in California to comply with established minimum standards to safeguard the public health, safety, and general welfare. The CBC achieves this through structural strength, means of egress, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within California. Therefore, with conformance to the CBC, impacts to the risk of loss, injury, or death involving the rupture of a known earthquake fault or liquefaction as a result of the project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*

The project would involve the construction of a three-story residential structure. As outlined in the Geotechnical Update Letter, the project would conform to the current seismic design provisions of the CBC (GMU 2020). The 2019 CBC incorporated the latest seismic design standards for structural loads and materials, as well as provisions from the National Earthquake Hazards Reduction Program, to mitigate losses from an earthquake and provided for the latest in earthquake safety. The

earthquake design requirements of the CBC consider the occupancy category of the structure, site class, soil classifications, and various seismic coefficients. The CBC provides standards for various aspects of construction, including but not limited to excavation, grading, earthwork, construction, site preparation, fill placement, retaining wall design, and foundation design. While the project would be susceptible to seismic activity given its location within a seismically active area, adherence to applicable CBC standards would minimize this risk to the extent feasible. Thus, the project would not cause substantial adverse effects due to strong seismic ground shaking, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is located in an earthquake induced landslide zone (CGS 2016). However, the project would be constructed at the top of a hill and thus would be unlikely to be subject to landslides. The geotechnical reconnaissance survey conducted for the Report noted that no landslides were observed on site and no landslides were thought to have occurred based on a lack of evidence of land sliding, debris flows, or surficial failures. The Report concluded that given the bedrock underlying the site, the historic stability of the site, and the results of the stability analysis, the potential for future landslides to impact the planned development is unlikely if adherence to geotechnic recommendations provided by GMU are followed (GMU 2009). The Geotechnical Update Letter upholds the conclusions made in the Report regarding landslides and slope stability (GMU 2020). Per CBC Title 24, Section 1803.1.1.3 the building department of each city, county, or other enforcement agency shall require that the approved recommended action be incorporated in the construction of each dwelling. Thus, the project would implement all recommendations provided in the Report and Geotechnical Update Letter. Therefore, with adherence to the CBC and recommendations provided by GMU, the project would not directly or indirectly cause the risk of loss, injury, or death involving landslides, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

The project involves the construction of a three-story residential structure which would entail grading activities that would result in 6,100 cubic yards of cut and 1,742 cubic yards of fill. Soil erosion caused by strong wind and/or earth-moving operations during construction would be minimized through compliance with SCAQMD Rule 403 which prohibits visible particulate matter from crossing property lines. Standard practices to control fugitive dust emissions including watering of active grading sites, covering soil stockpiles with plastic sheeting, and covering soils in haul trucks with secured tarps.

The potential for project construction activities involving soil disturbance, such as excavation and grading, to result in increased erosion and sediment transport by stormwater to surface waters would be minimized because the project would be required to comply with Laguna Beach Municipal Code Section 22.17.010, Construction Project Erosion and Sediment Control Maintenance Requirements. Section 22.17.010 requires standard construction Best Management Practices (BMPs), and implementation of these erosion control measures would avoid or minimize potential impacts related to soil erosion during project construction. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

The project would be located in a seismically active area, the project is not anticipated to adversely affect soil stability or increase the potential for local or regional landslides, subsidence, liquefaction, or collapse. The Report prepared for the project indicated the bedrock is comprised of very dense, locally cemented, and resistant to erosion conglomerate, sandstone, and breccia of the San Onofre Breccia. Furthermore, the groundwater table is greater than 50 feet deep (GMU 2009) and is therefore not conducive to settings that could cause liquefaction to occur. The Report prepared for the project site concluded natural slopes at the site would be stable for both static and seismic conditions with normal rainfall and maintenance, provided the recommendations in the Report are followed. As previously discussed, the project would follow all recommendations provided by GMU in accordance with the CBC. Therefore, the project would not exacerbate hazards related to unstable soil and would not result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site and surrounding area contains three primary mapped geologic units: undocumented fill (Qafu), Surficial Slope Failure (Qsp), and San Onofre Breccia (Tso) (GMU 2009). The undocumented fill, divided into access road graded fill and debris fill, was placed during previous access road grading. The Surficial Slope Failure consisted of loose, medium grained to cobbly silty sand with some clay in limited areas of the project site. The bedrock of the San Onofre Breccia was determined to be very dense to hard and locally cemented. These types of materials do not contain types of clay materials that create expansive soil conditions. Therefore, the project would not introduce risk to life or property as a result of expansive soils. No impact would occur.

NO IMPACT

- e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The project would connect to the City's existing wastewater conveyance and treatment system and would not include the installation of new septic tanks or alternative wastewater disposal systems. No impact would be associated with the use of septic tanks or alternative wastewater disposal systems.

NO IMPACT

- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The project site is in an urbanized area and has been previously developed. Given the nature of the proposed project and existing site conditions, project-related ground disturbance (i.e., excavations) would occur mainly within previously disturbed areas. However, some excavations would occur in

previously undisturbed areas along the northwest slopes of the reservoir location, which would have the potential to impact fossiliferous deposits because the project site is underlain by geologic units with a high paleontological sensitivity. Construction activities such as grading, excavation, drilling, or any other activity that disturbs the surface or subsurface geologic formations may result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data if they are present. Therefore, impacts to paleontological resources would be potentially significant. Implementation of Mitigation Measures GEO-1 and GEO-2 would be required to reduce impacts to paleontological resources to a less-than-significant level, as outlined in Appendix D (Paleontological Resources Assessment) to this IS-MND.

Mitigation Measures

The following mitigation measure would address potentially significant impacts if paleontological resources were encountered during project ground-disturbing activities. Implementation of Mitigation Measures GEO-1 and GEO-2 would effectively mitigate the project's potentially significant impacts to these resources through the recovery, identification, and curation of previously unrecovered fossils.

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GEO-1 Paleontological Worker Environmental Awareness Program

Prior to the start of construction, a Qualified Professional Paleontologist (as accordance with SVP [2010] standards) or their designee shall conduct a paleontological Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.

GEO-2 Unanticipated Discovery of Paleontological Resources

In the event a fossil is discovered during construction of the project, excavations within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by a Qualified Professional Paleontologist. If the find is determined to be significant, the applicant shall retain a Qualified Professional Paleontologist, to direct all mitigation measures related to paleontological resources. The Qualified Professional Paleontologist shall design and carry out a data recovery plan consistent with the SVP standards (2010).

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<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"/>

Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of GHG emissions contributing to the “greenhouse effect,” a natural occurrence which takes place in Earth’s atmosphere and helps regulate the temperature of the planet. The majority of radiation from the sun hits Earth’s surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and from of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO₂), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as “carbon dioxide equivalent” (CO₂e), which is the amount of a specific GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO₂ on a molecule per molecule basis (Intergovernmental Panel on Climate Change 2021).³

The United Nations Intergovernmental Panel on Climate Change (IPCC) expressed that the rise and continued growth of atmospheric CO₂ concentrations is unequivocally due to human activities in the IPCC’s Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and

³ The Intergovernmental Panel on Climate Change’s (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change’s (2007) *Fourth Assessment Report*. Therefore, as the analysis is based on consistency with the 2017 Climate Change Scoping Plan, this analysis utilizes a GWP of 25 for methane.

land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatonnes of anthropogenic CO₂ was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021). Furthermore, since the late 1700s, estimated concentrations of CO₂, methane, and nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity (United States Environmental Protection Agency 2021b). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (California Natural Resource Agency 2018).

Regulatory Setting

State and Regional Regulations

In response to climate change, California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006." AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the Governor signed SB 32 into law, extending AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program and the Low Carbon Fuel Standard, and implementation of recently adopted policies and legislation, such as SB 1383 (aimed at reducing short-lived climate pollutants including methane, hydrofluorocarbon gases, and anthropogenic black carbon) and SB 100 (discussed further below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of CO₂e by 2030 and two MT of CO₂e by 2050 (CARB 2017).

Other relevant state laws and regulations include:

- **SB 375:** The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. Metropolitan Planning Organizations are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the Metropolitan Planning Organization's Regional Transportation Plan (RTP). On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. SCAG was assigned targets of an 8 percent reduction in GHGs from transportation sources by 2020⁴ and a 19 percent reduction in GHGs from transportation sources by 2035. SCAG adopted the 2020-2045 RTP/SCS in September 2020, which meets the requirements of SB 375.

⁴ SCAG met 2020 GHG reduction but confirmation from CARB is still pending.

- **SB 100:** Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state’s Renewables Portfolio Standard Program. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.
- **California Building Standards Code (CCR Title 24):** The California Building Standards Code consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The current iteration is the 2019 Title 24 standards. Part 6 is the Building Energy Efficiency Standards, which establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California’s energy demand. Part 12 is the California Green Building Standards Code (CALGreen), which includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures.

Local Regulations

CITY OF LAGUNA BEACH CLIMATE PROTECTION ACTION PLAN

The City of Laguna Beach adopted the Laguna Beach Climate Protection Action Plan (CPAP) in 2009 (City of Laguna Beach 2009). The goal of the plan was to reduce GHG emissions seven percent below 1990 levels by 2012. The plan provides recommendations for achieving the GHG emissions reduction, including increasing energy efficiency, increasing the use of public transit and active transportation, and providing public outreach and education. The CPAP is geared towards City government action, such as City outreach to local businesses and residents to encourage sustainable practices, the adoption of local guidance and policies to reduce energy and water use, and the adoption of practices to reduce GHG emissions in government operations. Therefore, the CPAP is limited in its application to projects and activities outside of government operations.

CITY OF LAGUNA BEACH GENERAL PLAN

The Land Use Element of the General Plan includes the goal to “Create a community that is sustainable, resilient, and regenerative”, which intends to guide the city towards a more sustainable future through a reduction in GHG emissions and conservation of natural resources (Laguna Beach 2012). To achieve this goal, the Land Use Element includes the following policies and actions related to GHG emissions:

- Policy 1.1** Reduce greenhouse gas (GHG) emissions 80% below 1990 levels by 2050.
- Policy 1.2** Support design strategies and construction standards that maximize use of alternative energy sources and passive solar architecture in buildings.
 - Action 1.2.1** Modify building codes and design guidelines to permit, encourage, and/or require integration of passive solar design, green roofs, active solar, and other renewable energy sources and/or provide incentives for development projects that meet or exceed silver LEED certification or better (or equivalent standards, if developed by the State).
- Policy 1.3** Support planning and design solutions that reduce water consumption and implement water conservation practices.

Significance Thresholds

Based on Appendix G of the CEQA Guidelines, impacts related to GHG emissions from the proposed project would be significant if the project would:

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

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. As a result, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

To determine a project-specific threshold, guidance on GHG significance thresholds in the region from SCAQMD, the air district in which the project site is located, was used. The SCAQMD's GHG CEQA Significance Threshold Working Group considered a tiered approach to determine the significance of residential and commercial projects. The draft tiered approach is outlined in meeting minutes dated September 29, 2010 (SCAQMD 2010):

- **Tier 1.** If the project is exempt from further environmental analysis under existing statutory or categorical exemptions, there is a presumption of less than significant impacts with respect to climate change. If not, then the Tier 2 threshold should be considered.
- **Tier 2.** Consists of determining whether the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. The concept embodied in this tier is equivalent to the existing concept of consistency in CEQA Guidelines Section 15064(h)(3), 15125(d) or 15152(a). Under this Tier, if the proposed project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions. If there is not an adopted plan, then a Tier 3 approach would be appropriate.
- **Tier 3.** Establishes a screening significance threshold level to determine significance. The Working Group has provided a recommendation of 3,000 MT CO₂e per year for nonindustrial projects.
- **Tier 4.** Establishes a service population threshold to determine significance. The Working Group has provided a recommendation of 4.8 MT CO₂e per year for land use projects.

Tier 1 would not apply to the project as it is not exempt from environmental analysis. For Tier 2, The City of Laguna Beach CPAP aimed to reduce manmade GHG emissions seven percent below 1990 levels by 2012. The CPAP has not adopted GHG emission targets post-2020, therefore, the CPAP is not an applicable GHG reduction plan. Therefore, for a project-specific threshold, the City of Laguna Beach has selected SCAQMD's 3,000 MT CO₂e per year threshold for nonindustrial projects as the applicable project-specific threshold, in accordance with Tier 3. The SCAQMD's 3,000 MT CO₂e per year threshold is frequently used by jurisdictions across Southern California to determine GHG emissions impacts from nonindustrial projects.

Methodology

Calculations of CO₂, CH₄, and N₂O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO₂, CH₄, and N₂O because these make up 98 percent of all GHG emissions by volume and are the GHG emissions the project would emit in the largest quantities (IPCC 2014). Emissions of all GHGs are converted into their equivalent GWP in terms of CO₂ (i.e., CO₂e). Minimal amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total GHG emissions. GHG emissions associated with project construction and operation were estimated using CalEEMod, version 2020.4.0, with the assumptions described, above, in addition to the following:

- The project's CalEEMod model uses CalEEMod default assumptions for energy, solid waste, area, and mobile sources for the single-family residential unit.
 - In accordance with Section 150.1(b)14 of the 2019 Building Energy Efficiency Standards, all new residential uses under three stories must install photovoltaic (PV) solar panels that generate an amount of electricity equal to expected electricity usage. Therefore, it was assumed that 100 percent of electricity usage for the proposed low-rise residential uses would be supplied by PV solar panels.
 - CalEEMod does not incorporate water use reductions achieved by CALGreen (Part 11 of Title 24). New development would be subject to CALGreen, which requires a 20 percent increase in indoor water use efficiency and use of indoor water-efficient irrigation systems. Thus, in order to account for compliance with CALGreen, a 20 percent reduction in indoor water use and the use of water-efficient irrigation systems were included in the water consumption calculations for new development.
 - In accordance with SCAQMD's recommendation, GHG emissions from construction of the proposed project were amortized over a 30-year period and added to annual operational emissions to determine the project's total annual GHG emissions (SCAQMD 2008).
- a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

Construction and operation of the project would generate GHG emissions. This analysis considers the combined impact of GHG emissions from both construction and operation.

Construction Emissions

Construction facilitated by the project would generate temporary GHG emissions primarily from the operation of construction equipment on-site, as well as from vehicles transporting construction workers to and from the project site and heavy trucks to transport building, concrete, and asphalt materials. As shown in Table 8, construction associated with the project would generate 1,377 MT of CO₂e. Amortized over a 30-year period pursuant to SCAQMD guidance, construction associated with the project would generate 46 MT of CO₂e per year.

Table 8 Construction GHG Emissions

Year	Emissions (MT of CO ₂ e)
2023	764
2024	613
Total	1,377
Amortized over 30 years	46

MT = metric tons; CO₂e = carbon dioxide equivalents

Source: Table 2.1 “Overall Construction-Mitigated” emissions. Annual emissions results are shown for all emissions. The mitigated emissions account for project sustainability features and/or compliance with specific regulatory standards. No mitigation measures are required for this project. See CalEEMod worksheets in Appendix B.

Operational and Total Project Emissions

Operation of the project would generate GHG emissions associated with area sources (e.g., landscape maintenance), energy and water usage, vehicle trips, and wastewater and solid waste generation. Annual operational emissions resulting from the project are summarized in Table 9. The annual operational GHG emissions are combined with the amortized construction emissions. The project’s emissions would be approximately 61 MT of CO₂e per year, which would not exceed the SCAQMD’s screening-level threshold of 3,000 MT of CO₂e per year. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

Table 9 Combined Annual Emissions

Emission Source	Annual Emissions (MT CO ₂ e)
Construction¹	46
Operational	
Area	<1
Energy	1
Mobile	11
Solid Waste	2
Water, Wastewater	<1
Total	61
SCAQMD Numeric Threshold	3,000
Exceed Threshold?	No

MT CO₂e = metric tons of carbon dioxide equivalent

¹ Amortized construction related GHG emissions over 30 years

Source: Table 2.2 “Overall Operation-Mitigated” emissions. Annual emissions results are shown for all emissions. The mitigated emissions account for project sustainability features and/or compliance with specific regulatory standards. No mitigation measures are required for this project. See CalEEMod worksheets in Appendix B.

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

As discussed under *Regulatory Setting*, plans and policies have been adopted to reduce GHG emissions in the Southern California region, including the State's 2017 Scoping Plan, and City of Laguna Beach General Plan, and Climate Action Plan. The project's consistency with these plans and policies are discussed in the following subsections. As discussed herein, the project would not conflict with plans and policies aimed at reducing GHG emissions.

Consistency with 2017 Scoping Plan

The principal State plan and policy are AB 32, the California Global Warming Solutions Act of 2006, and the follow-up, SB 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020, and the goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. As mentioned above in impact analysis a, the project would be below SCAQMD's interim threshold that considers the long term GHG emissions pursuant executive order S-3-05 that would capture 90 percent of new development emissions. Pursuant to the SB 32 goal, the 2017 Scoping Plan was created to outline goals and measures for the state to achieve the reductions. The 2017 Scoping Plan's goals include reducing fossil fuel use and energy demand and maximizing recycling and diversion from landfills. The project would be consistent with these goals through project design such as, complying with the latest Title 24 Green Building Code and Building Efficiency Energy Standards. The project would install PV solar panels, energy efficient appliances and lighting, reclaimed water for outdoor use, and water efficient appliances, fixtures, and irrigation. A minimum of two electric vehicle charging stations would be installed. In addition, the project would be served by Southern California Edison, which is required to increase its renewable energy procurement per SB 100 targets. Therefore, the project would be consistent with the 2017 Scoping Plan.

Consistency with Laguna Beach Climate Protection Action Plan

The CPAP is geared toward City government action, such as City outreach to local businesses and residents to encourage sustainable practices, the adoption of local guidelines and policies to reduce energy and water use, and the adoption of practices to reduce GHG emissions in government operations. Therefore, the CPAP is limited in its application to the proposed project.

The project would be consistent with the goals of the CPAP, such as Sustainable Construction, Water Use Efficiency, and Sustainable Sourcing. The project would include green building features such as energy-efficient appliances and lighting, reclaimed water for outdoor use, water-efficient appliances, irrigation, and fixtures. The project would add a minimum of two EV charging stations. In addition, the project would be required to implement a PV solar system equal to the amount of electricity usage from the single-family residential unit. The project's green building features and compliance with CALGreen would also align with the CPAP.

Consistency with City General Plan

Relevant GHG policies and action items discussed in the City General Plan Land Use Element are addressed above in the Regulatory Setting of this section. A majority of the action items are activities to be undertaken by the local government; therefore, there are limited GHG reduction action items that apply to the project. As shown in Table 10, the project would be consistent with the applicable strategies and policies, Policy 1.1, 1.2, and 1.3 in the Land Use Element of the City General Plan.

Table 10 Greenhouse Gas General Plan Consistency Analysis

General Plan GHG Policies and Action Items	Project Consistency
Support design strategies and construction standards that maximize use of alternative energy sources and passive solar architecture in buildings.	Consistent. The proposed single family residential unit would be required to install a PV system equal to the electricity usage of the proposed residential building.
Support planning and design solutions that reduce water consumption and implement water conservation practices.	Consistent. Project would incorporate water efficient appliances, fixtures, and irrigation systems consistent with green building features. In addition, the project would reclaim water for outdoor uses.

Source: Laguna Beach 2012

As discussed above, construction and operation of the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on a site that is included on a list of hazardous material 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 type="checkbox"/>	<input checked="" type="checkbox"/>
e. For a project located in 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 or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Hazards and Hazardous Materials Setting

Federal, state, and local government laws define hazardous materials as substances that are toxic, flammable/ignitable, reactive, or corrosive. Extremely hazardous materials are substances that show high acute or chronic toxicity, carcinogenicity, bio accumulative properties, persistence in the environment, or that are water reactive.

The area evaluated for hazards and hazardous materials impacts includes the project site and nearby properties with the potential to affect or be affected by the project. The project site is located approximately 3.7 miles from the nearest schools and 20 miles from the John Wayne Airport.

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

Project construction would involve the temporary use of potentially hazardous materials such as vehicle fuels and fluids that could be released should an accidental leak or spill occur. However, standard construction Best Management Practices (BMPs) for the use and handling of such materials would avoid or reduce the potential for such conditions to occur. Any use of potentially hazardous materials during construction of the project would comply with all local, state, and federal regulations regarding the handling of potentially hazardous materials, including Title 49 of the Code of Federal Regulations and Title 22, Division 4.5 of the California Code of Regulations. Risk of spills would cease after construction is completed.

Operation and maintenance of the proposed project would likely involve the use of common household materials such as cleaning and degreasing solvents, fertilizers, and pesticides. In addition, chemicals, such as chlorine, for the maintenance of the pools would also potentially be stored on site in minor quantities. These and other materials used in the regular maintenance of the building and landscaping would also be utilized in the secondary activities associated with the new single-family development. Use of these materials would be subject to compliance with existing regulations, standards, and guidelines established by the federal, State, and local agencies related to storage, use, and disposal of hazardous materials. The transport, use, and storage of hazardous materials during construction of the project would be subject to all applicable State and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The proposed project would involve the construction of residential dwellings that typically do not use or store large quantities of hazardous materials. Potentially hazardous materials such as fuels, lubricants, and solvents would be used during construction of the project. However, the transport, use, and storage of hazardous materials during the construction of the project would be conducted in accordance with all applicable state and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22. As described above, the proposed project would likely involve the storing of hazardous materials like pool chemicals. However, any

pool chemicals stored would be in minor quantities. Impacts from project operation would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The project site is not located within a quarter mile of any schools. The closest schools are the Dana Montessori School, located approximately 3.8 miles south of the project site. During construction of the project, hazardous and potentially hazardous materials would be utilized for the transport and operation of vehicles and machinery. As discussed above, the transport, use, and storage of hazardous materials during the construction of the project would be conducted in accordance with all applicable state and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22. Additionally, operation of the proposed residential project would not involve the use or transport of large quantities of hazardous materials. Therefore, impacts related to hazardous emissions or materials affecting local schools would be less than significant.

NO IMPACT

- d. *Would the project be located on a site that is included on a list of hazardous material 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?*

Government Code Section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List. The California Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. The analysis for this section included a review of the following resources to provide hazardous material release information:

- SWRCB GeoTracker database
- DTSC EnviroStor database

A search of the EnviroStor database did not identify Resource Conservation and Recovery Act (RCRA) sites within 0.25 mile of project site (DTSC 2022). In addition, according to GeoTracker, there are no LUST or other clean-up sites within 0.25 mile of the project site (SWRCB 2022). Therefore, the project is not located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. Thus, no impact would occur.

NO IMPACT

- 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 or excessive noise for people residing or working in the project area?*

The airport or airstrip nearest to the project site is the John Wayne Airport, located approximately 20 miles northwest of the project site. The project is not within the airport land use plan for the John Wayne Airport (Orange County Airport Land Use Commission [ALUC] 2008). Therefore, the

project would not introduce associated hazards or excessive noise to future employees on the project site due to airport noise. Thus, no impact would occur.

NO IMPACT

- f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The project would not involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Construction activities do include widening the project's driveway/access roads; however, these impacts would be temporary and access to emergency evacuation roadways would not be blocked by project construction.

Operation of the project would not require the development of additional streets or introduce new features that would interfere with or obstruct an adopted emergency response plan. Additionally, as discussed further in Section 17, *Transportation*, operation of the project would not result in a significant increase in daily trips to the site and the project site is surrounded by major roadways, including Coast Highway, which has sufficient capacity to provide access to and from the project site during an emergency. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

As discussed in Section 20, *Wildfire*, the project site, and surrounding uses are classified as being in a very high fire hazard severity zone (California Department of Forestry and Fire Protection [CALFIRE] 2021). An indirect exposure to wildfire can occur. However, risks would be mitigated through conformance with LBMC Chapter 15.01, *California Fire Code*, which establishes provisions for fire safety related to construction, maintenance and design of buildings and land uses. As discussed in Section 20, *Wildfire*, the project would not result in increased wildfire risks at the site or lead to risk of loss injury or death involving wildland fires due to mitigation strategies incorporated. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or 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:				
(i) Result in 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 off-site;	<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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

A Drainage Study for the proposed project was prepared by RDS and Associates on August 25, 2021. This study is incorporated throughout the analysis in the Hydrology and Water Quality and can be found in Appendix F.

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

Implementation of the project would involve construction activities such as site preparation, grading, building construction, and architectural coating, some of which could disturb soils within the project site. Disturbed soils have the potential to be transported away from construction and temporary staging areas through wind and rain, resulting in polluted stormwater runoff. The types of pollutants contained in runoff from construction sites could include sediments and contaminants such as oils, fuels, paints, and solvents. Additionally, other pollutants, such as trace metals and hydrocarbons, could attach to sediment and be transported away from the project site to receiving water body, the Pacific Ocean, which is located approximately 2,100 feet west of the project site.

Due to the small size disturbance (less than one acre), the project would not be subject to the requirements of the *Construction General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ (Construction General Permit), adopted by the State Water Resource Control Board (SWRCB 2021). However, the project would be required to comply with the Laguna Beach Municipal Code (LGMC) Title 16, Water Quality Control, and LBMC Title 22, Excavating, Grading, and Filling. Specifically, Chapter 16.01 of the LBMC would require implementation of best management practices (BMPs) during construction in order to prevent, reduce, or remove pollutants from entering the storm water drainage system to the extent practicable. Additionally, LBMC Title 22 requires issuance of a grading permit prior to construction activities. During construction of the project, Chapter 22.17 of the LBMC would require the project permittee to implement and maintain grading, erosion, and sediment control measures to adequately control runoff. In addition, the permittee must monitor and evaluate the performance of such grading, erosion, and sediment control measures after each rainstorm event, and must revise and repair sediment control systems as needed. Upon completion of construction and pursuant to Chapter 22.20 of the LBMC, the project owner would be fully responsible for the ongoing maintenance of all cut and fill slopes or other areas of work within the limits of the approved grading and landscape plans on the project site. Pursuant to Chapter 16.01 of the LBMC, the community development department would review the project plans and impose any BMPs, terms, conditions, and requirements of the project prior to approval of the site plans and issuance of a grading permit. Similarly, pursuant to Chapter 22.10, the project's final erosion and sediment control plan must be approved by the City prior to the issuance of a grading permit.

The proposed project would implement the following BMPs during project construction:

- Sediment from areas disturbed by construction shall be retained on site using structural drainage controls to the maximum extent practicable.
- Stockpiles of soil shall be properly contained to minimize sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking, or wind.
- Construction-related materials, wastes, spills, or residues shall be retained on site to minimize transport from the site to streets, drainage facilities, or adjoining property by wind or runoff.
- Runoff from equipment and vehicle washing shall be contained at construction site unless treated to remove sediment and other pollutants.

- All construction contractor and subcontractor personnel are to be made aware of the required BMPs and good housekeeping measures for the project site and any associated construction staging areas.
- At the end of each day of construction activity all construction debris and waste materials shall be collected and properly disposed in trash or recycle bins.
- Construction sites shall be maintained in such a condition that an anticipated storm does not carry wastes or pollutants off the site. Discharges of material other than stormwater are allowed only when necessary for performance and completion of construction practices and where they do not cause or contribute to violation of any water quality standards; cause or threaten to cause pollution, contamination, or nuisance; or contain a hazardous substance in a quantity reportable under federal regulations 40 CFR parts 117 and 302.
- Potential pollutants include but are not limited to: sediments, cement products, solid or liquid chemical spills; wastes from paints, stains, sealants, glues, lime, pesticides, herbicides, wood preservatives, and solvents, asbestos fibers, paint flakes or stucco fragments, fuels, oils, lubricants, and hydraulic, radiator or battery fluids, concrete, detergent or floatable wastes; wastes from any engine/equipment steam cleaning or chemical degreasing; and super-chlorinated potable water line flushing's.
- During construction, disposal of materials and potential pollutants should occur in a specified and controlled temporary area on-site physically separated from potential storm-water runoff, with ultimate disposal in accordance with local, state, and federal requirements.
- Dewatering of contaminated groundwater or discharging contaminated soils via surface erosion is prohibited. True dewatering of non-contaminated groundwater requires a national pollutant discharge elimination system (NPDES) permit from the respective state regional water quality control board.

The proposed project is also required to meet the South Orange County Model Water Quality Management Plan (WQMP) requirements, as the project includes the addition of 13,170 square feet of impervious surface, detailed in Impact c(i), the project is considered a Priority Development Project. All Priority Development Projects require an approved WQMP which incorporates Low Impact Development (LID) BMPs when necessary.

Compliance with the requirements of the LBMC, including review of project plans and implementation of construction BMPs, would reduce impacts to local storm water drainage facilities. The submission of the project's WQMP would be included in the Applicant's entitlement approval requests, which would undergo City review and approval. Therefore, the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Water supply in the area is provided by Laguna Beach County Water District (LBCWD), which sources local water from groundwater supplies in the Santa Ana River Basin and imported water from both the Colorado River and Northern California (LBCWD 2021). According to the 2020 Urban Water Management Plan (UWMP), LBCWD expects to be able to provide reliable water supplies for an average year, single dry year, and multiple dry years for its existing and planned supplies (LBCWD

2021). As discussed further in Section 19, *Utilities and Service Systems*, LBCWD would have sufficient water supply to provide for the proposed project's water use. Project construction may require minimal amounts of water for dust suppression in order to comply with the SCAQMD recommendations regarding dust suppression during construction activities. Construction activities would be temporary in nature, lasting for approximately 24 months. Therefore, no substantial increase in demand on groundwater supplies would occur, and adequate water supplies would be available to meet the needs of the project for dust suppression purposes.

The proposed project would result in the addition of 13,170 square feet of impervious surfaces on the project site. However, the project site does not overly a groundwater basin. Therefore, the project would not substantially decrease groundwater supplies interfere substantially with groundwater recharge. These impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

The proposed project site currently lies within a natural hillside and generally consists of native bush and grassland groundcover. The site is underdeveloped, existing as a vacant lot with minimal development of an underground water tank. The closest stream or river to the project site is Arroyo Salado, located approximately 0.8 miles east of the project site (Google Earth Pro 2022).

Construction and operation of the project would not result in the alteration of the course of Arroyo Salado or any other bodies of water, such as Salt Creek located approximately 1.0 miles southeast of the project site or Aliso Creek located approximately 1.2 miles northwest of the project site (Google Earth Pro 2022). Drainage courses flow approximately 100 feet southeast of the residential home, bordering the perimeter of the project and approximately 200 feet northwest of the residential home, within the project site. The project may alter the existing drainage patterns on the project site by introducing new grades and structures with impervious surfaces that could alter flow and direction of existing drainage from the project site's existing configuration.

Development of the proposed project includes grading of approximately 1,020 cubic yards of soil with incorporation of terraced retaining walls. The project development also includes the extension of the paved Vista Del Sol Road and construction of the 10,522 square foot residence, 738 square foot garage, and 5,212 square feet of hardscape, totaling approximately 13,170 square feet of impervious surfacing. The Drainage Report found that there is a projected increase in flow between undeveloped and developed condition of 1.4 cubic feet per second (cfs) for the 10-year storm event and increase of 2.0 cfs for the 100-year storm event. Therefore, runoff leaving the project site with implementation of the proposed project would not be significantly altered compared to existing conditions. Furthermore, as listed under the Impact a. of this section, the proposed project would comply with the City's urban runoff requirements as stated in the LBMC, including preparation and implementation of a WQMP, which would reduce the quantity and level of pollutants in runoff leaving the project site. Therefore, impacts related to erosion and siltation would be less than significant.

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would 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?

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

As described above, the closest streams or rivers to the project site are Arroyo Salado, located approximately 0.8 miles east of the project site and Salt Creek located approximately 1.0 miles southeast of the project site or Aliso Creek located approximately 1.2 miles northwest of the project site (Google Earth Pro 2022). The project may alter the existing drainage patterns on the project site by introducing new grades and structures with impervious surfaces that could alter flow and direction of existing drainage from the project site's existing configuration.

As described under Checklist Item *a.*, above, the project would be required to comply with Title 16 of the LBMC, Water Quality Control, Title 22 of the LBMC, Excavating, Grading and Filling, and include a submittal of the project's WQMP. Compliance with such requirements would result in implementation of standard construction BMPs to avoid or minimize temporary adverse effects such as erosion and siltation, as well as the provision of design standards for site drainage that includes the preservation of natural hydrological features. Furthermore, compliance with the LBMC would require the project to implement erosion controls, monitor and evaluate erosion control performance after a rainstorm event, and revise or repair sediment control systems as needed. Prior to the issuance of a grading permit for construction activities, the City must approve the project's final erosion and sediment control plan and the community development department must review the project plans and impose any additional BMPs, terms, conditions, and requirements of the project.

Although the project would alter existing land uses on the project site and result in the addition of approximately 13,170 sf of impervious surface, the project would install under-drains to guide surface water into existing storm drain inlets, thus minimizing impacts to the existing drainage pattern. The project would also utilize permeable pavers on the building roof to enable stormwater to flow through for recapture, thus reducing the overall amount of runoff from the building's surfaces. Implementation of these project features, in addition to compliance with the requirements of the LBMC outlined above, would reduce potential drainage impacts. Therefore, the project would not substantially alter the existing drainage pattern of the site which would result in substantial erosion or siltation on- or off-site, flooding on- or off-site, additional sources of polluted runoff, or impede or redirect flood flows. Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the project site is classified as Zone X (Area of Minimal Flood Hazard) and is not located in a 100-year flood zone (FIRM Map# 06059C0501K; FEMA 2019). Therefore, inundation by flood at the project site is unlikely. The dam nearest to the proposed project is located on Sulphur Creek within Laguna Niguel Regional Park, approximately 4.3 miles northwest of the project site (California

Division of Safety of Dams [DSOD] 2022). According to the DSOD, the Sulfur Creek dam is designated as a high downstream inundation hazard; however, the project site is not located within the downstream inundation zone mapped for the Sulfur Creek dam (DSOD 2022). Therefore, inundation by dam failure is unlikely. According to both the City of Laguna Beach General Plan and the California Department of Conservation (DOC) Tsunami Hazard Area Map, the project site is not located within a tsunami inundation zone (City of Laguna Beach 2021, DOC 2021). Seiches are a related hazard that can occur when a sudden displacement event or very strong winds happen in an enclosed or semi-enclosed body of water, such as a lake or reservoir. The project site is not located near a body of water that would be subject to seiche. Therefore, inundation by tsunami or seiche is unlikely. Overall, the project would not risk the release of pollutants due to project inundation. No impact would occur.

NO IMPACT

- e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

As described under Checklist Item *a.*, above, the project would not violate any water quality standards. In addition, the project site does not overly a “medium priority” or “high priority” groundwater basin. Thus, no Groundwater Sustainability Plan would be applicable to the proposed project. Therefore, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Thus, no impact would occur.

NO IMPACT

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11 Land Use and Planning

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

Land Use and Planning Setting

The project site is within the R/HP-OSC General Plan land-use designation, which provides a low-intensity, residential development that addresses concerns for public health and safety. The project site allows for single-family dwellings, accessory buildings that can include swimming pools and recreation courts for noncommercial use, childcare facilities, guest houses, and residential care facilities.

a. *Would the project physically divide an established community?*

The project site is undeveloped, except for two water tanks and a dirt access road extending from the end of paved Vista del Sol to the walking trail located within Monarch Crest within the City of Laguna Niguel. The project would include proposed improvements including the construction of a single-family residence with garage and flatwork, and the dirt access road would be widened and paved to provide vehicular access. However, the project does not divide any established community. No impacts would occur.

NO IMPACT

b. *Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

The proposed project would involve the construction of a single-family resident development located on a vacant lot on private land in the Three Arch Bay Community. The project site includes the zoning designation of RH/HP-OSC which is intended for low-intensity residential development on APNs 670-241-07. The proposed project would maintain existing low intensity, residential development on the project site, which are permitted under the existing General Plan Land Use designation and zoning designations because the proposed structure will be three levels and provide a total living space of 10,522 sq. ft.

Nonetheless, listed below are relevant policies from the City’s General Plan that help to avoid and mitigate environmental effects throughout Laguna Beach:

Land Use Element Policies:

- **Policy 2.1** Maintain the diversity and uniqueness of individual neighborhoods. Development standards and design review guidelines shall minimize the scale and bulk of new construction and/or renovation and require development to be compatible with the surrounding residences.
- **Policy 2.3** Preserve and enhance the qualities that contribute to the character of the residential community, including quiet neighborhoods, pedestrian use of streets, and appropriate levels of illumination and nighttime activity and seek to mitigate the effects of high-volume thru-traffic.
- **Policy 2.7** Evaluate the impact of proposed development on hillsides and along ridgelines and require building design, location, and arrangement to avoid continuous and intrusive impacts on hillside view areas and skyline profiles.
- **Policy 2.8** Require building design and siting to be compatible and integrated with natural topographic features, minimize significant alteration of natural topography and/or other significant onsite resources, and protect public views as specified in the *Design Guidelines* and the *Landscape and Scenic Highways Resource Document*.
- **Policy 2.9** Require the use of appropriate landscaping, special architectural treatments, and/or siting considerations to protect public views for projects visible from major highways and arterial streets.
- **Policy 2.10** Maximize the preservation of coastal and canyon views (consistent with the principle of view equity) from existing properties and minimize blockage of existing public and private views. Best efforts should be made to site new development in locations that minimize adverse impacts on views from public locations (e.g., roads, bluff top trails, visitor-serving facilities, etc.).
- **Policy 5.2 & 7.4** Ensure that all new development, including subdivisions and the creation of new building sites and remodels that involve building additions, is adequately evaluated to ascertain potential negative impacts on natural resources and adjacent development, emphasizing impact avoidance over mitigation. Required mitigation should be located on-site rather than off-site. Any off-site mitigation should be located within the City's boundaries and in close proximity to the project.
- **Policy 7.3 & 10.2** Design and site new development to protect natural and environmentally sensitive resources such as areas of unique scenic quality, public views, and visual compatibility with surrounding uses and to minimize landform alterations.

Open Space and Conservation Element Policies:

- **Policy 4-G** Ensure that all development minimizes erosion, sedimentation, and other pollutants in runoff from construction-related activities to the maximum extent practicable. Ensure that development minimizes land disturbance activities during construction (e.g., clearing, grading, and cut-and-fill), especially in erosive areas (including steep slopes, unstable areas, and erosive soils), to minimize the impacts on water quality.

- **Policy 4-H** Require the property owner, homeowner's association, or local government, as applicable, to continue the application and maintenance of Source Control and/or Structural Treatment Control BMPs as necessary to reduce runoff pollution, including appropriate construction related erosion and sediment control measures.
- **Policy 6-F** Ensure that new development does not encroach on accessways nor preclude future provision of access.
- **Policy 7-G** The Design Review process for an individual project shall include criteria for treatment of the urban edge between existing development and open space in areas designated "Hillside Management/Conservation" on the Land Use Plan Map. The criteria shall be developed to reflect topographic constraints and shall include at a minimum:
 - a) Treatments to screen development, including the use of vegetation, variable setbacks, and modified ridgelines or berms;
 - b) Fuel modification techniques for new development which provide the following: Result in graduated fuel modification zones in which on the minimum amount of native vegetation is selectively thinned; prohibit grading or discing for fuel modification; confine fuel modification to the development side of the urban/ open space edge to the maximum extent; avoid fuel modification encroachment into environmentally sensitive areas; locate structures with respect to topographic conditions to incorporate setbacks, minimize fuel modification requirements and maximize hazards; and provide requirements for ongoing maintenance.
 - c) Treatments for fuel modification and maintenance techniques for existing development consistent with standards in (b) above to the maximum extent feasible.
- **Policy 7-M** New development along Pacific Coast Highway shall preserve existing views where feasible and, where topography allows, new development shall be terraced below the grade of Pacific Coast Highway.
- **Policy 8-P** Those areas identified as Open Space or Hillside Management/Conservation on the South Laguna Land Use Plan (see Exhibit G) shall be designated Environmentally Sensitive Areas as described in policy 8I of the Laguna Beach Land Use Plan.
- **Policy 9-B** Prohibit filling and substantial alteration of streams and/or diversion or culverting of such streams except as necessary to protect existing structures in the proven interest of public safety, where no other methods for protection of existing structures in the flood plain are feasible or where the primary function is to improve fish and wildlife habitat. This provision does not apply to channelized sections of streams without significant habitat value.
- **Policy 9-C (b)** Require a setback of a minimum of 25 feet measured from the centerflow line of all natural drainage courses or streams on the Major Watershed and Drainage Courses Map and the South Laguna and Laguna Canyon Biological Values Maps other than the "blue-line" streams referenced in 9-C(a) above. Such setback shall be increased upon the recommendation of the City Engineer and

environmental planner through the environmental review process. However, a variance may be given in special circumstances where it can be proven that design of a proposed structure on an affected lot will preserve, enhance or restore the significance of the natural watercourse. At no time shall grubbing of vegetation, elimination of trees, or disturbance of habitat be allowed within the setback area before or after construction.

- **Policy 9-S** Erosion control measures shall be required for new development in areas designated Hillside Management/Conservation (now referenced as Residential/Hillside Protection), as specified in Title 22 of the City's Municipal Code for properties adjacent to the Aliso Greenbelt. No grading, trenching or similar activity shall be permitted within Aliso/Wood Canyon Watershed during the rainy season from October 1 to April 1.
- **Policy 10-E** Development in the areas designated "Hillside Management/Conservation" on the Land Use Plan Map or within potential geologic hazard areas identified on the Geological Conditions Map of the Open Space/Conservation Element shall not be permitted unless a comprehensive geological and soils report is prepared pursuant to Title 22 of the City's Municipal Code, and adequate mitigation measures have been approved and implemented by the City's geologist. For projects located in areas subject to hazards as identified on the Geologic Conditions Map or subject to erosion, landslide or mudslide, earthquake, flooding or wave damage.
- **Policy 13-B** Require that development proposals, including additions and alterations to existing buildings, incorporate protection of the natural profile of ridgelines as visual resources.
- **Policy 14-L** Unless overriding environmental, public viewshed, or safety concerns suggest otherwise, new development should be located in close proximity to preexisting development in an effort to minimize impact and growth inducing potential. Street and driveway length and width should be evaluated for potential creation of new building sites.

Safety Element Policies:

- **Policy S-2.3** Work with governmental jurisdictions and agencies on the cooperative, integrated implementation of the Orange County Report of the Wildland/Urban Interface Task Force's recommendations and Resolution 89.104.
- **Policy S-2.5** Require development within the VHFHSZ's to incorporate fire-resistant construction and defensible space management strategies consistent with State requirements, municipal regulations, and requirements identified in Policy S-2.3.
- **Policy S-3.2** Enforce bluff and hillside protection measures that control runoff and erosion.

Landscape and Scenic Highways Element Policies:

- **Policy 1.1** Foster community appreciation of landscape resources and promote awareness of Laguna's neighborhoods as valuable community resources.

- **Policy 1.2** Implement programs to insure neighborhood landscape character protection and enhancement.
- **Policy 1.3** Reinforce City policies to protect the City's landforms, including ridgelines, hillsides, rock outcroppings, canyons, watercourses, bluffs, shoreline rock formations, beaches and the marine environment, and cultural resources.
- **Policy 6.1** Require appropriate fire preparation and prevention techniques as a condition of wildland urban interface development and in the designated Very High Fire Hazard Severity Zone (VHFHSZ). Implement the guidelines and standards in the Safety Element, the other adopted City Fire and Building regulations and documents (i.e. Vegetation Management Guidelines and Requirements), and other City General Plan elements.
- **Policy 6.5** As a condition of development for new construction and major remodels, require private responsibility for development and maintenance of fuel modification zones and programs, including a recorded deed restriction acknowledging the fire hazard potential and maintenance responsibility.

Laguna Beach Municipal Code

- **Chapter 25.15** R/HP Residential/Hillside Protection Zone

Overall, the proposed is consistent with the single-family residential character of the lots surrounding the project site. What's more, the project does not impact existing hillside view areas and skyline profiles by being constructed along the southern portion of the parcel and nestled into the downslope of the site, so as to reduce any potential southwestern views towards and of the Pacific Ocean and other ridgelines. This would help enhance coastal and canyon views to the maximum extent possible.

Also, as discussed above, the site is traversed by segments of two ephemeral drainages that are identified by the City of Laguna Beach's GIS map as Significant Water Courses (2022b). Neither drainage area is considered a blue line stream and both drainages will be fully avoided by the project. Additionally, the project includes setbacks from these ephemeral drainages that exceed the City's 25-foot requirement (Glenn Lukos Associates, Inc. 2021).

Therefore, the proposed project would not conflict with any land use plan, policy, or regulation and there would be no impact.

NO IMPACT

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12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<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 general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is located in a residential area with no mineral resource extraction activities in the vicinity. The project site is mapped with an MRZ-3 designation, indicating that the area has undetermined mineral resource significance (DOC 1983).

- a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
- b. *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

The project site and surrounding properties are located in an urbanized area. The California Surface Mining and Reclamation Act of 1975 (SMARA) was enacted to promote conservation and protection of significant mineral deposits. According to the California Department of Conservation Mineral Land Classification Maps, the project site is located in an area with an MRZ-3 designation, indicating that the area has undetermined mineral resource significance (DOC 1983). There are no known mineral resources on the project site or in the vicinity of the site and the surrounding commercial and residential land uses are not compatible with mineral extraction. Therefore, the project would have no impact on the availability or recovery of mineral resources.

NO IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>

Overview of Noise and Vibration

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

HUMAN PERCEPTION OF SOUND

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as

one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Caltrans 2013).

SOUND PROPAGATION AND SHIELDING

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011).

DESCRIPTORS

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptor used for this study is the equivalent noise level (L_{eq}). L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Groundborne Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. Vibration may be felt, may manifest as an audible low-frequency rumbling noise (referred to as groundborne noise), and may cause windows, items on shelves, and pictures on walls to rattle. Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants at vibration-sensitive land uses and may cause structural damage.

Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous

positive or negative peak of a vibration signal. PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020).

High levels of groundborne vibration may cause damage to nearby building or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation.

Project Noise Setting

Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The Laguna Beach General Plan Noise Element identifies noise-sensitive receivers as residential uses, schools, day care centers, retirement homes, and hospitals (City of Laguna Beach 2005). The nearest noise-sensitive receivers are residences located approximately 30 feet from the access road location.

Noise Measurements

The most prevalent source of noise in the project site vicinity is vehicular traffic on local roadways including SR-1 and Vista Del Sol Avenue. Noise levels at similar locations that consist of the interface between residential neighborhoods and open space in Laguna Beach experience ambient noise levels ranging between 45 to 61 dBA L_{eq} during daytime hours (City of Laguna Beach 2005).

Regulatory Setting

Chapter 7.25, *Noise*, of the Laguna Beach Municipal Code (LBMC) establishes a series of regulations and standards to prevent excessive noise that may jeopardize the health, welfare or safety of the citizens or degrade their quality of life. Specifically, LBMC Section 7.25.040(A), *Exterior Noise Standards*, establishes exterior noise standards categorized by five noise zones in the city. As shown in Table 11, the noise standards for these zones differ between daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) hours.

Table 11 Exterior Noise Level Standards

Noise Zone	Land Use	Noise Level (dBA L_{eq})	
		Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
I	Residential	60 dBA	50 dBA
II	Commercial	65 dBA	65 dBA
III	Mixed-Use – Residential	65 dBA	55 dBA
IV	Downtown Specific Plan	70 dBA	70 dBA
V	Manufacturing, Industrial	70 dBA	60 dBA

dBA = A-weighted decibel; L_{eq} = steady-state equivalent noise level

Source: LBMC Section 7.25.040

According to LBMC Section 7.25.040(B), it is unlawful for any person at any location within the city to create noise which causes the noise level when measured on any other property to: 1) exceed the noise standard for the applicable zone for any 15-minute period, or 2) a maximum instantaneous (single instance) noise level equal to the noise standard plus 20 dBA for any period of time.

LBMC Section 7.25.050(E) exempts noise sources associated with construction, repair, remodeling, demolition or grading of any real property from compliance with the noise level limits contained in the LBMC. This section indicates that such noise-generating activities are subject to the provisions of LBMC Section 7.25.080, *Construction Activity Noise Regulations*, which prohibits the operation of any tool or equipment used for construction activities or any other related building activity between the hours of 6:00 p.m. and 7:30 a.m. on weekdays, whereas such construction activities are prohibited entirely on weekends and federal holidays.

As listed in LBMC Section 7.25.060, *Loud and Disturbing Noise*, any loud, excessive, impulsive, or intrusive noise, disturbance or commotion, which disturbs the peace or quiet of any area or which causes discomfort or annoyance to any reasonable person of normal sensitivities in the area, is prohibited from any person or property owner. The types of loud, disturbing, excessive, impulsive, or intrusive noise may include, but is not limited to, yelling, shouting, hooting, whistling, singing, playing a musical instrument, and emitting or transmitting any loud music or noise from any mechanical or electrical sound making or sound-amplifying device.

- 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?*

Construction

Construction activity would generate temporary noise in the project site vicinity, exposing surrounding sensitive receivers to increased noise levels. Project construction noise would be generated by heavy-duty diesel construction equipment used for demolition, site preparation, grading, reservoir installation, and site restoration activities. Each phase of construction has a specific equipment mix and associated noise characteristics, depending on the equipment used during that phase. Construction noise would typically be higher during the more equipment-intensive phases of initial construction (i.e., demolition, site preparation, and grading work) and would be lower during the later construction phases. Noise impacts from construction equipment are typically assessed from the center of the equipment activity area (e.g., construction site, grading area, etc.) over the time period of a construction day.

Project construction activities would occur five days per week, between 8:00 a.m. and 5:00 p.m. and would therefore be in compliance with the allowable hours of construction pursuant to LBMC Section 7.25.080. Over the course of a typical construction day, it is assumed that construction noise levels would range from approximately 58 to 76 dBA L_{eq} at the nearest residences, which does not exceed the daytime construction noise threshold of 80 dBA L_{eq} . Therefore, construction noise impacts would be less than significant.

Operation

Operation of the project would generate onsite noise from new heating, ventilation, and air conditioning (HVAC) equipment and vehicles to and from the project site. With this, noise from HVAC equipment would typically generate a noise level in the range of 70 dBA L_{eq} at a reference distance of 3 feet from the source. The nearest noise-sensitive receivers, consisting of the single-

family residences to the south and north of the site, would be located at least 50 feet from the nearest HVAC equipment on the project site.

Furthermore, the manner in which buildings in California are constructed typically provides a reduction of exterior-to-interior noise levels of approximately 20 to 35 dBA with closed windows (FHWA 2011). Therefore, interior noise levels at the proposed project would not exceed the City's interior noise standard and the project would be consistent with the City's noise land use compatibility standards. Therefore, operational noise impacts would be considered less than significant.

Mitigation Measures

NOI-1 Construction Activity

During construction activities, the following construction practices are recommended;

- a) Stockpiling and staging activities should be located as far as practicable from dwellings.
- b) All mobile equipment shall have properly operated and maintained mufflers.
- c) Require that construction activities employ feasible and practical techniques to minimize noise impacts on adjacent uses. Particular emphasis shall be placed on the restriction of hours in which work other than emergency work may occur.
- d) As a condition of approval, non-emergency construction activities adjacent to existing noise sensitive uses shall be limited to daylight hours between the hours of 8:00 a.m. and 4:00 p.m. Monday through Friday.
- e) Construct temporary enclosures around exceptionally noisy activities. For example, shields can be used around pavement breakers such as jackhammers.
- f) Select quieter demolition methods when possible.
- g) Notify adjacent homes near any hardscape demolition activities as to time and place to allow residents to adjust their schedule to avoid noise disruption.
- h) To minimize construction-related noise in the area with the potential to significantly impact nesting birds and other wildlife, specific construction noise level thresholds (average of 60 decibels) and noise reduction techniques to minimize potential impacts may include:
 - Temporary noise barriers
 - Using noise pads or dampers
 - Replacing and updating noisy equipment
 - Using moveable task noise barriers
 - Locating vehicle access points and loading and shipping facilities away from the nest site
 - Reducing the number of noisy activities that occur simultaneously
 - Relocating noisy stationary equipment away from the nest sites

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- b. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Construction

Project construction would not involve activities typically associated with excessive groundborne vibration such as pile driving or blasting. The equipment utilized during project construction that would generate the highest levels of vibration would include rollers, loaded trucks, and bulldozers. The City of Laguna Beach has not adopted standards to assess vibration impacts during construction and operation. However, Caltrans has developed limits for the assessment of vibration from transportation and construction sources. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts on structures from continuous and intermittent sources.

Project construction may require operation of vibratory equipment such as loaded trucks and bulldozers near off-site structures. Overall, vibration levels from individual pieces of construction equipment would not exceed the threshold at which damage can occur to residential structures (0.20 inches per second PPV) or the threshold at which transient vibration sources would be distinctly perceptible (0.25 inches per second PPV). Furthermore, construction activities would generally occur five days per week, between 8:00 a.m. and 5:00 p.m., which would be outside the vibration-sensitive hours of sleep. Therefore, construction vibration impacts would be less than significant.

Operation

The proposed project includes construction of a new single-family residence, which would not include vibration-generating components. No operational vibration impact would occur.

Mitigation Measures

NOI-1 would be applicable.

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- 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?*

As discussed in Section 9, *Hazards and Hazardous Materials*, the nearest aircraft facility to the project is John Wayne Airport, located approximately 13 miles northwest of the project site, and the project site is not within an airport land use plan. Given the distance of the airport from the project site, the project would not expose people residing or working in the project area to excessive noise levels. No impact would occur.

NO IMPACT

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<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 type="checkbox"/>	<input checked="" type="checkbox"/>

Population and Housing Setting

According to the California Department of Finance (DOF), the City of Laguna Beach has an estimated population of 22,495, an average household size of 2.07 persons, and 13,055 existing housing units (DOF 2021). SCAG estimates a population increase of 100 residents within the city between 2016 (23,400 people) and 2045 (23,500 people) (SCAG 2020).

- a. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

The proposed project includes the development of a single-family residence on a 1.9-acre site. Single-family residential uses are consistent with the existing zoning of the project site. The proposed project is also consistent with the General Plan and the intended purpose to provide for limited residential development. The project would not cause population growth in Laguna Beach to exceed regional SCAG forecasts. Therefore, the project would not cause a substantial direct or indirect increase in population or induce unplanned population growth. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The project would be constructed on a vacant lot without any existing dwelling units developed on the property. Therefore, no housing or residential population would be displaced by the development of the proposed single-family residence, and the construction of replacement housing would not be necessary. Thus, no impact would occur.

NO IMPACT

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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 type="checkbox"/>	<input checked="" type="checkbox"/>
2 Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3 Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4 Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5 Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The City of Laguna Beach provides fire and police protection services through the Laguna Beach Fire Department (LBFD) and Laguna Beach Police Department (LBPD). In addition, the City operates the Laguna Beach Unified School District (LBUSD), which provides schooling for grades kindergarten through twelfth. Recreational amenities in the City of Laguna Beach are managed by the Community Services Department and include several community parks and public beaches.

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Fire protection is provided by the Laguna Beach Fire Department (LBFD). The nearest fire station to the project site is LBFD Station No. 4 located at 31646 Second Avenue, approximately 1.8 miles north-west of the project site. As identified in Chapter 15.01 of the LBMC, the City of Laguna Beach has adopted the California Fire Code (2019 edition). The Fire Code contains regulations related to construction, maintenance and design of buildings and land uses. The project would be required to adhere to all Fire Code requirements.

With continued implementation of existing LBFD practices, including compliance with the California Fire Code and the CBC, the project would not substantially affect community fire protection services

and would not result in the need for construction of additional fire protection facilities. Therefore, the project would not create the need for new or expanded fire protection facilities and there would be no impact.

NO IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Police protection services in Laguna Beach are provided by the Laguna Beach Police Department (LBPD). The project site is served by the LBPD Station located at 505 Forest Avenue, approximately 4.3 miles north of the project site. As discussed in Section 14, *Population and Housing*, the project would not result in a substantial increase in population or employment in the city, and therefore, would not cause substantially delayed response times, degraded service ratios or necessitate construction of new facilities. Therefore, the project would have no impact to police services.

NO IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The project site is served by the Laguna Beach Unified School District (LBUSD), which operates several facilities serving grade levels pre-K through high school. The project would involve new single-family residential development but is not anticipated to result in the introduction of new additional students to the school district, which would create the need for additional facilities. Therefore, the project would not result in the need for new or physically altered school facilities and there would be no impact.

NO IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Recreational amenities in the City of Laguna Beach are managed by the Community Services Department. Recreational amenities in the city include 14.7 acres of oceanfront parks and seven small parks (Laguna Beach 2006 and 2021c). Though the city does not meet the desired standard of three acres of parkland per 1,000 residents as stated in the 1975 Quimby Act, residents and workers in the city can easily access recreational amenities in the areas adjacent to Laguna Beach, such as the Laguna Coast Wilderness Park, which is an approximately 10,000-acre open space area within unincorporated Orange County (Laguna Beach 2006). The project would not contribute to population growth that would result in adverse physical impacts to parks or require the provision of new parks, as it entails the construction of one single-family residence. Therefore, the project would have no impact to parks.

NO IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The project would contribute incrementally toward use of City public services and facilities such as storm drain usage (discussed in Section 10, *Hydrology and Water Quality*, and Section 19, *Utilities and Service Systems*), solid waste disposal (discussed in Section 19, *Utilities and Service Systems*), and water usage and wastewater disposal (discussed in more detail in Section 19, *Utilities and Service Systems*). The project is not anticipated to cause substantial population growth within the city, there are no other public services or public facilities, such as libraries or hospitals, for which significant impacts are anticipated. Therefore, the proposed project would have no impacts to other public facilities.

NO IMPACT

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16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

Recreational amenities in the City of Laguna Beach include 14.7 acres of oceanfront parks and seven small parks throughout the city (Laguna Beach 2006). Recreational amenities in the City of Laguna Beach are managed by the Community Services Department. The city is also in the vicinity of numerous Orange County recreational amenities, such as the Laguna Coast Wilderness Park (Laguna Beach 2006).

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?

As discussed above in Sections 14, *Population and Housing*, the project would not cause population growth in Laguna Beach to exceed regional SCAG forecasts. Because residents can easily access open space and recreational opportunities within the region and because the project does not cause significant population growth, the project would not create unanticipated demand on City parks or cause substantial deterioration of existing parks such that new park facilities would be needed.

In addition, the project site is in a location of the City in which public trail access is informally provided. As it stands currently, people with access to three arch bays can drive up Vista Del Sol and park near the southern portion of the project site and subsequently hike through the project site to the north and towards Monarch Crest Boulevard. Once near Monarch Crest Boulevard, one can use the public streets to access nearby public trails in and around the existing neighborhood. As proposed, there will no longer be access to Monarch Crest from Vista Del Sol, as it is currently, and will continue to be, private property. Nonetheless, this design would not increase the use of existing neighborhood parks and regional park or other facilities such that substantial physical deterioration would occur.

The proposed project site is currently used as an informal trail site, with walking trails created by foot traffic located on the site. The trail on the site is not included in any formal trail plan or considered a formal, public recreational facility. Although this trail would be paved and the residential home would be constructed upon the site, the trail is informal and need not be held to

standards of formal trails. Nevertheless, Policy 6F of the Open Space and Conservation of the Laguna Beach General Plan is detailed below.

- **Policy 6F** Ensure that new development does not encroach on accessways nor preclude future provision of access.

The proposed project would not encroach on accessways nor preclude future provision of access of any formal public trails. Therefore, the project would have no impact to recreational facilities and parks.

NO IMPACT

- b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

The proposed project would neither generate nor create any need for additional opportunities or facilities within the City.

NO IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 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 use (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 project site is located in South Laguna Beach at 150 Vista Del Sol, Laguna Beach, California. The site is regionally and locally accessible by SR-1, also known as the Pacific Coast Highway. Site access would be provided by a driveway off of Vista Del Sol.

a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

Construction of the project would generate traffic for deliveries of equipment and materials to the project site as well as construction worker and vendor traffic. Construction-related vehicles would travel to and access the project site via Pacific Coast Highway. Construction vehicles and equipment would be staged on the project site. Construction worker trips were estimated based on information provided by the applicant and default values provided by CalEEMod (see Appendix B). The project would generate a maximum of 56 trips per day during building construction, consisting of worker trips, vendor trips, and hauling trips. The latest traffic counts on Pacific Coast Highway indicate that the annual average daily traffic in the vicinity of the project site is 37,900 (Caltrans 2020). As the increase in average daily traffic would be less than one percent of the annual average daily traffic on Pacific Coast Highway, traffic generated during project construction is not anticipated to affect the performance of the circulation system. In addition, construction traffic would be temporary, and the movement of construction equipment would be limited to the project site. Construction of the proposed project would not involve any vehicle or equipment staging on Pacific Coast Highway and the project would not require any long-term lane closures on Pacific Coast Highway, as construction staging is not permitted in the public right-of-way. Construction of the project would not require temporary closures or alterations to the Laguna Beach Transit bus stops located along Pacific Coast Highway near the project site, and all existing Laguna Beach Transit bus routes would be able to continue normal operations. In addition, there are no existing bicycle lanes along Pacific Coast

Highway in the vicinity of the proposed project, and project construction would not require temporary closures or alterations to the sidewalk on Pacific Coast Highway. Therefore, construction activities would not substantially interfere with the City's circulation system.

Operation of the project would generate minimal new vehicle trips on the surrounding circulation system, as the project proposed to construct a single-family residence. Therefore, the project would not affect transportation service levels in a manner that would conflict with City plans or policies related to transportation system performance. Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

CEQA Guidelines Section 15064.3(b) identifies appropriate criteria for evaluating transportation impacts. It states that land use projects with VMT exceeding an applicable threshold of significance may indicate a significant impact, and that projects that decrease VMT 15 percent below existing conditions should be presumed to have a less than significant transportation impact.

As discussed under Checklist Item *a.* above, the project would generate minimal additional trips compared to existing trips on Pacific Coast Highway. According to the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), land use projects, such as the proposed project, "that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact." As the project proposes to construct a single-family residence, it can be assumed that the project would generate fewer than 110 trips per day. Therefore, the project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3 (b). Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The proposed project would not alter or affect the existing street and intersection networks in its vicinity. The project would be accessible by a single driveway for ingress and egress from Vista Del Sol. Safety guardrails would be provided along the entire length of the driveway. Project design would be subject to review by the Laguna Beach Fire Department to ensure site access safety and consistency with design standards. Therefore, the project would not substantially increase hazards due to a geometric design feature.

The project site is surrounded by open space to the east and west and by existing residential development to the north and south. As such, the proposed single-family residential project would be consistent with residential uses in its vicinity. Furthermore, the project site is currently zoned as R/HP, which promotes development sensitive to the environmental constraints of the land, and OSC. Structures built as part of the proposed project would only be located on areas zoned for R/HP. Therefore, the proposed use of the project site would be consistent with the existing zoning ordinance. As such, the proposed project would not introduce incompatible uses, including vehicles or equipment, to the project site or the surrounding area. Overall, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in inadequate emergency access?

The project's driveway would be utilized as an access road for emergency vehicles. An easement for emergency vehicle access would be provided to the City, and all gates in construction and operational fencing would be equipped with either a Knox or a breakaway padlock for emergency entry. All minimum street width measurements would be met in accordance with the Laguna Beach Fire Department Standards for all portions of the driveway/access road, and the driveway/access road would be clearly marked, maintained, and clear of obstruction at all times during and after construction. The project's address would be clearly posted and visible from the public roadway at all times during and after construction with the address numbers illuminated at night. The driveway/access road would be designed to support the imposed load of the fire apparatus pursuant to the LBFD requirements, and the road would be surfaced to provide all-weather driving capabilities. Complete fire access would be provided around the entire building through exterior stairs surrounding all sides of the house.

Pursuant to Appendix D of the Fire Code, the fire apparatus access road should not exceed a ten percent grade and a dead-end fire apparatus access road, such as the one provided by the proposed project, should provide a minimum 96-foot minimum cul-de-sac. The shape of the existing lot and its steep topography does not allow for the proposed driveway to be less than 12 percent grade, nor does it allow for the construction of a cul-de-sac over 62-feet in diameter. As a result, the project would provide alternative means of providing adequate protection and emergency access to offset the grade and turnaround deficiencies. Such alternative means would include the provision of one cul-de-sac 62-feet in diameter located at a point midway to the top of the driveway/access road and the one cul-de-sac 56 feet in diameter located at the top of the driveway/access road, as well as three-foot wide stairs on both sides of the firefighter access paths. In addition, the project would be subject to Building Safety Division review for acceptance of site plans prior to occupancy. Building Safety Division Review would confirm that required safety features, including adequate emergency access, are implemented. Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- | | | | | |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| <p>a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted, expanding CEQA by defining a new resource category of “tribal cultural resources.” AB 52 establishes that “a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying

these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project,” specifically with those Native American tribes that have requested notice of projects proposed within the jurisdiction of the lead agency.

The City sent notification letters via certified mail to 22 contacts from California Native American Tribes that are traditionally and culturally affiliated with the project area pursuant to PRC Section 21080.3.1 and AB 52. The letters were sent to representatives of the Gabrieleño Band of Mission Indians - Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/Tongva Nation, Gabrielino Tongva Indians of California Tribal Council, Gabrielino-Tongva Tribe, Juaneño Band of Mission Indians, Juaneño Band of Mission Indians Acjachemen Nation – Belardes, Juaneño Band of Mission Indians Acjachemen Nation – Romero, La Jolla Band of Luiseño Indians, Pala Band of Mission Indians, Pauma Band of Luiseño Indians, San Luis Rey Band of Mission Indians, Santa Rosa Band of Cahuilla Indians, and the Soboba Band of Luiseño Indians.

On July 5, Christina Conley, Chairman of the Gabrieleño Tongva Indians of California, responded requesting AB 52 consultation for the project. An AB 52 meeting between the representatives of Gabrieleño Tongva Indians of California, the representatives from the City of Laguna Beach, and Rincon was held on July 19, 2022. The city did not receive any other requests for Tribal consultation. Native American Tribes wishing to partake in AB 52 consultation are required to have responded by July 20, 2022.

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is 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)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?*

As discussed in Section 4, *Cultural Resources*, the project site is currently vacant and has experienced prior ground disturbance from nearby residences and the existing access road. There is no evidence that archaeological resources are present onsite. Rincon Consultants conducted a cultural resources records search for the project site, which indicated that there are no known cultural resources on the project site. Although it is not anticipated that intact tribal cultural resources are present on the project site, the potential for the recovery of buried cultural materials during project construction activities cannot be completely ruled out. Mitigation Measure TCR-1, below, and measures identified in Section 4, *Cultural Resources*, would address potentially significant impacts relating to the unanticipated discovery of cultural resources or human remains during project construction. With adherence to Mitigation Measure TCR-1 and regulatory compliance, impacts would be less than significant with mitigation.

Mitigation Measure

TCR-1 Unanticipated Discovery of Tribal Cultural Resources

In the event cultural resources of Native American origin are identified during ground-disturbing activities, all earth-disturbing work within 50 feet of the find shall be temporarily suspended or redirected until a qualified archaeologist has evaluated the nature and significance of the find; an appropriate Native American representative(s), based on the nature of the find, is consulted; and mitigation measures are put in place for the disposition and protection of any find pursuant to Public Resources Code Section 21083.2. In the event blade machines are operating in an adjacent area, a maximum of 2" cuts or less will be permitted in all cultural areas. If more than one area is being excavated for extraction of remains simultaneously, an additional GTIOC monitor must be required. Each excavated burial will be monitored exclusively. Wooden tools are preferred for process of recovery; electric chisels and other power tools should be avoided. If remains are pedestaled, they will be placed on plywood for removal. If remains cannot be pedestaled due to soil conditions, remains just be carefully placed in cloth bags. Soils adjacent to burials will be saved for reburial in plastic containers. If SCWD, in consultation with local Native Americans, determines the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with State guidelines and in consultation with local Native American group(s) prior to continuation of any earth-disturbing work within the vicinity of the find. The plan shall include avoidance of the resource or, if avoidance of the resource is infeasible, shall outline the appropriate treatment of the resource in coordination with the appropriate local Native American tribal representative and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, or heritage recovery.

Implementation of Mitigation Measure TCR-1 would require implementation of avoidance measures for and evaluation of any unanticipated discoveries of cultural resources of Native American origin, which would reduce potential impacts to tribal cultural resources to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

Utilities Setting

The project site is situated at the northern terminus of paved Vista del Sol within the community of Three Arch Bay in the City of Laguna Beach. The site is currently a vacant lot on private land. San Diego Gas and Electric, SoCalGas, South Coast Water District (SCWD), South Orange County Wastewater Authority (SOCWA), Waste Management, and Cox Communications which provides cable and internet service would provide the utilities for the project site.

SCWD provides potable water, recycled water, and wastewater services to communities in south Laguna Beach, Dana Point, and portions of San Clemente and San Juan Capistrano (SCWD 2021b). The SCWD manages, operates, and maintains the sanitary sewer collection system, which includes

monitoring, inspecting, cleaning, and repairing the gravity sewer lines, force mains, and lift stations. The SCWD's service area is approximately eight square miles. The wastewater collection system section provides service to approximately 37,000 customers in its service area. There are approximately 140 miles of sewer mains, including the two-mile Beach Interceptor Sewer Tunnel, and 13 neighborhood lift stations. SCWD maintains the portion of the service laterals at the point of connection to the main sewer line. (SCWD SSMP, 2019). SCWD's collected sewage is conveyed to one of two wastewater treatment facilities owned and operated by the SOCWA. The Coastal Treatment Plant in Aliso Canyon, Laguna Niguel has a capacity of 6.7 million gallons per day and treats wastewater collected from the northern part of the SCWD service area. The Jay B. Latham Plant in Dana Point has a capacity of 13 million gallons per day and treats wastewater from the southern part of the District.

- a. *Would the project 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?*

The project would not require the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities that would cause significant environmental effects. Therefore, no impacts would occur.

NO IMPACT

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

SCWD's 2020 Urban Water Management Plan (UWMP) reports total districtwide water demand for 2020 at 5,376 acre-feet (AF) of potable water (groundwater and imported) and 845 AF of direct recycled water for landscape irrigation. In 2019-2020, the SCWD's potable water use was comprised of 70.7% residential use, 15.6 percent commercial, industrial, and institutional (CII), and 10.3 percent large landscape/irrigation, with non-revenue water (NRW) and other uses comprising about 3.3 percent.

Over the next five years, potable water demand is likely to increase 1.9 percent over the next 5 years. In the longer term, potable water demand is projected to increase 4.4 percent from 2025 through 2045. The projected water use for 2045 is 5,720 AF for potable water and 1,350 AF for recycled water. Water demand considers factors such as current and future demographics, future water use efficiency measures, and long-term weather variability. SCWD meets its demands through a combination of local groundwater, recycled water, and imported water. SCWD works with two primary agencies, Municipal Water District of Orange County (MWDOC) and San Juan Basin Authority (SJBA), to ensure a safe and reliable water supply that will continue to serve the community in periods of drought and shortage. According to the UWMP, the City expects to meet projected demand needs because of passive savings that have been instituted. These passive savings will result in continued water saving and reduced consumption levels. The project would demand 0.1 million gallons of water per year according to CalEEMod estimates (see Appendix B) for both indoor and outdoor uses combined. Thus, the project would represent 0.03 to 0.07 percent of the 401-1,090 AF surplus of water supply during normal, single, and multiple dry year conditions for year 2040. As a result, there would be no impact.

NO IMPACT

- c. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The local wastewater collection system is owned by the City of Laguna Beach and is managed, operated, and maintained by the City's Public Works Department. The City operates a sanitary sewer system that consists of 85.71 miles of gravity sewers, 9.44 miles of force mains, and 25 lift stations (Laguna Beach 2020d). Laguna Beach is also a member agency of South Orange County Wastewater Authority (SOCWA), which operates the Coastal Treatment Plant (CTP) in Laguna Beach that provides anaerobic digestion for wastewater. The City's wastewater is delivered to the CTP, which has a permitted capacity of 6.70 million gallons of wastewater per day (MGD). Of the 6.7 MGD, the City has capacity ownership over 2.54 MGD (SOCWA 2019).

As discussed above, the project would create demand for an estimated 0.1 million gallons of water per year according to CalEEMod estimations (see Appendix B). Assuming that 100 percent of this water use would be treated as wastewater, 0.1 million gallons per year (246.6 gallons per day or 0.0002 MGD) represents less than 0.01 percent of the remaining daily capacity of 3.58 MGD at the CTP. Therefore, the project would not require the construction of new treatment facilities as it would not increase wastewater production within the City and the CTP would have adequate capacity to treat the wastewater produced by the project. There would be no impact.

NO IMPACT

- d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
- e. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

Assembly Bill 341 (AB 341) set a statewide goal for a 75 percent reduction in waste disposal by the year 2020 and established mandatory recycling for commercial businesses. The City is required to comply with this law and report their progress towards achieving the 75 percent reduction goal to the Department of Resources Recycling and Recovery (CalRecycle). The City's Public Works Department supplies residents, businesses, and institutions with waste carts for recyclables and green waste through their contract with the private waste hauler, Waste Management. Waste generated from the project site would be taken to Sunset Environmental Transfer Station, where recyclables are separated from the solid waste. Materials leaving transfer stations could be transported to three active landfills within Orange County: Olinda Alpha Landfill, Frank R. Bowerman Landfill, and Prima Deshecha Landfill (Orange County 2021). These landfills are permitted to receive between 4,000 and 11,500 tons of waste per day and have remaining capacities between 34,200,000 and 205,000,000 cubic yards (CalRecycle 2021a, 2021b, 2021c).

The project would comply with federal, state, and local statutes and regulations related to solid waste and recycling, such as AB 341, through participation in existing City waste diversion programs. According to CalEEMod (see Appendix B), the project would generate roughly 1.23 tons of solid waste per year (0.003 tons per day). This would be considered negligible and would not create the need for new facilities. Therefore, there would be a minimal increase in solid waste generation for and there would be no impact to solid waste and waste facilities.

NO IMPACT

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<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 downslopes 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"/>

Wildfire Setting

The project site is located in an urban area of the City of Laguna Beach and is not within or adjacent to a state responsibility area. It is located on private land within the Three Arch Bay Community. According to CALFIRE, the project site is located within a very high fire hazard severity zone (CALFIRE 2021).

- a. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

The project site is located in a rural area of the City of Laguna Beach and is within a local responsibility area and in a very high fire hazard severity zone (VHFSZ) (CALFIRE 2021). The Public Safety Element of the Laguna Beach General Plan outlines the safety goals and policies of the City, while the City's Emergency Management Plan and Local Hazard Mitigation Plan focuses on

optimizing the mitigation phase of preventing hazards. (Laguna Beach 2021 and 2018). The City has also adopted a Wildfire Ingress/Egress Study that highlights the need for effective evacuation plans to move people away from impacted areas as expeditiously as possible given the roadway system (Laguna Beach, 2021). According to the Public Safety Element, many of the major roadways within Laguna Beach are susceptible to natural hazards and could become blocked in the event of an emergency; therefore, evacuation routes will depend on the area affected and the type of hazard (Laguna Beach 1995).

While the project site is located in a VHFSZ the project would not involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project would be part of Central Coast Evacuation Zone which has different evacuation access routes to the Pacific Coast Highway. Emergency evacuation of the project area would be accessible by a single driveway for ingress and egress off Vista Del Sol.

Pursuant to Appendix D of the Fire Code, the fire apparatus access road should not exceed a ten percent grade and a dead-end fire apparatus access road, such as the one provided by the proposed project, should provide a minimum 96-foot minimum cul-de-sac. The shape of the existing lot and its steep topography does not allow for the proposed driveway to be less than 12 percent grade, nor does it allow for the construction of a cu-de-sac over 62-feet in diameter. As a result, the project would provide alternative means of providing adequate protection and emergency access to offset the grade and turnaround deficiencies. Such alternative means would include the provision of one cul-de-sac 62-feet in diameter located at a point midway to the top of the driveway/access road and the one cul-de-sac 56-feet in diameter located at the top of the driveway/access road, as well as three-foot wide stairs on both sides of the firefighter access paths. However, the project does not propose any new roads or infrastructure that have the potential to interfere with or obstruct an adopted emergency response plan or impede fire or police access to the site. Construction staging and activities would be temporary in nature and are not anticipated to substantially impede traffic on the Coast Highway. Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- d. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The project site is located on private land within the City of Laguna Beach in the Three Arch Bay Community. The project site has multiple aspects, with a maximum slope of 36 degrees (73 percent) in the adjacent wildlands and 31 degrees (60 percent) at the wildland interface from the areas below the parcel site. The project site buildable lot area is approximately 0.61 acres. The proposed structure will be three levels providing a total livable space of 9,594 sq. ft. Due to the shape of the existing lot, the steep topography and restraint's on the building pad along with the lot slope on the site, mitigation measures like the increase of sprinkler protection, standpipes and central station supervision of the fire systems would provide a level of protection equivalent to or a greater than the level of protection required for the safety of both residents and the fire suppression personnel.

In addition, according to a letter from FireSafe Planning Solutions, signed by Fire Marshal James Brown on behalf of the Applicant, alternate materials and methods may be considered in lieu of a complete landscape/fuel modification plan at the discretion of the Fire Chief and DRB. A Fire Protection Plan (CFC 4902.1) shall be submitted by a recognized fire protection engineer or individual with similar qualifications (subject to the Fire Chief's approval) when alternate materials and methods are proposed to meet the requirements of this guideline. Nevertheless, impacts would be considered less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The project hardship is due to the shape of the existing lot, the steep topography, and the restraints on the building pad. Because the slope on this site is over 60 percent. The lot configuration does not allow for the proposed access roads to be less than 12 percent grade or cul-de-sacs over 62-feet in diameter. Additionally, the lot is not large enough to provide 195-feet of fuel modification in all direction and thus will not provide an alternative means of providing adequate protection to this site. This would mean that the proposed site cannot do the following:

- Achieve a 10 percent max grade
- Provide turnarounds in accordance with Appendix D of the Fire Code
- Provide Fuel Modification Zones in accordance with Laguna Beach Landscape/Fuel Modification Guidelines and Maintenance Program

Alternate Materials and Methods (AM&M) for Fire Code Section 104.9 as adopted by the City of Laguna Beach and to the Laguna Beach Landscape/Fuel Modification Guidelines and Maintenance Program suggested protections to offset the grade/turnaround deficiencies and reduced fuel modification zones of the proposed fuel modification zones of the project site. This includes a conclusion that the use of increases sprinkler protection, standpipes and central station supervision of the fire systems provides a level of protection that is equivalent to or a greater than the level of protection required for the safety of both the residents and the fire suppression personnel. Therefore, the project would require the potential use of emergency water sources with the increase in sprinkler protection. With this, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

Does the project:

- | | | | | |
|--|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| <p>a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <p>c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

a. *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

As discussed in Section 4, *Biological Resources*, with mitigation, the project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal. As discussed in Section 5, *Cultural Resources*, the project site does not contain any known historical or archaeological or tribal cultural resources. As a result, the proposed project would not eliminate an important example of major periods of

California history or prehistory. However, mitigation is proposed to help reduce potential impacts, such as accidental discovery.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

As described in the discussion of environmental checklist Sections 1 through 20, with respect to all environmental issues, the proposed project would not result in significant and unmitigable impacts to the environment. All anticipated impacts associated with the proposed project would be less than significant. This is largely due to the fact that project construction activities would be temporary, infrequent, and low-intensity and would not significantly alter the environmental baseline condition.

Cumulative impacts could occur if the construction of other projects occurs at the same time as the proposed project and in the same geographic scope, such that the effects of similar impacts of multiple projects combine to create greater levels of impact than would occur at the project-level. For example, if the construction of other projects in the area occurs at the same time as project activities, combined air quality and noise impacts may be greater than at the project-level but would not create a potentially significant impact.

Implementation timing of other similar style projects is not known; therefore, it is possible that implementation of these projects and the proposed project may overlap. To be specific, no other probable future projects within 0.5 mile of the project site are known at this time.

With that said, project impacts are primarily temporary, localized effects, which would occur during project construction. Therefore, the potential for the project to contribute to cumulative impacts would be limited to the infrequent periods of project activities for the following issue areas, which would not include all environmental issues analyzed above:

- **Air Quality.** Air pollution may combine with other cumulative projects (past, present, and reasonably foreseeable future) to violate criteria pollutant standards if the existing background sources cause nonattainment conditions. Air districts manage attainment of the criteria pollutant standards by adopting rules, regulations, and attainment plans, which comprise a multifaceted programmatic approach to such attainment. The SCAQMD’s thresholds are designed such that the implementation of individual projects would not create an exceedance of or exacerbate an existing exceedance of State and Federal AQMP’s. Therefore, a project’s cumulative impacts are determined by the same thresholds as a project’s individual significance. The proposed project consists of a 10,522 square foot single family residential unit, three car garage, and swimming pool. The proposed project would be consistent with the AQMP growth forecast, regional and localized air quality thresholds, and result in less than significant impact to sensitive receptors to criteria pollutants, TAC, and odors. Therefore, the proposed project’s contribution to cumulative air quality impacts would not be cumulatively considerable.
- **Biological Resources.** If the proposed project and other planned residential projects in nearby neighborhoods are constructed during the bird nesting season, these projects could result in cumulative impacts to special status bird species and nesting birds within the vicinity of project site. However, all projects, including the proposed project, would be required to adhere to the provisions of the MBTA and CFGC related to the protection of nesting birds. In addition, many of the planned residential projects would occur in currently developed areas with low potential for

sensitive biological resources to be present, and all projects would be required to comply with the biological resources policies and standards of the City's General Plan and LCP and the LBMC, which would minimize the potential for these projects to result in cumulative impacts to special status species, wetlands, wildlife movement, and biological resources protected by local policies and ordinances. Furthermore, the proposed project was found to have no impacts related to sensitive natural communities, riparian habitat, and adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plan and therefore would not combine with other projects to result in cumulative impacts to these resources.

- **Greenhouse Gas Emissions.** GHG impacts are assessed in a cumulative context since no single project can cause a discernible change to climate. The vast majority of projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence on climate change; therefore, the issue of climate change for the proposed project involved an analysis of whether a project's contribution toward an impact is cumulatively considerable. The proposed project would not exceed SCAQMD's recommended interim GHG threshold that would capture 90 percent of GHG emission from the residential and commercial sectors for all new development projects. The proposed single family residential unit would be designed to be energy efficient and meet Title 24 requirements. The project would be required to install a PV system equal to the amount of electricity usage of the residential building and install a minimum of two electric vehicle charging station. Therefore, the proposed project's contribution to cumulative GHG emissions would not be cumulatively considerable.
- **Hazards and Hazardous Materials.** Similar to the proposed project, cumulative development projects in the local neighborhoods would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials, and compliance with applicable regulations would reduce potential cumulative impacts to less-than-significant levels. With respect to the use and accidental release of hazardous materials in the environment at construction sites and the inadvertent mobilization of existing hazardous contaminants from construction activities, effects are generally limited to site-specific conditions. Therefore, there would be no cumulative impact related to accidental release of hazardous materials.
- **Noise.** Overlapping construction activities associated with cumulative development projects in the local neighborhoods in conjunction with proposed project activities could result in cumulative noise impacts related to a temporary increase in ambient noise levels at the same noise-sensitive residences located throughout the area, especially during construction activities. However, as discussed in Section 13, *Noise*, the proposed project would not result in temporary noise levels in excess of the daytime construction noise threshold, and residential projects typically do not involve highly intensive construction activities with simultaneous operation of multiple pieces of heavy-duty construction equipment that generate significant levels of noise. Therefore, no cumulative construction noise impact would occur.

Given the above discussion, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact.

LESS THAN SIGNIFICANT IMPACT

- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. The project would not conflict with or obstruct implementation of the SCAQMD's AQMP and would not expose human beings to substantial air pollutant emissions in excess of SCAQMD regional and localized significance thresholds. As discussed in Section 9, *Hazards and Hazardous Materials*, compliance with federal, state, and local laws regulating the transportation of hazardous materials would prevent the accidental release of hazardous materials during construction, and the project would not involve the use of hazardous materials during operation. As discussed in Section 13, *Noise*, project construction noise would not the threshold of significance, and operation of the reservoirs would not involve noise-generating components. Therefore, the project would not adversely affect human beings, directly or indirectly, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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Appendix A

Preliminary Project Plans



VISTA DEL SOL

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Appendix B

Air Quality and GHG Modeling

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**150 Vista Del Sol Project - AQGHG
South Coast AQMD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	12.63	1000sqft	0.29	12,629.00	0
Other Non-Asphalt Surfaces	52.72	1000sqft	1.21	52,719.00	0
Recreational Swimming Pool	0.52	1000sqft	0.01	515.00	0
Single Family Housing	1.00	Dwelling Unit	0.18	9,594.00	3

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the site plans provided by the applicant. Other Asphalt Surfaces = (Hardscape (4,713 sf) + Permeable Way (7,916 sf)). Other Non-Asphalt Surfaces = (Landscape = Landscape/open space - open space)

Construction Phase - Construction schedule provided by the applicant. Vacant site, no demolition phase needed. Included Hauling phase based on applicant email on soil export work.

Off-road Equipment - Construction equipment based on applicant

Off-road Equipment - Construction equipment based on applicant.

Off-road Equipment - Construction equipment based on applicant and conservatively assumed excavator.

Off-road Equipment - Construction equipment based on applicant and conservatively assumed pavers and paving equipment

Off-road Equipment - Construction equipment based on applicant.

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trips and VMT - According to the applicant, grading material would be exported to Brea Land Fill and truck hauling capacity between 10-16 cubic yards. Assume 10 cy, Total # Trips Hauling = (3,798 cy export/10 cy hauling capacity)*2 trips per haul (include return trip).

Grading - Based on site plans provided by applicant

Architectural Coating -

Vehicle Trips - Recreation swimming pool is part of single family property.

Woodstoves - Based on information provided by the applicant

Area Coating -

Water And Wastewater - No septic tank or facultative lagoons. Water and wastewater would be provided by Laguna Beach Water District and South Orange County Wastewater Authority.

Construction Off-road Equipment Mitigation - Based on SCAQMD Rule 403

Energy Mitigation - Solar panels would be installed. TBD on size.

Water Mitigation -

Off-road Equipment - Based on applicant soil export needs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	23.00
tblConstructionPhase	NumDays	200.00	435.00
tblConstructionPhase	NumDays	10.00	45.00
tblConstructionPhase	NumDays	10.00	45.00
tblConstructionPhase	NumDays	4.00	44.00
tblFireplaces	NumberGas	0.85	1.00
tblFireplaces	NumberNoFireplace	0.10	1.00
tblFireplaces	NumberWood	0.05	0.00
tblLandUse	LandUseSquareFeet	12,630.00	12,629.00
tblLandUse	LandUseSquareFeet	52,720.00	52,719.00
tblLandUse	LandUseSquareFeet	520.00	515.00
tblLandUse	LandUseSquareFeet	1,800.00	9,594.00
tblLandUse	LotAcreage	0.32	0.18

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tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	39.00
tblTripsAndVMT	HaulingTripNumber	0.00	760.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	28.82	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

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tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	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 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	0.4233	3.6198	4.0555	8.7100e-003	0.2173	0.1647	0.3821	0.0971	0.1554	0.2524	0.0000	756.2708	756.2708	0.1742	0.0107	763.8238
2024	0.3794	2.8248	3.4557	7.0600e-003	0.0410	0.1269	0.1679	0.0111	0.1196	0.1307	0.0000	608.7036	608.7036	0.1453	3.4000e-003	613.3485
Maximum	0.4233	3.6198	4.0555	8.7100e-003	0.2173	0.1647	0.3821	0.0971	0.1554	0.2524	0.0000	756.2708	756.2708	0.1742	0.0107	763.8238

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	0.4233	3.6198	4.0555	8.7100e-003	0.1309	0.1647	0.2956	0.0526	0.1554	0.2080	0.0000	756.2700	756.2700	0.1742	0.0107	763.8230
2024	0.3794	2.8248	3.4557	7.0600e-003	0.0410	0.1269	0.1679	0.0111	0.1196	0.1307	0.0000	608.7030	608.7030	0.1453	3.4000e-003	613.3478
Maximum	0.4233	3.6198	4.0555	8.7100e-003	0.1309	0.1647	0.2956	0.0526	0.1554	0.2080	0.0000	756.2700	756.2700	0.1742	0.0107	763.8230

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	33.47	0.00	15.73	41.10	0.00	11.60	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	1.0219	1.0219
2	4-1-2023	6-30-2023	1.0010	1.0010
3	7-1-2023	9-30-2023	1.0120	1.0120
4	10-1-2023	12-31-2023	1.0130	1.0130
5	1-1-2024	3-31-2024	0.9525	0.9525
6	4-1-2024	6-30-2024	0.9515	0.9515
7	7-1-2024	9-30-2024	0.9620	0.9620
		Highest	1.0219	1.0219

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0432	3.3000e-004	0.0112	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.2586	0.2586	3.0000e-005	0.0000	0.2606
Energy	1.3000e-004	1.1000e-003	4.7000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	2.6618	2.6618	1.4000e-004	4.0000e-005	2.6765
Mobile	4.7800e-003	5.8400e-003	0.0499	1.1000e-004	0.0120	8.0000e-005	0.0121	3.2000e-003	8.0000e-005	3.2800e-003	0.0000	10.5580	10.5580	6.7000e-004	4.6000e-004	10.7115
Waste						0.0000	0.0000		0.0000	0.0000	0.8505	0.0000	0.8505	0.0503	0.0000	2.1072
Water						0.0000	0.0000		0.0000	0.0000	0.0339	0.3395	0.3735	1.5000e-004	8.0000e-005	0.4001
Total	0.0481	7.2700e-003	0.0616	1.2000e-004	0.0120	2.5000e-004	0.0123	3.2000e-003	2.5000e-004	3.4500e-003	0.8845	13.8179	14.7024	0.0513	5.8000e-004	16.1558

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0432	3.3000e-004	0.0112	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.2586	0.2586	3.0000e-005	0.0000	0.2606
Energy	1.3000e-004	1.1000e-003	4.7000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2753	1.2753	2.0000e-005	2.0000e-005	1.2829
Mobile	4.7800e-003	5.8400e-003	0.0499	1.1000e-004	0.0120	8.0000e-005	0.0121	3.2000e-003	8.0000e-005	3.2800e-003	0.0000	10.5580	10.5580	6.7000e-004	4.6000e-004	10.7115
Waste						0.0000	0.0000		0.0000	0.0000	0.8505	0.0000	0.8505	0.0503	0.0000	2.1072
Water						0.0000	0.0000		0.0000	0.0000	0.0272	0.2953	0.3224	1.2000e-004	6.0000e-005	0.3439
Total	0.0481	7.2700e-003	0.0616	1.2000e-004	0.0120	2.5000e-004	0.0123	3.2000e-003	2.5000e-004	3.4500e-003	0.8777	12.3871	13.2648	0.0511	5.4000e-004	14.7059

	ROG	NOx	CO	SO2	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	0.77	10.35	9.78	0.29	6.90	8.97

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	2/1/2023	5	23	
2	Hauling	Grading	1/1/2023	3/2/2023	5	44	
3	Grading	Grading	2/1/2023	2/6/2023	5	4	

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4	Building Construction	Building Construction	2/1/2023	10/1/2024	5	435
5	Paving	Paving	10/1/2024	12/2/2024	5	45
6	Architectural Coating	Architectural Coating	10/1/2024	12/2/2024	5	45

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 22

Acres of Paving: 1.5

Residential Indoor: 19,428; Residential Outdoor: 6,476; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,921 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Air Compressors	1	6.00	78	0.48
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Cranes	0	6.00	231	0.29
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Dumpers/Tenders	1	8.00	16	0.38
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Pavers	1	8.00	130	0.42

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Building Construction	Paving Equipment	1	8.00	132	0.36
Building Construction	Plate Compactors	1	8.00	8	0.43
Building Construction	Pumps	1	8.00	84	0.74
Building Construction	Rollers	1	8.00	80	0.38
Building Construction	Surfacing Equipment	1	8.00	263	0.30
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Plate Compactors	1	8.00	8	0.43
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Architectural Coating	Cranes	1	8.00	231	0.29
Architectural Coating	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Excavators	0	8.00	158	0.38
Paving	Pavers	0	6.00	130	0.42
Hauling	Graders	0	8.00	187	0.41
Hauling	Rubber Tired Dozers	1	8.00	247	0.40
Hauling	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Hauling	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	16	28.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Hauling	3	8.00	0.00	760.00	14.70	6.90	39.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7400e-003	0.0177	0.0257	4.0000e-005		8.7000e-004	8.7000e-004		8.0000e-004	8.0000e-004	0.0000	3.1462	3.1462	1.0200e-003	0.0000	3.1717
Total	1.7400e-003	0.0177	0.0257	4.0000e-005	0.0000	8.7000e-004	8.7000e-004	0.0000	8.0000e-004	8.0000e-004	0.0000	3.1462	3.1462	1.0200e-003	0.0000	3.1717

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3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.1000e-004	8.0000e-005	1.1300e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2999	0.2999	1.0000e-005	1.0000e-005	0.3024
Total	1.1000e-004	8.0000e-005	1.1300e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2999	0.2999	1.0000e-005	1.0000e-005	0.3024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7400e-003	0.0177	0.0257	4.0000e-005		8.7000e-004	8.7000e-004		8.0000e-004	8.0000e-004	0.0000	3.1462	3.1462	1.0200e-003	0.0000	3.1717
Total	1.7400e-003	0.0177	0.0257	4.0000e-005	0.0000	8.7000e-004	8.7000e-004	0.0000	8.0000e-004	8.0000e-004	0.0000	3.1462	3.1462	1.0200e-003	0.0000	3.1717

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3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.1000e-004	8.0000e-005	1.1300e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2999	0.2999	1.0000e-005	1.0000e-005	0.3024
Total	1.1000e-004	8.0000e-005	1.1300e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2999	0.2999	1.0000e-005	1.0000e-005	0.3024

3.3 Hauling - 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					0.1442	0.0000	0.1442	0.0741	0.0000	0.0741	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0221	0.2204	0.1830	3.6000e-004		0.0102	0.0102		9.3700e-003	9.3700e-003	0.0000	31.7530	31.7530	0.0103	0.0000	32.0097
Total	0.0221	0.2204	0.1830	3.6000e-004	0.1442	0.0102	0.1543	0.0741	9.3700e-003	0.0835	0.0000	31.7530	31.7530	0.0103	0.0000	32.0097

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Hauling - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1800e-003	0.0873	0.0197	4.1000e-004	0.0128	6.7000e-004	0.0134	3.5000e-003	6.4000e-004	4.1400e-003	0.0000	41.3285	41.3285	2.3200e-003	6.5700e-003	43.3434
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	5.5000e-004	4.2000e-004	5.7600e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.5301	1.5301	4.0000e-005	4.0000e-005	1.5426
Total	1.7300e-003	0.0877	0.0254	4.3000e-004	0.0147	6.8000e-004	0.0154	4.0100e-003	6.5000e-004	4.6600e-003	0.0000	42.8585	42.8585	2.3600e-003	6.6100e-003	44.8860

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					0.0649	0.0000	0.0649	0.0333	0.0000	0.0333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0221	0.2204	0.1830	3.6000e-004		0.0102	0.0102		9.3700e-003	9.3700e-003	0.0000	31.7530	31.7530	0.0103	0.0000	32.0097
Total	0.0221	0.2204	0.1830	3.6000e-004	0.0649	0.0102	0.0751	0.0333	9.3700e-003	0.0427	0.0000	31.7530	31.7530	0.0103	0.0000	32.0097

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3.3 Hauling - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1800e-003	0.0873	0.0197	4.1000e-004	0.0128	6.7000e-004	0.0134	3.5000e-003	6.4000e-004	4.1400e-003	0.0000	41.3285	41.3285	2.3200e-003	6.5700e-003	43.3434
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	5.5000e-004	4.2000e-004	5.7600e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.5301	1.5301	4.0000e-005	4.0000e-005	1.5426
Total	1.7300e-003	0.0877	0.0254	4.3000e-004	0.0147	6.8000e-004	0.0154	4.0100e-003	6.5000e-004	4.6600e-003	0.0000	42.8585	42.8585	2.3600e-003	6.6100e-003	44.8860

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					0.0131	0.0000	0.0131	6.7300e-003	0.0000	6.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1300e-003	0.0209	0.0176	3.0000e-005		9.6000e-004	9.6000e-004		8.9000e-004	8.9000e-004	0.0000	3.0176	3.0176	9.6000e-004	0.0000	3.0417
Total	2.1300e-003	0.0209	0.0176	3.0000e-005	0.0131	9.6000e-004	0.0141	6.7300e-003	8.9000e-004	7.6200e-003	0.0000	3.0176	3.0176	9.6000e-004	0.0000	3.0417

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	6.5000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1739	0.1739	0.0000	0.0000	0.1753
Total	6.0000e-005	5.0000e-005	6.5000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1739	0.1739	0.0000	0.0000	0.1753

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.9000e-003	0.0000	5.9000e-003	3.0300e-003	0.0000	3.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1300e-003	0.0209	0.0176	3.0000e-005		9.6000e-004	9.6000e-004		8.9000e-004	8.9000e-004	0.0000	3.0176	3.0176	9.6000e-004	0.0000	3.0416
Total	2.1300e-003	0.0209	0.0176	3.0000e-005	5.9000e-003	9.6000e-004	6.8600e-003	3.0300e-003	8.9000e-004	3.9200e-003	0.0000	3.0176	3.0176	9.6000e-004	0.0000	3.0416

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	6.5000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1739	0.1739	0.0000	0.0000	0.1753
Total	6.0000e-005	5.0000e-005	6.5000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1739	0.1739	0.0000	0.0000	0.1753

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	0.3836	3.2151	3.6741	7.2900e-003		0.1515	0.1515		0.1432	0.1432	0.0000	622.7585	622.7585	0.1581	0.0000	626.7107
Total	0.3836	3.2151	3.6741	7.2900e-003		0.1515	0.1515		0.1432	0.1432	0.0000	622.7585	622.7585	0.1581	0.0000	626.7107

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4100e-003	0.0499	0.0190	2.4000e-004	8.2600e-003	2.8000e-004	8.5300e-003	2.3800e-003	2.7000e-004	2.6500e-003	0.0000	23.2965	23.2965	7.8000e-004	3.3800e-003	24.3219
Worker	0.0104	7.9900e-003	0.1090	3.1000e-004	0.0366	2.1000e-004	0.0368	9.7100e-003	1.9000e-004	9.9000e-003	0.0000	28.9667	28.9667	7.4000e-004	7.4000e-004	29.2045
Total	0.0118	0.0579	0.1280	5.5000e-004	0.0448	4.9000e-004	0.0453	0.0121	4.6000e-004	0.0126	0.0000	52.2632	52.2632	1.5200e-003	4.1200e-003	53.5264

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	0.3836	3.2151	3.6741	7.2900e-003		0.1515	0.1515		0.1432	0.1432	0.0000	622.7577	622.7577	0.1581	0.0000	626.7099
Total	0.3836	3.2151	3.6741	7.2900e-003		0.1515	0.1515		0.1432	0.1432	0.0000	622.7577	622.7577	0.1581	0.0000	626.7099

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4100e-003	0.0499	0.0190	2.4000e-004	8.2600e-003	2.8000e-004	8.5300e-003	2.3800e-003	2.7000e-004	2.6500e-003	0.0000	23.2965	23.2965	7.8000e-004	3.3800e-003	24.3219
Worker	0.0104	7.9900e-003	0.1090	3.1000e-004	0.0366	2.1000e-004	0.0368	9.7100e-003	1.9000e-004	9.9000e-003	0.0000	28.9667	28.9667	7.4000e-004	7.4000e-004	29.2045
Total	0.0118	0.0579	0.1280	5.5000e-004	0.0448	4.9000e-004	0.0453	0.0121	4.6000e-004	0.0126	0.0000	52.2632	52.2632	1.5200e-003	4.1200e-003	53.5264

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	0.3029	2.5267	3.0361	6.0400e-003		0.1152	0.1152		0.1087	0.1087	0.0000	515.6575	515.6575	0.1303	0.0000	518.9158
Total	0.3029	2.5267	3.0361	6.0400e-003		0.1152	0.1152		0.1087	0.1087	0.0000	515.6575	515.6575	0.1303	0.0000	518.9158

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3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1400e-003	0.0415	0.0155	1.9000e-004	6.8300e-003	2.3000e-004	7.0600e-003	1.9700e-003	2.2000e-004	2.1900e-003	0.0000	19.0061	19.0061	6.5000e-004	2.7600e-003	19.8440
Worker	8.0400e-003	5.9100e-003	0.0842	2.5000e-004	0.0303	1.7000e-004	0.0304	8.0400e-003	1.5000e-004	8.1900e-003	0.0000	23.4615	23.4615	5.5000e-004	5.7000e-004	23.6442
Total	9.1800e-003	0.0474	0.0997	4.4000e-004	0.0371	4.0000e-004	0.0375	0.0100	3.7000e-004	0.0104	0.0000	42.4675	42.4675	1.2000e-003	3.3300e-003	43.4882

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	0.3029	2.5267	3.0361	6.0400e-003		0.1152	0.1152		0.1087	0.1087	0.0000	515.6569	515.6569	0.1303	0.0000	518.9152
Total	0.3029	2.5267	3.0361	6.0400e-003		0.1152	0.1152		0.1087	0.1087	0.0000	515.6569	515.6569	0.1303	0.0000	518.9152

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1400e-003	0.0415	0.0155	1.9000e-004	6.8300e-003	2.3000e-004	7.0600e-003	1.9700e-003	2.2000e-004	2.1900e-003	0.0000	19.0061	19.0061	6.5000e-004	2.7600e-003	19.8440
Worker	8.0400e-003	5.9100e-003	0.0842	2.5000e-004	0.0303	1.7000e-004	0.0304	8.0400e-003	1.5000e-004	8.1900e-003	0.0000	23.4615	23.4615	5.5000e-004	5.7000e-004	23.6442
Total	9.1800e-003	0.0474	0.0997	4.4000e-004	0.0371	4.0000e-004	0.0375	0.0100	3.7000e-004	0.0104	0.0000	42.4675	42.4675	1.2000e-003	3.3300e-003	43.4882

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0120	0.1111	0.1780	2.8000e-004		5.1700e-003	5.1700e-003		4.7700e-003	4.7700e-003	0.0000	24.2057	24.2057	7.6700e-003	0.0000	24.3975
Paving	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0124	0.1111	0.1780	2.8000e-004		5.1700e-003	5.1700e-003		4.7700e-003	4.7700e-003	0.0000	24.2057	24.2057	7.6700e-003	0.0000	24.3975

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.8000e-004	6.8700e-003	2.0000e-005	2.4700e-003	1.0000e-005	2.4800e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.9140	1.9140	5.0000e-005	5.0000e-005	1.9289
Total	6.6000e-004	4.8000e-004	6.8700e-003	2.0000e-005	2.4700e-003	1.0000e-005	2.4800e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.9140	1.9140	5.0000e-005	5.0000e-005	1.9289

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	0.0120	0.1111	0.1780	2.8000e-004		5.1700e-003	5.1700e-003		4.7700e-003	4.7700e-003	0.0000	24.2056	24.2056	7.6700e-003	0.0000	24.3975
Paving	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0124	0.1111	0.1780	2.8000e-004		5.1700e-003	5.1700e-003		4.7700e-003	4.7700e-003	0.0000	24.2056	24.2056	7.6700e-003	0.0000	24.3975

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.8000e-004	6.8700e-003	2.0000e-005	2.4700e-003	1.0000e-005	2.4800e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.9140	1.9140	5.0000e-005	5.0000e-005	1.9289
Total	6.6000e-004	4.8000e-004	6.8700e-003	2.0000e-005	2.4700e-003	1.0000e-005	2.4800e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	1.9140	1.9140	5.0000e-005	5.0000e-005	1.9289

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	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1389	0.1310	2.7000e-004		6.1500e-003	6.1500e-003		5.7600e-003	5.7600e-003	0.0000	23.3106	23.3106	6.0000e-003	0.0000	23.4607
Total	0.0539	0.1389	0.1310	2.7000e-004		6.1500e-003	6.1500e-003		5.7600e-003	5.7600e-003	0.0000	23.3106	23.3106	6.0000e-003	0.0000	23.4607

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.9000e-004	4.1200e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1484	1.1484	3.0000e-005	3.0000e-005	1.1574
Total	3.9000e-004	2.9000e-004	4.1200e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1484	1.1484	3.0000e-005	3.0000e-005	1.1574

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	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1389	0.1310	2.7000e-004		6.1500e-003	6.1500e-003		5.7600e-003	5.7600e-003	0.0000	23.3105	23.3105	6.0000e-003	0.0000	23.4607
Total	0.0539	0.1389	0.1310	2.7000e-004		6.1500e-003	6.1500e-003		5.7600e-003	5.7600e-003	0.0000	23.3105	23.3105	6.0000e-003	0.0000	23.4607

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3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.9000e-004	4.1200e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1484	1.1484	3.0000e-005	3.0000e-005	1.1574
Total	3.9000e-004	2.9000e-004	4.1200e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1484	1.1484	3.0000e-005	3.0000e-005	1.1574

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.7800e-003	5.8400e-003	0.0499	1.1000e-004	0.0120	8.0000e-005	0.0121	3.2000e-003	8.0000e-005	3.2800e-003	0.0000	10.5580	10.5580	6.7000e-004	4.6000e-004	10.7115
Unmitigated	4.7800e-003	5.8400e-003	0.0499	1.1000e-004	0.0120	8.0000e-005	0.0121	3.2000e-003	8.0000e-005	3.2800e-003	0.0000	10.5580	10.5580	6.7000e-004	4.6000e-004	10.7115

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	9.44	9.54	8.55	31,872	31,872
Total	9.44	9.54	8.55	31,872	31,872

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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Other Non-Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Recreational Swimming Pool	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Single Family Housing	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.3865	1.3865	1.2000e-004	1.0000e-005	1.3937
NaturalGas Mitigated	1.3000e-004	1.1000e-003	4.7000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2753	1.2753	2.0000e-005	2.0000e-005	1.2829
NaturalGas Unmitigated	1.3000e-004	1.1000e-003	4.7000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2753	1.2753	2.0000e-005	2.0000e-005	1.2829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	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
Single Family Housing	23897.8	1.3000e-004	1.1000e-003	4.7000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2753	1.2753	2.0000e-005	2.0000e-005	1.2829
Total		1.3000e-004	1.1000e-003	4.7000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2753	1.2753	2.0000e-005	2.0000e-005	1.2829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	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
Single Family Housing	23897.8	1.3000e-004	1.1000e-003	4.7000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2753	1.2753	2.0000e-005	2.0000e-005	1.2829
Total		1.3000e-004	1.1000e-003	4.7000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.2753	1.2753	2.0000e-005	2.0000e-005	1.2829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	7818.09	1.3865	1.2000e-004	1.0000e-005	1.3937
Total		1.3865	1.2000e-004	1.0000e-005	1.3937

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0432	3.3000e-004	0.0112	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.2586	0.2586	3.0000e-005	0.0000	0.2606
Unmitigated	0.0432	3.3000e-004	0.0112	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.2586	0.2586	3.0000e-005	0.0000	0.2606

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	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0389					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-005	2.1000e-004	9.0000e-005	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2401	0.2401	0.0000	0.0000	0.2416
Landscaping	3.9000e-004	1.3000e-004	0.0112	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0185	0.0185	2.0000e-005	0.0000	0.0190
Total	0.0432	3.4000e-004	0.0112	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.2586	0.2586	2.0000e-005	0.0000	0.2606

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0389					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-005	2.1000e-004	9.0000e-005	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2401	0.2401	0.0000	0.0000	0.2416
Landscaping	3.9000e-004	1.3000e-004	0.0112	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0185	0.0185	2.0000e-005	0.0000	0.0190
Total	0.0432	3.4000e-004	0.0112	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.2586	0.2586	2.0000e-005	0.0000	0.2606

7.0 Water Detail

7.1 Mitigation Measures Water

- Apply Water Conservation Strategy
- Use Water Efficient Irrigation System

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3224	1.2000e-004	6.0000e-005	0.3439
Unmitigated	0.3735	1.5000e-004	8.0000e-005	0.4001

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.0307544 / 0.0188495	0.1190	5.0000e-005	2.0000e-005	0.1276
Single Family Housing	0.065154 / 0.0410754	0.2544	1.0000e-004	5.0000e-005	0.2726
Total		0.3735	1.5000e-004	7.0000e-005	0.4001

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.0246035 / 0.0188495	0.1027	4.0000e-005	2.0000e-005	0.1095
Single Family Housing	0.0521232 / 0.0410754	0.2197	8.0000e-005	4.0000e-005	0.2343
Total		0.3224	1.2000e-004	6.0000e-005	0.3438

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 Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.8505	0.0503	0.0000	2.1072
Unmitigated	0.8505	0.0503	0.0000	2.1072

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	2.96	0.6009	0.0355	0.0000	1.4886
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		0.8505	0.0503	0.0000	2.1072

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	2.96	0.6009	0.0355	0.0000	1.4886
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		0.8505	0.0503	0.0000	2.1072

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 Applied

Equipment Type	Number
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11.0 Vegetation

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**150 Vista Del Sol Project - AQGHG
South Coast AQMD Air District, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	12.63	1000sqft	0.29	12,629.00	0
Other Non-Asphalt Surfaces	52.72	1000sqft	1.21	52,719.00	0
Recreational Swimming Pool	0.52	1000sqft	0.01	515.00	0
Single Family Housing	1.00	Dwelling Unit	0.18	9,594.00	3

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the site plans provided by the applicant. Other Asphalt Surfaces = (Hardscape (4,713 sf) + Permeable Way (7,916 sf)). Other Non-Asphalt Surfaces = (Landscape = Landscape/open space - open space)

Construction Phase - Construction schedule provided by the applicant. Vacant site, no demolition phase needed. Included Hauling phase based on applicant email on soil export work.

Off-road Equipment - Construction equipment based on applicant

Off-road Equipment - Construction equipment based on applicant.

Off-road Equipment - Construction equipment based on applicant and conservatively assumed excavator.

Off-road Equipment - Construction equipment based on applicant and conservatively assumed pavers and paving equipment

Off-road Equipment - Construction equipment based on applicant.

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trips and VMT - According to the applicant, grading material would be exported to Brea Land Fill and truck hauling capacity between 10-16 cubic yards. Assume 10 cy, Total # Trips Hauling = (3,798 cy export/10 cy hauling capacity)*2 trips per haul (include return trip).

Grading - Based on site plans provided by applicant

Architectural Coating -

Vehicle Trips - Recreation swimming pool is part of single family property.

Woodstoves - Based on information provided by the applicant

Area Coating -

Water And Wastewater - No septic tank or facultative lagoons. Water and wastewater would be provided by Laguna Beach Water District and South Orange County Wastewater Authority.

Construction Off-road Equipment Mitigation - Based on SCAQMD Rule 403

Energy Mitigation - Solar panels would be installed. TBD on size.

Water Mitigation -

Off-road Equipment - Based on applicant soil export needs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	23.00
tblConstructionPhase	NumDays	200.00	435.00
tblConstructionPhase	NumDays	10.00	45.00
tblConstructionPhase	NumDays	10.00	45.00
tblConstructionPhase	NumDays	4.00	44.00
tblFireplaces	NumberGas	0.85	1.00
tblFireplaces	NumberNoFireplace	0.10	1.00
tblFireplaces	NumberWood	0.05	0.00
tblLandUse	LandUseSquareFeet	12,630.00	12,629.00
tblLandUse	LandUseSquareFeet	52,720.00	52,719.00
tblLandUse	LandUseSquareFeet	520.00	515.00
tblLandUse	LandUseSquareFeet	1,800.00	9,594.00
tblLandUse	LotAcreage	0.32	0.18

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	39.00
tblTripsAndVMT	HaulingTripNumber	0.00	760.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	28.82	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	5.6684	53.2982	52.9994	0.1237	14.3116	2.3304	16.6420	7.0618	2.1778	9.2396	0.0000	12,101.2777	12,101.2777	2.7422	0.3712	12,280.4591
2024	6.1622	37.2460	46.1512	0.0917	0.5623	1.6772	2.2394	0.1507	1.5766	1.7273	0.0000	8,742.5354	8,742.5354	2.1455	0.0401	8,808.1149
Maximum	6.1622	53.2982	52.9994	0.1237	14.3116	2.3304	16.6420	7.0618	2.1778	9.2396	0.0000	12,101.2777	12,101.2777	2.7422	0.3712	12,280.4591

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	5.6684	53.2982	52.9994	0.1237	7.1040	2.3304	9.4344	3.3576	2.1778	5.5354	0.0000	12,101.2777	12,101.2777	2.7422	0.3712	12,280.4591
2024	6.1622	37.2460	46.1512	0.0917	0.5623	1.6772	2.2394	0.1507	1.5766	1.7273	0.0000	8,742.5354	8,742.5354	2.1455	0.0401	8,808.1149
Maximum	6.1622	53.2982	52.9994	0.1237	7.1040	2.3304	9.4344	3.3576	2.1778	5.5354	0.0000	12,101.2777	12,101.2777	2.7422	0.3712	12,280.4591

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	48.46	0.00	38.17	51.36	0.00	33.78	0.00	0.00	0.00	0.00	0.00	0.00

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698
Energy	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
Mobile	0.0282	0.0302	0.2872	6.5000e-004	0.0687	4.6000e-004	0.0692	0.0183	4.3000e-004	0.0187		67.8575	67.8575	4.0300e-003	2.7200e-003	68.7693
Total	0.2685	0.0538	0.3860	8.0000e-004	0.0687	2.7700e-003	0.0715	0.0183	2.7400e-003	0.0210	0.0000	96.8997	96.8997	4.7700e-003	3.2500e-003	97.9876

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	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698
Energy	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
Mobile	0.0282	0.0302	0.2872	6.5000e-004	0.0687	4.6000e-004	0.0692	0.0183	4.3000e-004	0.0187		67.8575	67.8575	4.0300e-003	2.7200e-003	68.7693
Total	0.2685	0.0538	0.3860	8.0000e-004	0.0687	2.7700e-003	0.0715	0.0183	2.7400e-003	0.0210	0.0000	96.8997	96.8997	4.7700e-003	3.2500e-003	97.9876

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	Site Preparation	Site Preparation	1/1/2023	2/1/2023	5	23	
2	Hauling	Grading	1/1/2023	3/2/2023	5	44	
3	Grading	Grading	2/1/2023	2/6/2023	5	4	
4	Building Construction	Building Construction	2/1/2023	10/1/2024	5	435	
5	Paving	Paving	10/1/2024	12/2/2024	5	45	
6	Architectural Coating	Architectural Coating	10/1/2024	12/2/2024	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 22

Acres of Paving: 1.5

Residential Indoor: 19,428; Residential Outdoor: 6,476; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,921 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Air Compressors	1	6.00	78	0.48
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Cranes	0	6.00	231	0.29
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Dumpers/Tenders	1	8.00	16	0.38
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Pavers	1	8.00	130	0.42
Building Construction	Paving Equipment	1	8.00	132	0.36
Building Construction	Plate Compactors	1	8.00	8	0.43
Building Construction	Pumps	1	8.00	84	0.74
Building Construction	Rollers	1	8.00	80	0.38
Building Construction	Surfacing Equipment	1	8.00	263	0.30
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Plate Compactors	1	8.00	8	0.43
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Architectural Coating	Cranes	1	8.00	231	0.29
Architectural Coating	Tractors/Loaders/Backhoes	1	8.00	97	0.37

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	Excavators	0	8.00	158	0.38
Paving	Pavers	0	6.00	130	0.42
Hauling	Graders	0	8.00	187	0.41
Hauling	Rubber Tired Dozers	1	8.00	247	0.40
Hauling	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Hauling	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	16	28.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Hauling	3	8.00	0.00	760.00	14.70	6.90	39.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1514	1.5357	2.2313	3.1200e-003		0.0758	0.0758		0.0698	0.0698		301.5765	301.5765	0.0975		304.0149
Total	0.1514	1.5357	2.2313	3.1200e-003	0.0000	0.0758	0.0758	0.0000	0.0698	0.0698		301.5765	301.5765	0.0975		304.0149

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	9.5800e-003	6.4300e-003	0.1055	2.9000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		30.0600	30.0600	7.2000e-004	6.8000e-004	30.2800
Total	9.5800e-003	6.4300e-003	0.1055	2.9000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		30.0600	30.0600	7.2000e-004	6.8000e-004	30.2800

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1514	1.5357	2.2313	3.1200e-003		0.0758	0.0758		0.0698	0.0698	0.0000	301.5765	301.5765	0.0975		304.0149
Total	0.1514	1.5357	2.2313	3.1200e-003	0.0000	0.0758	0.0758	0.0000	0.0698	0.0698	0.0000	301.5765	301.5765	0.0975		304.0149

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	9.5800e-003	6.4300e-003	0.1055	2.9000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		30.0600	30.0600	7.2000e-004	6.8000e-004	30.2800
Total	9.5800e-003	6.4300e-003	0.1055	2.9000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		30.0600	30.0600	7.2000e-004	6.8000e-004	30.2800

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Hauling - 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.0058	10.0195	8.3165	0.0164		0.4631	0.4631		0.4260	0.4260		1,590.9858	1,590.9858	0.5146		1,603.8497
Total	1.0058	10.0195	8.3165	0.0164	6.5523	0.4631	7.0154	3.3675	0.4260	3.7935		1,590.9858	1,590.9858	0.5146		1,603.8497

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	0.0545	3.7587	0.8906	0.0188	0.5888	0.0306	0.6194	0.1614	0.0293	0.1906		2,070.2530	2,070.2530	0.1163	0.3289	2,171.1861
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	0.0256	0.0172	0.2814	7.8000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		80.1599	80.1599	1.9200e-003	1.8100e-003	80.7468
Total	0.0800	3.7759	1.1719	0.0196	0.6782	0.0311	0.7093	0.1851	0.0297	0.2148		2,150.4130	2,150.4130	0.1183	0.3308	2,251.9329

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Hauling - 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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.0058	10.0195	8.3165	0.0164		0.4631	0.4631		0.4260	0.4260	0.0000	1,590.985 8	1,590.985 8	0.5146		1,603.849 7
Total	1.0058	10.0195	8.3165	0.0164	2.9486	0.4631	3.4116	1.5154	0.4260	1.9414	0.0000	1,590.985 8	1,590.985 8	0.5146		1,603.849 7

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	0.0545	3.7587	0.8906	0.0188	0.5888	0.0306	0.6194	0.1614	0.0293	0.1906		2,070.253 0	2,070.253 0	0.1163	0.3289	2,171.186 1
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	0.0256	0.0172	0.2814	7.8000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		80.1599	80.1599	1.9200e-003	1.8100e-003	80.7468
Total	0.0800	3.7759	1.1719	0.0196	0.6782	0.0311	0.7093	0.1851	0.0297	0.2148		2,150.413 0	2,150.413 0	0.1183	0.3308	2,251.932 9

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.0648	10.4628	8.8059	0.0173		0.4823	0.4823		0.4445	0.4445		1,663.162 2	1,663.162 2	0.5303		1,676.420 4
Total	1.0648	10.4628	8.8059	0.0173	6.5523	0.4823	7.0347	3.3675	0.4445	3.8120		1,663.162 2	1,663.162 2	0.5303		1,676.420 4

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	0.0319	0.0214	0.3517	9.8000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		100.1999	100.1999	2.4000e-003	2.2600e-003	100.9334
Total	0.0319	0.0214	0.3517	9.8000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		100.1999	100.1999	2.4000e-003	2.2600e-003	100.9334

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.0648	10.4628	8.8059	0.0173		0.4823	0.4823		0.4445	0.4445	0.0000	1,663.162 2	1,663.162 2	0.5303		1,676.420 4
Total	1.0648	10.4628	8.8059	0.0173	2.9486	0.4823	3.4309	1.5154	0.4445	1.9599	0.0000	1,663.162 2	1,663.162 2	0.5303		1,676.420 4

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	0.0319	0.0214	0.3517	9.8000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		100.1999	100.1999	2.4000e-003	2.2600e-003	100.9334
Total	0.0319	0.0214	0.3517	9.8000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		100.1999	100.1999	2.4000e-003	2.2600e-003	100.9334

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.2233	27.0172	30.8744	0.0613		1.2732	1.2732		1.2032	1.2032		5,768.6866	5,768.6866	1.4644		5,805.2962
Total	3.2233	27.0172	30.8744	0.0613		1.2732	1.2732		1.2032	1.2032		5,768.6866	5,768.6866	1.4644		5,805.2962

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	0.0122	0.3993	0.1572	2.0000e-003	0.0704	2.3300e-003	0.0728	0.0203	2.2200e-003	0.0225		215.6340	215.6340	7.2500e-003	0.0312	225.1179
Worker	0.0894	0.0600	0.9849	2.7400e-003	0.3130	1.7600e-003	0.3147	0.0830	1.6200e-003	0.0846		280.5598	280.5598	6.7200e-003	6.3300e-003	282.6136
Total	0.1016	0.4593	1.1421	4.7400e-003	0.3834	4.0900e-003	0.3875	0.1033	3.8400e-003	0.1071		496.1938	496.1938	0.0140	0.0376	507.7315

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.2233	27.0172	30.8744	0.0613		1.2732	1.2732		1.2032	1.2032	0.0000	5,768.6866	5,768.6866	1.4644		5,805.2962
Total	3.2233	27.0172	30.8744	0.0613		1.2732	1.2732		1.2032	1.2032	0.0000	5,768.6866	5,768.6866	1.4644		5,805.2962

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	0.0122	0.3993	0.1572	2.0000e-003	0.0704	2.3300e-003	0.0728	0.0203	2.2200e-003	0.0225		215.6340	215.6340	7.2500e-003	0.0312	225.1179
Worker	0.0894	0.0600	0.9849	2.7400e-003	0.3130	1.7600e-003	0.3147	0.0830	1.6200e-003	0.0846		280.5598	280.5598	6.7200e-003	6.3300e-003	282.6136
Total	0.1016	0.4593	1.1421	4.7400e-003	0.3834	4.0900e-003	0.3875	0.1033	3.8400e-003	0.1071		496.1938	496.1938	0.0140	0.0376	507.7315

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.0755	25.6517	30.8235	0.0613		1.1692	1.1692		1.1035	1.1035		5,770.7114	5,770.7114	1.4586		5,807.1756
Total	3.0755	25.6517	30.8235	0.0613		1.1692	1.1692		1.1035	1.1035		5,770.7114	5,770.7114	1.4586		5,807.1756

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	0.0119	0.4011	0.1546	1.9700e-003	0.0704	2.3300e-003	0.0728	0.0203	2.2300e-003	0.0225		212.5319	212.5319	7.2500e-003	0.0308	221.8955
Worker	0.0835	0.0537	0.9187	2.6600e-003	0.3130	1.6900e-003	0.3147	0.0830	1.5500e-003	0.0846		274.5247	274.5247	6.0800e-003	5.8900e-003	276.4326
Total	0.0954	0.4548	1.0734	4.6300e-003	0.3834	4.0200e-003	0.3874	0.1033	3.7800e-003	0.1071		487.0566	487.0566	0.0133	0.0367	498.3281

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.0755	25.6517	30.8235	0.0613		1.1692	1.1692		1.1035	1.1035	0.0000	5,770.7114	5,770.7114	1.4586		5,807.1756
Total	3.0755	25.6517	30.8235	0.0613		1.1692	1.1692		1.1035	1.1035	0.0000	5,770.7114	5,770.7114	1.4586		5,807.1756

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	0.0119	0.4011	0.1546	1.9700e-003	0.0704	2.3300e-003	0.0728	0.0203	2.2300e-003	0.0225		212.5319	212.5319	7.2500e-003	0.0308	221.8955
Worker	0.0835	0.0537	0.9187	2.6600e-003	0.3130	1.6900e-003	0.3147	0.0830	1.5500e-003	0.0846		274.5247	274.5247	6.0800e-003	5.8900e-003	276.4326
Total	0.0954	0.4548	1.0734	4.6300e-003	0.3834	4.0200e-003	0.3874	0.1033	3.7800e-003	0.1071		487.0566	487.0566	0.0133	0.0367	498.3281

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.5324	4.9375	7.9089	0.0124		0.2298	0.2298		0.2122	0.2122		1,185.8740	1,185.8740	0.3760		1,195.2731
Paving	0.0169					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5493	4.9375	7.9089	0.0124		0.2298	0.2298		0.2122	0.2122		1,185.8740	1,185.8740	0.3760		1,195.2731

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	0.0298	0.0192	0.3281	9.5000e-004	0.1118	6.0000e-004	0.1124	0.0296	5.6000e-004	0.0302		98.0445	98.0445	2.1700e-003	2.1000e-003	98.7259
Total	0.0298	0.0192	0.3281	9.5000e-004	0.1118	6.0000e-004	0.1124	0.0296	5.6000e-004	0.0302		98.0445	98.0445	2.1700e-003	2.1000e-003	98.7259

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.5324	4.9375	7.9089	0.0124		0.2298	0.2298		0.2122	0.2122	0.0000	1,185.8740	1,185.8740	0.3760		1,195.2731
Paving	0.0169					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5493	4.9375	7.9089	0.0124		0.2298	0.2298		0.2122	0.2122	0.0000	1,185.8740	1,185.8740	0.3760		1,195.2731

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	0.0298	0.0192	0.3281	9.5000e-004	0.1118	6.0000e-004	0.1124	0.0296	5.6000e-004	0.0302		98.0445	98.0445	2.1700e-003	2.1000e-003	98.7259
Total	0.0298	0.0192	0.3281	9.5000e-004	0.1118	6.0000e-004	0.1124	0.0296	5.6000e-004	0.0302		98.0445	98.0445	2.1700e-003	2.1000e-003	98.7259

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.7379					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6564	6.1713	5.8204	0.0119		0.2732	0.2732		0.2562	0.2562		1,142.022 1	1,142.022 1	0.2942		1,149.376 5
Total	2.3944	6.1713	5.8204	0.0119		0.2732	0.2732		0.2562	0.2562		1,142.022 1	1,142.022 1	0.2942		1,149.376 5

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	0.0179	0.0115	0.1969	5.7000e-004	0.0671	3.6000e-004	0.0674	0.0178	3.3000e-004	0.0181		58.8267	58.8267	1.3000e-003	1.2600e-003	59.2356
Total	0.0179	0.0115	0.1969	5.7000e-004	0.0671	3.6000e-004	0.0674	0.0178	3.3000e-004	0.0181		58.8267	58.8267	1.3000e-003	1.2600e-003	59.2356

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.7379					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6564	6.1713	5.8204	0.0119		0.2732	0.2732		0.2562	0.2562	0.0000	1,142.022 1	1,142.022 1	0.2942		1,149.376 5
Total	2.3944	6.1713	5.8204	0.0119		0.2732	0.2732		0.2562	0.2562	0.0000	1,142.022 1	1,142.022 1	0.2942		1,149.376 5

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	0.0179	0.0115	0.1969	5.7000e-004	0.0671	3.6000e-004	0.0674	0.0178	3.3000e-004	0.0181		58.8267	58.8267	1.3000e-003	1.2600e-003	59.2356
Total	0.0179	0.0115	0.1969	5.7000e-004	0.0671	3.6000e-004	0.0674	0.0178	3.3000e-004	0.0181		58.8267	58.8267	1.3000e-003	1.2600e-003	59.2356

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0282	0.0302	0.2872	6.5000e-004	0.0687	4.6000e-004	0.0692	0.0183	4.3000e-004	0.0187		67.8575	67.8575	4.0300e-003	2.7200e-003	68.7693
Unmitigated	0.0282	0.0302	0.2872	6.5000e-004	0.0687	4.6000e-004	0.0692	0.0183	4.3000e-004	0.0187		67.8575	67.8575	4.0300e-003	2.7200e-003	68.7693

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	9.44	9.54	8.55	31,872	31,872
Total	9.44	9.54	8.55	31,872	31,872

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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Other Non-Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Recreational Swimming Pool	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Single Family Housing	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
NaturalGas Mitigated	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
NaturalGas Unmitigated	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas 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					
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	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
Single Family Housing	65.4733	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
Total		7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas 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					
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	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
Single Family Housing	0.0654733	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
Total		7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485

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 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	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698
Unmitigated	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698

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	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2131					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	3.1000e-003	1.0100e-003	0.0892	0.0000		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004		0.1630	0.1630	1.8000e-004		0.1675
Total	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2131					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	3.1000e-003	1.0100e-003	0.0892	0.0000		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004		0.1630	0.1630	1.8000e-004		0.1675
Total	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698

7.0 Water Detail

7.1 Mitigation Measures Water

- Apply Water Conservation Strategy
- Use Water Efficient Irrigation System

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
----------------	--------	-----------	------------	-------------	-------------	-----------

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

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**150 Vista Del Sol Project - AQGHG
South Coast AQMD Air District, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	12.63	1000sqft	0.29	12,629.00	0
Other Non-Asphalt Surfaces	52.72	1000sqft	1.21	52,719.00	0
Recreational Swimming Pool	0.52	1000sqft	0.01	515.00	0
Single Family Housing	1.00	Dwelling Unit	0.18	9,594.00	3

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on the site plans provided by the applicant. Other Asphalt Surfaces = (Hardscape (4,713 sf) + Permeable Way (7,916 sf)). Other Non-Asphalt Surfaces = (Landscape = Landscape/open space - open space)

Construction Phase - Construction schedule provided by the applicant. Vacant site, no demolition phase needed. Included Hauling phase based on applicant emial on soil export work.

Off-road Equipment - Construction equipment based on applicant

Off-road Equipment - Construction equipment based on applicant.

Off-road Equipment - Construction equipment based on applicant and conservatively assumed excavator.

Off-road Equipment - Construction equipment based on applicant and conservatively assumed pavers and paving equipment

Off-road Equipment - Construction equipment based on applicant.

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trips and VMT - According to the applicant, grading material would be exported to Brea Land Fill and truck hauling capacity between 10-16 cubic yards. Assume 10 cy, Total # Trips Hauling = (3,798 cy export/10 cy hauling capacity)*2 trips per haul (include return trip).

Grading - Based on site plans provided by applicant

Architectural Coating -

Vehicle Trips - Recreation swimming pool is part of single family property.

Woodstoves - Based on information provided by the applicant

Area Coating -

Water And Wastewater - No septic tank or facultative lagoons. Water and wastewater would be provided by Laguna Beach Water District and South Orange County Wastewater Authority.

Construction Off-road Equipment Mitigation - Based on SCAQMD Rule 403

Energy Mitigation - Solar panels would be installed. TBD on size.

Water Mitigation -

Off-road Equipment - Based on applicant soil export needs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	23.00
tblConstructionPhase	NumDays	200.00	435.00
tblConstructionPhase	NumDays	10.00	45.00
tblConstructionPhase	NumDays	10.00	45.00
tblConstructionPhase	NumDays	4.00	44.00
tblFireplaces	NumberGas	0.85	1.00
tblFireplaces	NumberNoFireplace	0.10	1.00
tblFireplaces	NumberWood	0.05	0.00
tblLandUse	LandUseSquareFeet	12,630.00	12,629.00
tblLandUse	LandUseSquareFeet	52,720.00	52,719.00
tblLandUse	LandUseSquareFeet	520.00	515.00
tblLandUse	LandUseSquareFeet	1,800.00	9,594.00
tblLandUse	LotAcreage	0.32	0.18

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	39.00
tblTripsAndVMT	HaulingTripNumber	0.00	760.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	28.82	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	5.6741	53.4981	52.8488	0.1235	14.3116	2.3304	16.6420	7.0618	2.1778	9.2397	0.0000	12,074.39 61	12,074.39 61	2.7422	0.3722	12,253.86 26
2024	6.1694	37.2737	46.0195	0.0915	0.5623	1.6772	2.2394	0.1507	1.5766	1.7273	0.0000	8,717.905 5	8,717.905 5	2.1456	0.0407	8,783.678 3
Maximum	6.1694	53.4981	52.8488	0.1235	14.3116	2.3304	16.6420	7.0618	2.1778	9.2397	0.0000	12,074.39 61	12,074.39 61	2.7422	0.3722	12,253.86 26

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	5.6741	53.4981	52.8488	0.1235	7.1040	2.3304	9.4344	3.3576	2.1778	5.5354	0.0000	12,074.39 61	12,074.39 61	2.7422	0.3722	12,253.86 26
2024	6.1694	37.2737	46.0195	0.0915	0.5623	1.6772	2.2394	0.1507	1.5766	1.7273	0.0000	8,717.905 5	8,717.905 5	2.1456	0.0407	8,783.678 3
Maximum	6.1694	53.4981	52.8488	0.1235	7.1040	2.3304	9.4344	3.3576	2.1778	5.5354	0.0000	12,074.39 61	12,074.39 61	2.7422	0.3722	12,253.86 26

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	48.46	0.00	38.17	51.36	0.00	33.78	0.00	0.00	0.00	0.00	0.00	0.00

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698
Energy	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
Mobile	0.0272	0.0324	0.2769	6.2000e-004	0.0687	4.6000e-004	0.0692	0.0183	4.3000e-004	0.0187		64.7042	64.7042	4.1400e-003	2.8300e-003	65.6504
Total	0.2675	0.0561	0.3757	7.7000e-004	0.0687	2.7700e-003	0.0715	0.0183	2.7400e-003	0.0210	0.0000	93.7464	93.7464	4.8800e-003	3.3600e-003	94.8687

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	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698
Energy	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
Mobile	0.0272	0.0324	0.2769	6.2000e-004	0.0687	4.6000e-004	0.0692	0.0183	4.3000e-004	0.0187		64.7042	64.7042	4.1400e-003	2.8300e-003	65.6504
Total	0.2675	0.0561	0.3757	7.7000e-004	0.0687	2.7700e-003	0.0715	0.0183	2.7400e-003	0.0210	0.0000	93.7464	93.7464	4.8800e-003	3.3600e-003	94.8687

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	Site Preparation	Site Preparation	1/1/2023	2/1/2023	5	23	
2	Hauling	Grading	1/1/2023	3/2/2023	5	44	
3	Grading	Grading	2/1/2023	2/6/2023	5	4	
4	Building Construction	Building Construction	2/1/2023	10/1/2024	5	435	
5	Paving	Paving	10/1/2024	12/2/2024	5	45	
6	Architectural Coating	Architectural Coating	10/1/2024	12/2/2024	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 22

Acres of Paving: 1.5

Residential Indoor: 19,428; Residential Outdoor: 6,476; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,921 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Air Compressors	1	6.00	78	0.48
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Cranes	0	6.00	231	0.29
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Dumpers/Tenders	1	8.00	16	0.38
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Pavers	1	8.00	130	0.42
Building Construction	Paving Equipment	1	8.00	132	0.36
Building Construction	Plate Compactors	1	8.00	8	0.43
Building Construction	Pumps	1	8.00	84	0.74
Building Construction	Rollers	1	8.00	80	0.38
Building Construction	Surfacing Equipment	1	8.00	263	0.30
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Plate Compactors	1	8.00	8	0.43
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Architectural Coating	Cranes	1	8.00	231	0.29
Architectural Coating	Tractors/Loaders/Backhoes	1	8.00	97	0.37

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	Excavators	0	8.00	158	0.38
Paving	Pavers	0	6.00	130	0.42
Hauling	Graders	0	8.00	187	0.41
Hauling	Rubber Tired Dozers	1	8.00	247	0.40
Hauling	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Hauling	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	16	28.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Hauling	3	8.00	0.00	760.00	14.70	6.90	39.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1514	1.5357	2.2313	3.1200e-003		0.0758	0.0758		0.0698	0.0698		301.5765	301.5765	0.0975		304.0149
Total	0.1514	1.5357	2.2313	3.1200e-003	0.0000	0.0758	0.0758	0.0000	0.0698	0.0698		301.5765	301.5765	0.0975		304.0149

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	0.0101	7.0300e-003	0.0955	2.8000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		28.3155	28.3155	7.3000e-004	7.2000e-004	28.5480
Total	0.0101	7.0300e-003	0.0955	2.8000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		28.3155	28.3155	7.3000e-004	7.2000e-004	28.5480

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1514	1.5357	2.2313	3.1200e-003		0.0758	0.0758		0.0698	0.0698	0.0000	301.5765	301.5765	0.0975		304.0149
Total	0.1514	1.5357	2.2313	3.1200e-003	0.0000	0.0758	0.0758	0.0000	0.0698	0.0698	0.0000	301.5765	301.5765	0.0975		304.0149

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	0.0101	7.0300e-003	0.0955	2.8000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		28.3155	28.3155	7.3000e-004	7.2000e-004	28.5480
Total	0.0101	7.0300e-003	0.0955	2.8000e-004	0.0335	1.9000e-004	0.0337	8.8900e-003	1.7000e-004	9.0700e-003		28.3155	28.3155	7.3000e-004	7.2000e-004	28.5480

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Hauling - 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.0058	10.0195	8.3165	0.0164		0.4631	0.4631		0.4260	0.4260		1,590.9858	1,590.9858	0.5146		1,603.8497
Total	1.0058	10.0195	8.3165	0.0164	6.5523	0.4631	7.0154	3.3675	0.4260	3.7935		1,590.9858	1,590.9858	0.5146		1,603.8497

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	0.0520	3.9290	0.8987	0.0188	0.5888	0.0306	0.6194	0.1614	0.0293	0.1906		2,071.4751	2,071.4751	0.1162	0.3291	2,172.4649
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	0.0270	0.0188	0.2547	7.4000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		75.5079	75.5079	1.9500e-003	1.9200e-003	76.1281
Total	0.0790	3.9478	1.1534	0.0196	0.6782	0.0311	0.7093	0.1851	0.0297	0.2148		2,146.9830	2,146.9830	0.1182	0.3311	2,248.5930

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Hauling - 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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.0058	10.0195	8.3165	0.0164		0.4631	0.4631		0.4260	0.4260	0.0000	1,590.985 8	1,590.985 8	0.5146		1,603.849 7
Total	1.0058	10.0195	8.3165	0.0164	2.9486	0.4631	3.4116	1.5154	0.4260	1.9414	0.0000	1,590.985 8	1,590.985 8	0.5146		1,603.849 7

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	0.0520	3.9290	0.8987	0.0188	0.5888	0.0306	0.6194	0.1614	0.0293	0.1906		2,071.475 1	2,071.475 1	0.1162	0.3291	2,172.464 9
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	0.0270	0.0188	0.2547	7.4000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		75.5079	75.5079	1.9500e-003	1.9200e-003	76.1281
Total	0.0790	3.9478	1.1534	0.0196	0.6782	0.0311	0.7093	0.1851	0.0297	0.2148		2,146.983 0	2,146.983 0	0.1182	0.3311	2,248.593 0

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.0648	10.4628	8.8059	0.0173		0.4823	0.4823		0.4445	0.4445		1,663.162 2	1,663.162 2	0.5303		1,676.420 4
Total	1.0648	10.4628	8.8059	0.0173	6.5523	0.4823	7.0347	3.3675	0.4445	3.8120		1,663.162 2	1,663.162 2	0.5303		1,676.420 4

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	0.0337	0.0235	0.3183	9.2000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		94.3849	94.3849	2.4300e-003	2.4000e-003	95.1601
Total	0.0337	0.0235	0.3183	9.2000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		94.3849	94.3849	2.4300e-003	2.4000e-003	95.1601

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.0648	10.4628	8.8059	0.0173		0.4823	0.4823		0.4445	0.4445	0.0000	1,663.162 2	1,663.162 2	0.5303		1,676.420 4
Total	1.0648	10.4628	8.8059	0.0173	2.9486	0.4823	3.4309	1.5154	0.4445	1.9599	0.0000	1,663.162 2	1,663.162 2	0.5303		1,676.420 4

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	0.0337	0.0235	0.3183	9.2000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		94.3849	94.3849	2.4300e-003	2.4000e-003	95.1601
Total	0.0337	0.0235	0.3183	9.2000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		94.3849	94.3849	2.4300e-003	2.4000e-003	95.1601

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.2233	27.0172	30.8744	0.0613		1.2732	1.2732		1.2032	1.2032		5,768.6866	5,768.6866	1.4644		5,805.2962
Total	3.2233	27.0172	30.8744	0.0613		1.2732	1.2732		1.2032	1.2032		5,768.6866	5,768.6866	1.4644		5,805.2962

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	0.0116	0.4191	0.1623	2.0100e-003	0.0704	2.3400e-003	0.0728	0.0203	2.2400e-003	0.0225		216.0239	216.0239	7.2100e-003	0.0313	225.5319
Worker	0.0944	0.0657	0.8913	2.5800e-003	0.3130	1.7600e-003	0.3147	0.0830	1.6200e-003	0.0846		264.2777	264.2777	6.8100e-003	6.7100e-003	266.4484
Total	0.1061	0.4848	1.0535	4.5900e-003	0.3834	4.1000e-003	0.3875	0.1033	3.8600e-003	0.1071		480.3016	480.3016	0.0140	0.0380	491.9802

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.2233	27.0172	30.8744	0.0613		1.2732	1.2732		1.2032	1.2032	0.0000	5,768.6866	5,768.6866	1.4644		5,805.2962
Total	3.2233	27.0172	30.8744	0.0613		1.2732	1.2732		1.2032	1.2032	0.0000	5,768.6866	5,768.6866	1.4644		5,805.2962

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	0.0116	0.4191	0.1623	2.0100e-003	0.0704	2.3400e-003	0.0728	0.0203	2.2400e-003	0.0225		216.0239	216.0239	7.2100e-003	0.0313	225.5319
Worker	0.0944	0.0657	0.8913	2.5800e-003	0.3130	1.7600e-003	0.3147	0.0830	1.6200e-003	0.0846		264.2777	264.2777	6.8100e-003	6.7100e-003	266.4484
Total	0.1061	0.4848	1.0535	4.5900e-003	0.3834	4.1000e-003	0.3875	0.1033	3.8600e-003	0.1071		480.3016	480.3016	0.0140	0.0380	491.9802

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.0755	25.6517	30.8235	0.0613		1.1692	1.1692		1.1035	1.1035		5,770.7114	5,770.7114	1.4586		5,807.1756
Total	3.0755	25.6517	30.8235	0.0613		1.1692	1.1692		1.1035	1.1035		5,770.7114	5,770.7114	1.4586		5,807.1756

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	0.0113	0.4210	0.1596	1.9800e-003	0.0704	2.3400e-003	0.0728	0.0203	2.2400e-003	0.0225		212.9225	212.9225	7.2100e-003	0.0309	222.3095
Worker	0.0884	0.0587	0.8318	2.5100e-003	0.3130	1.6900e-003	0.3147	0.0830	1.5500e-003	0.0846		258.6026	258.6026	6.1700e-003	6.2500e-003	260.6186
Total	0.0998	0.4797	0.9914	4.4900e-003	0.3834	4.0300e-003	0.3874	0.1033	3.7900e-003	0.1071		471.5251	471.5251	0.0134	0.0371	482.9282

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.0755	25.6517	30.8235	0.0613		1.1692	1.1692		1.1035	1.1035	0.0000	5,770.7114	5,770.7114	1.4586		5,807.1756
Total	3.0755	25.6517	30.8235	0.0613		1.1692	1.1692		1.1035	1.1035	0.0000	5,770.7114	5,770.7114	1.4586		5,807.1756

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	0.0113	0.4210	0.1596	1.9800e-003	0.0704	2.3400e-003	0.0728	0.0203	2.2400e-003	0.0225		212.9225	212.9225	7.2100e-003	0.0309	222.3095
Worker	0.0884	0.0587	0.8318	2.5100e-003	0.3130	1.6900e-003	0.3147	0.0830	1.5500e-003	0.0846		258.6026	258.6026	6.1700e-003	6.2500e-003	260.6186
Total	0.0998	0.4797	0.9914	4.4900e-003	0.3834	4.0300e-003	0.3874	0.1033	3.7900e-003	0.1071		471.5251	471.5251	0.0134	0.0371	482.9282

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.5324	4.9375	7.9089	0.0124		0.2298	0.2298		0.2122	0.2122		1,185.8740	1,185.8740	0.3760		1,195.2731
Paving	0.0169					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5493	4.9375	7.9089	0.0124		0.2298	0.2298		0.2122	0.2122		1,185.8740	1,185.8740	0.3760		1,195.2731

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	0.0316	0.0210	0.2971	9.0000e-004	0.1118	6.0000e-004	0.1124	0.0296	5.6000e-004	0.0302		92.3581	92.3581	2.2100e-003	2.2300e-003	93.0781
Total	0.0316	0.0210	0.2971	9.0000e-004	0.1118	6.0000e-004	0.1124	0.0296	5.6000e-004	0.0302		92.3581	92.3581	2.2100e-003	2.2300e-003	93.0781

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.5324	4.9375	7.9089	0.0124		0.2298	0.2298		0.2122	0.2122	0.0000	1,185.8740	1,185.8740	0.3760		1,195.2731
Paving	0.0169					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5493	4.9375	7.9089	0.0124		0.2298	0.2298		0.2122	0.2122	0.0000	1,185.8740	1,185.8740	0.3760		1,195.2731

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	0.0316	0.0210	0.2971	9.0000e-004	0.1118	6.0000e-004	0.1124	0.0296	5.6000e-004	0.0302		92.3581	92.3581	2.2100e-003	2.2300e-003	93.0781
Total	0.0316	0.0210	0.2971	9.0000e-004	0.1118	6.0000e-004	0.1124	0.0296	5.6000e-004	0.0302		92.3581	92.3581	2.2100e-003	2.2300e-003	93.0781

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.7379					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6564	6.1713	5.8204	0.0119		0.2732	0.2732		0.2562	0.2562		1,142.022 1	1,142.022 1	0.2942		1,149.376 5
Total	2.3944	6.1713	5.8204	0.0119		0.2732	0.2732		0.2562	0.2562		1,142.022 1	1,142.022 1	0.2942		1,149.376 5

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	0.0190	0.0126	0.1782	5.4000e-004	0.0671	3.6000e-004	0.0674	0.0178	3.3000e-004	0.0181		55.4148	55.4148	1.3200e-003	1.3400e-003	55.8469
Total	0.0190	0.0126	0.1782	5.4000e-004	0.0671	3.6000e-004	0.0674	0.0178	3.3000e-004	0.0181		55.4148	55.4148	1.3200e-003	1.3400e-003	55.8469

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.7379					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6564	6.1713	5.8204	0.0119		0.2732	0.2732		0.2562	0.2562	0.0000	1,142.022 1	1,142.022 1	0.2942		1,149.376 5
Total	2.3944	6.1713	5.8204	0.0119		0.2732	0.2732		0.2562	0.2562	0.0000	1,142.022 1	1,142.022 1	0.2942		1,149.376 5

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	0.0190	0.0126	0.1782	5.4000e-004	0.0671	3.6000e-004	0.0674	0.0178	3.3000e-004	0.0181		55.4148	55.4148	1.3200e-003	1.3400e-003	55.8469
Total	0.0190	0.0126	0.1782	5.4000e-004	0.0671	3.6000e-004	0.0674	0.0178	3.3000e-004	0.0181		55.4148	55.4148	1.3200e-003	1.3400e-003	55.8469

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0272	0.0324	0.2769	6.2000e-004	0.0687	4.6000e-004	0.0692	0.0183	4.3000e-004	0.0187		64.7042	64.7042	4.1400e-003	2.8300e-003	65.6504
Unmitigated	0.0272	0.0324	0.2769	6.2000e-004	0.0687	4.6000e-004	0.0692	0.0183	4.3000e-004	0.0187		64.7042	64.7042	4.1400e-003	2.8300e-003	65.6504

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	9.44	9.54	8.55	31,872	31,872
Total	9.44	9.54	8.55	31,872	31,872

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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Other Non-Asphalt Surfaces	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Recreational Swimming Pool	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Single Family Housing	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
NaturalGas Mitigated	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
NaturalGas Unmitigated	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	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
Single Family Housing	65.4733	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
Total		7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	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
Single Family Housing	0.0654733	7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485
Total		7.1000e-004	6.0300e-003	2.5700e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		7.7027	7.7027	1.5000e-004	1.4000e-004	7.7485

6.0 Area Detail

6.1 Mitigation Measures Area

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698
Unmitigated	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698

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	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2131					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	3.1000e-003	1.0100e-003	0.0892	0.0000		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004		0.1630	0.1630	1.8000e-004		0.1675
Total	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2131					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	3.1000e-003	1.0100e-003	0.0892	0.0000		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004		0.1630	0.1630	1.8000e-004		0.1675
Total	0.2396	0.0176	0.0962	1.1000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	21.3394	21.3394	5.9000e-004	3.9000e-004	21.4698

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

150 Vista Del Sol Project - AQGHG - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Appendix C

Biological Technical Report

**BIOLOGICAL TECHNICAL REPORT
FOR A PROPOSED SINGLE-FAMILY RESIDENCE AND ACCESS ROAD
150 VISTA DEL SOL
LAGUNA BEACH, CALIFORNIA**

**September 2021
Revised July 2022**

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Appendix C	USFWS Intermediate Mariposa Lily Letter

1.0 INTRODUCTION

Biologists from Glenn Lukos Associates, Inc. (GLA) conducted comprehensive surveys on the Vista del Sol Project site to identify the presence of special status species or habitats capable of supporting special status species in areas that could be affected by the project. In addition, the Project site was evaluated relative to potential impacts to High Value and Very High Value Habitat and Significant Drainage Courses defined by the City of Laguna Beach's General Plan/Local Coastal Program ("LCP").

This report includes an analysis for the potential or identified occurrence of biological resources associated with the above-mentioned Project site as it pertains to special status species and habitats. Potential impacts (direct and/or indirect) to special status species and habitats are addressed below for purposes of review under the California Environmental Quality Act (CEQA) and includes specific analysis pursuant to the City of Laguna Beach LCP. In addition, impacts to species listed as threatened or endangered under the federal Endangered Species Act (ESA) or their designated Critical Habitat are regulated by the U.S. Fish and Wildlife Service (USFWS) and species listed as threatened or endangered by the state of California are regulated by the California Department of Fish and Wildlife (CDFW) pursuant to the state ESA and are addressed below. Wildlife that are assigned other designations by CDFW (i.e., species of special concern, fully protected species, etc.) and plants given special status by the California Native Plant Society (CNPS) as provided by the California Rare Plant Rank (CRPR) are not granted additional protection, except that impacts to these species generally require evaluation pursuant to CEQA. Similarly, vegetation alliances as defined in accordance with the Manual of California Vegetation, Second Edition, with a state Rarity Ranking of S1, S2 or S3 are considered as potentially sensitive and need to be evaluated under CEQA and by the City's LCP as potential ESHA.

1.1 Location of Project Site

The Vista del Sol Project site (Project site) comprises two parcels (southerly parcel – APN 670-241-07 and northerly parcel – APN 056-231-32) covering approximately 4.58 acres and is in the City of Laguna Beach (Exhibit 1). The Project site is located at the terminus of Vista del Sol and south of the terminus of Monarch Crest (Exhibit 2). No blue-line drainages occur on the Project site, as depicted on the U.S. Geological Survey (USGS) topographic map Dana Point, California [dated 1975]. The study area for the proposed Project is confined to the Project site boundary as depicted by Exhibit 3, which also includes the vegetation alliances identified on the Project site.

1.2 Project Description

The proposed project consists of 1) construction of a single-family home and associated landscaping; 2) construction of an asphalt extension of Vista del Sol within the existing road easement; and 3) removal of all existing vegetation and installation of hardscape and irrigated landscaping for implementation of Fuel Modification Zones A and B and thinning of vegetation for Zone C in accordance with City of Laguna Beach protocols. The limits of impacts associated with grading and fuel modification are depicted on Exhibit 4: Vegetation Impact Map. Exhibit 5: City Constraints Map, depicts the impact areas and fuel modification zones as well as areas

mapped as “High” and “Very High” habitat value, significant drainage courses, and areas that are considered special status due to their status as S1, S2 or S3.

2.0 METHODOLOGY

GLA biologists initially visited the Project site on July 13, July 23, and August 21, 2009, and May 20 and June 7, 2010, to conduct focused and general biological surveys of the Project site. Updated surveys conducted on May 5 and June 4, 2020.

The focus of the updated biological surveys was determined through review of the previous data collected for the Project site plus review of the CNDDDB [CDFW 2020], CNPS 8th edition online inventory (CNPS 2020), Natural Resource Conservation Service soil data (NRCS 2020), other pertinent literature, and knowledge of the region, specifically the areas of South Laguna and adjacent Dana Point. Site-specific general surveys within the Project site were conducted on foot in the proposed development areas as well as areas to be avoided for each target plant or animal species identified below. Table 2.0 provides a summary list of survey dates, survey types, and personnel associated with the previous and updated surveys.

Table 2.0: Summary of Biological Surveys for the Project Site.

Survey Date	Survey Type	Surveying Biologist
2009 – 2010 Surveys		
July 13, 2009	General Biological Surveys	T. Bomkamp
July 23, 2009	General Biological Surveys Vegetation Mapping, Focused Botanical Surveys	T. Bomkamp, E. Bomkamp, R. Schanna
August 21, 2009	General Biological Surveys Vegetation Mapping	E. Bomkamp, R. Schanna
May 20, 2010	General Biological Surveys Vegetation Mapping Rare Plant Survey	P. Schwartz
June 7, 2010	General Biological Surveys Vegetation Mapping Rare Plant Survey	P. Schwartz
2020 Surveys		
May 5, 2020	General Biological Surveys, Vegetation Mapping, Focused Botanical Surveys	T. Bomkamp
June 4, 2020	General Biological Surveys, Focused Botanical Surveys; Vegetation Mapping	T. Bomkamp

2.1 Summary of Surveys

Prior to conducting fieldwork, pertinent literature on the flora of the region was examined. A thorough archival review was conducted using available literature and other historical records. These resources included the following:

- California Native Plant Society, Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.5) (CNPS 2022); and
- CNDDDB for the USGS 7.5' quadrangle(s): Dana Point, San Juan Capistrano and Laguna Beach (CDFW 2022).

2.2 Soil Resources

The Soil Conservation Service (SCS)¹ has mapped the following soil types as occurring on the Project site:

Chesterton

The Chesterton series consists of moderately well-drained soils on terraces. These soils formed from uplifted marine deposits. The following Chesterton series soil type was mapped on the Vista del Sol Project site:

- Chesterton Loamy Sand, 2 to 15 percent slopes (137)

Soper

The Soper series consists of well-drained soils. These soils formed in residuum weathered from sandstone. The following Soper series soil type was mapped on the Vista del Sol Project site:

- Soper Gravelly Loam, 30 to 50 percent slopes (202)

2.3 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources for the Project site, which consisted of (1) a literature review; (2) preparation of a list of target special status plant species and sensitive vegetation communities that could occur on the Project site; (3) general field reconnaissance surveys; (4) vegetation mapping in accordance with the alliances as described in the Manual of California Vegetation, Second Edition (Sawyer et al. 2009); (5) focused surveys for special status plants; and (6) preparation of a vegetation map, including the location of any sensitive vegetation communities found on the Project site. Scientific nomenclature and common names for plant species referred to in this report follow Baldwin et al. (2012) and Roberts (2008), and Allen and Roberts (2013).

¹ SCS is now known as the National Resource Conservation Service or NRCS.

Prior to conducting fieldwork, a review of the CNPS inventory and the CNDDDB (2020) was conducted for the USGS 7.5' Dana Point, Laguna Beach, and San Juan Capistrano quadrangles to evaluate what special status species might have the potential to occur on the Project site. Site reconnaissance was conducted in such a manner as to allow inspection of all areas of potential habitat on the Project site by direct observation. Observations of all plants were recorded in field notes during each visit. A complete list of plant species observed within the Project site is provided in Appendix A.

General Surveys

During general surveys on the Project site, all plants observed were recorded in field notes.

Focused Surveys

General botanical surveys were initially conducted on July 13, 2009, and focused botanical surveys and vegetation mapping was conducted on July 23, 2009, August 21, 2009 and May 20, and June 7, 2010. Focused surveys were concentrated within the footprint of the proposed home construction, road improvements, and fuel modification areas. Updated surveys were conducted on May 5 and June 4, 2020. Based on the literature search and use of reference populations, surveys were conducted at appropriate times based on precipitation and flowering periods.² An aerial photograph, soils and vegetation maps, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project site. Surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field surveys were identified and recorded following the above-referenced guidelines adopted by CNPS (2010) and CDFW by Nelson (1984). A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al (2012), Roberts (2008), and Allen and Roberts (2013).

Reference Sites

As detailed in Table 4-2, a variety of plant species were initially considered for potential occurrence. Suitable soils and/or habitat characteristics were determined to be absent for many of the species initially considered (e.g., thread-leaved brodiaea due to lack of suitable soils, mud nama due to lack of seasonal ponds, and Laguna Beach dudleya due lack of suitable rock outcrops and because the Project site is beyond the known range within Laguna Beach). For such species, reference sites are not necessary to the lack of potential to occur. Other species are large, conspicuous shrubs such as summer holly and Nuttall's scrub oak. Similarly, reference sites for such conspicuous species are not needed. Reference populations for species with at least limited potential to occur, such as many-stemmed dudleya, paniculate tarplant, and Catalina mariposa lily, are well-known to GLA biologists on Rancho Mission Viejo in south Orange County and were used for this study.

² GLA notes that due to the unseasonably cool spring, blooming periods for many species were delayed during the 2020 season, making use of reference populations a necessary component of the survey program.

Vegetation Mapping

Vegetation alliances within the Project site were mapped in accordance with A Manual of California Vegetation, Second Edition or MCV2, which is the California expression of the National Vegetation Classification. Where necessary, deviations were made when areas were not consistent with the “membership rules” set forth in the MCV2. Such modifications to the vegetation alliances were designated based on the dominant plant species. Vegetation alliances were mapped in the field directly onto a 200-scale (1” = 200’) aerial photograph. A vegetation map is included as Exhibit 3.

2.4 Wildlife Resources

A site-specific survey program was designed to accurately document the wildlife resources for the Project site, which consisted of (1) a literature review; (2) preparation of a list of target special status animal species that could occur on the Project site; (3) general field reconnaissance surveys; (4) habitat assessments for special status animals; and (5) preparation of maps with the location of any special status animal species found on the Project site.

Prior to conducting fieldwork, a review of the CNDDDB was conducted for the USGS 7.5’ Dana Point, Laguna Beach, and San Juan Capistrano quadrangles to evaluate what special status species might have the potential to occur on the Project site. Wildlife species were evaluated and detected during field surveys by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the Project site by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during each visit. A complete list of wildlife species observed or that are expected to occur within the Project site is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow Collins (1990) for amphibians and reptiles, Jones, et al. (1992) for mammals, and AOS Checklist for birds. The methodology utilized to conduct the habitat assessments of each listed or special status animal is discussed below.

2.4.1 General Surveys

Birds

During general surveys of the Project site, birds were identified opportunistically. Birds were detected by both direct observation and vocalizations and were recorded in field notes.

Mammals

During general surveys of the Project site, mammals were identified incidentally. Mammals were detected both by direct observation and the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.).

Reptiles and Amphibians

During general surveys of the Project site, reptiles and amphibians were identified. Habitats were examined for diagnostic reptile signs, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

2.4.2 Habitat Assessment for Coastal California Gnatcatcher

A habitat assessment for coastal California gnatcatcher (*Polioptila californica*, CAGN) was performed for the entire Project site. Suitable habitat for CAGN consists of coastal sage scrub communities dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*) with flat to moderately sloping topography. Based on the vegetation composition and the topography, it was determined that the Project site does not exhibit the potential for supporting the CAGN.

2.5 Special Status Habitats and City Habitat Values

Prior to conducting fieldwork, a review of the CNDDDB (2020) was conducted for the USGS 7.5' Dana Point, Laguna Beach, and San Juan Capistrano quadrangles to evaluate what special status habitats, if any, are mapped for the subject Project site.

Additionally, the Habitat Value maps contained within the City of Laguna Beach General Plan and available on the City's web-based GIS interface³ were reviewed to determine if any portion of the Project site is mapped as High Value or Very High Value Habitat, and if any Significant Drainage Courses are mapped for the Project site. Areas of High and Very High Value Habitat and Significant Drainage Course centerlines obtained from the City's database are depicted on Exhibit 5, and are discussed further in Section 3.3 below.

3.0 REGULATORY SETTING

The Vista del Sol project is subject to state and federal regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including state and federally listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special status species which are not listed as threatened or endangered by the state or federal governments; and other special status vegetation communities.

3.1 State and/or Federally Listed Plants or Animals

State of California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." Threatened species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985, is a threatened species." Candidate species are defined as "a

³ <http://www.lagunabeachcity.net>

native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species or a species for which the commission has published a notice of proposed regulation to add the species to either list.” Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not list invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating “No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided.” Under the CESA, “take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Exceptions authorized by the state to allow “take” require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

Federal Endangered Species Act

The FESA of 1973 defines an endangered species as “any species that is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species that is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range.” Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to “take” any listed species. “Take” is defined in Section 3(18) of FESA: “...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Further, the USFWS, through regulation, has interpreted the terms “harm” and “harass” to include certain types of habitat modification that result in injury to, or death of species as forms of “take.” These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

In addition to the prohibitions on the take of listed species, USFWS is also required to designate areas of “Critical Habitat” for species listed under the FESA. The FESA defines critical habitat as “the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species at the time it is listed that are determined by the Secretary to be essential for the conservation of the species.” A designation does not set up a preserve or refuge and only applies to situations where Federal funding, permits, or projects are involved.

State and Federal Take Authorizations for Listed Species

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).
- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan .
- Sections 2090-2097 of the California Endangered Species Act (CESA) require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

3.2 California Environmental Quality Act

CEQA Guidelines Section 15380

The California Environmental Quality Act (CEQA) requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1 below sets forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW recognizes that plants on Lists 1A, 1B, or 2 of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Lists 3 or 4. CDFW also considers vegetation alliances with a Rarity Ranking of S1, S2, or S3 to be "special status" and subject to review under CEQA.

Non-Listed Special Status Plants and Animals Evaluated Under CEQA

Federally Designated Special Status Species

Within recent years, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. However, some USFWS field offices have issued memoranda stating that former C2 species are to be considered federal Species of Concern (FSC). This term is employed in this document but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS. For this report the following acronyms are used for federal special status species:

- FE Federally listed as Endangered
- FT Federally listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened
- FC Federal candidate species (former C1 species)
- FSC Federal Species of Concern (former C2 species)

State-Designated Special Status Species

Some mammals and birds are protected by the state as Fully Protected (SFP) mammals or Fully Protected birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern (SSC) are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDDB project. Informally listed taxa are not protected but warrant consideration in the preparation of biotic assessments. For some species, the CNDDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For this report the following acronyms are used for state special status species:

- SE state listed as Endangered
- ST state listed as Threatened
- SR state listed as Rare
- SCE state candidate for listing as Endangered
- SCT state candidate for listing as Threatened
- CFP California Fully Protected
- SSC California Species of Special Concern

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The CNPS’s Eighth Edition of the *California Native Plant Society’s Inventory of Rare and Endangered Plants of California* separates plants of interest into five ranks. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. The list serves as the candidate list for listing as threatened and endangered by CDFW. CNPS has developed five categories of rarity that are summarized in Table 3-1.

Table 3-1. CNPS Ranks 1, 2, 3, & 4, and Threat Code Extensions

CNPS Rank	Comments
Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
Rank 2A – Plants presumed Extirpated in California, But Common Elsewhere	Species that are presumed extinct in California but more common outside of California
Rank 2B – Plants Rare, Threatened or Endangered in California, But More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Plants About Which More Information Is Needed (A Review List)	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific rank. In addition, many of the Rank 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
Rank 4 – Plants of Limited Distribution (A Watch List)	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for Rank 3 species, CNPS lacks survey data to accurately determine status in California. Many species have been placed on Rank 4 in previous editions of the “Inventory” and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
Extension	Comments
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

3.3 California Coastal Act and City of Laguna Beach Local Coastal Program

Section 30107.5 of the California Coastal Act requires protection of Environmentally Sensitive Habitat Areas (ESHA) defined as follows:

“Environmentally sensitive area means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.”

The Coastal Act delegates permit authority to local cities that have certified local coastal programs (LCP), provided that proposed development is consistent with the LCP. The City of Laguna Beach has a certified LCP, which is contained within the General Plan. The Open Space/Conservation Element of the General Plan addresses the issue of ESHA by classifying habitat areas by habitat value. Habitat is classified as Low Value Habitat, Moderate Value Habitat, High Value Habitat, and Very High Value Habitat, with High Value Habitat defined as

“extensive areas dominated by indigenous plant communities which possess good species diversity. They are often, but not always, linked to extensive open space areas, within or outside of the City, by traversable open space corridors. Their faunal carrying capacity is good to excellent; many areas are utilized as bedding and foraging sites by mule deer, or possess large resident populations of birds or native small mammals. Also included in this category are locales of maritime desert scrub and ceanothus chaparral, whether extensive or fragmented, because of the locally unique character of these communities.”

Very High Value Habitat includes

“the habitats of endangered, rare or locally unique native plant species. Also included are areas of southern oak woodland and natural (not irrigation augmented) springs and seeps. Among the very high value habitats inventoried are areas of significant rock outcrop exposures, because of the assemblages of sensitive plant species that often occupy such settings.”

Policy 8I of The Open Space Element of the General Plan states in part:

“Environmentally Sensitive Area (ESA’s) as defined in Section 30107.5 of the California Coastal Act shall be identified and mapped on a Coastal ESA Map. The following areas shall be designated as Environmentally Sensitive Areas: those areas shown on the Biological Resource Values Map in the Open Space/Conservation Element as “Very High” habitat value, and streams on the Major Watersheds and Drainage Courses Map which are also streams as identified on the USGS 7.5 Minute Quadrangle Series...and any other areas which contain environmentally sensitive habitat resources as identified through an onsite biological assessment process, including areas of “High” and “Moderate” habitat value on the Biological Resources Value Map and areas which meet the definition of ESA’s in Section 30107.5 of the Coastal Act...”

In addition to High and Very High Value Habitat, The City has mapped Significant Drainage Courses based on Policy 8I.

As discussed in more detail below, the Vista del Sol Project site is within the City’s LCP review area.

4.0 RESULTS

4.1 Existing Setting

As previously stated, the Project site covers approximately 4.58-acres. The Project site is in the City of Laguna Beach (Exhibit 1) at the terminus of Vista del Sol and south of the terminus of Monarch Crest (Exhibit 2). Topography ranges from gently to steeply sloping, with elevations ranging from approximately 590 feet to 730 feet above mean sea level (MSL). Vegetation communities found on the Project site include associations of coastal sage scrub and chaparral, and range in degree of disturbance from very disturbed for fuel modification such that only 30-percent of native shrubs remain, to dense chaparral with little to no cover of non-native species. Surrounding land uses include undeveloped land and low-density residential development.

4.2 Vegetation Mapping and Surveys

GLA biologists conducted vegetation mapping on July 23, 2009 and May 20, 2010 and updated the vegetation mapping in accordance with the MCV2 on May 5, 2020. As noted previously, deviations were made when areas were not consistent with the “membership rules” set forth in the MCV2. Table 4-1 summarizes the vegetation information details below. A vegetation map is provided as Exhibit 3.

Table 4-1. Summary of Vegetation Alliances and Land Cover on the Project Site

Vegetation Type	MCV2 rarity	Total (acres)
Lemonade Berry Shrubland Alliance	S3	2.01
Southern Maritime Chaparral	S3	0.60
Desert Brittle Bush Scrub	S4	0.21
Disturbed Mixed Scrub/Fuel Modification Zone	NA	0.23
<i>Pennisetum</i> Herbaceous Alliance	NA	0.04
Roads	NA	0.36
Cliffs	NA	0.04
Ornamental	NA	0.06
<i>Brassica nigra</i> Herbaceous Semi-Natural Alliance	NA	0.88
<i>Centaurea melitensis</i> Herbaceous Semi-Natural Alliance	NA	0.17
TOTAL		4.58

***Rhus Integrifolia* Shrubland Alliance (Lemonade berry scrub)**

The membership rules for this alliance are described in MCV2 as *Rhus integrifolia* >50% relative cover in the shrub canopy (Keeler-Wolf and Evens 2009) or *Rhus integrifolia* >30% relative

cover with coastal sage scrub species as co-dominant in the shrub canopy (Evens and San 2005). This alliance has a state Rarity Ranking of S3.

This vegetation alliance comprises 2.01-acre of the Project site. As noted above, the membership rules can vary with two variations, both of which occur on the Project site. The dominant species is lemonadeberry (*Rhus integrifolia*). Areas east of the access road that bisects the northern portion of the Project site are comprised of nearly monocultural stands of lemonade berry with little other scrub species. Areas to the west of the access road consists of lemonade berry covering a minimum of 30-percent. Additional species within this vegetation association include toyon (*Heteromeles arbutifolia*), California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and California encelia (*Encelia californica*), and bush rue (*Cneoridium dumosum*).

Southern Maritime Chaparral

This alliance does not have an exact analog in the MCV2. *Ceanothus megacarpus* Shrubland Alliance (Big pod ceanothus chaparral), which has a state Rarity Ranking of S4, is the closest alliance. However, in areas of south Laguna, southern maritime chaparral has been recognized as having a unique species composition and has been identified by both the City of Laguna Beach as Very High Value Habitat and the Coastal Commission as ESHA because of the presence of special status plants such as big-leaved crownbeard and intermediate mariposa lily.⁴

This vegetation alliance comprises 0.60 acre of the Project site and contains some component species of both southern mixed chaparral and southern maritime chaparral as described in the Orange County Habitat Classification System (OCHCS, Gray and Bramlet 1992), but it is not fully consistent with either alliance and is best described as a transitional/intergrade area between these two alliances.

The dominant species in Southern Maritime Chaparral is big pod ceanothus (*Ceanothus megacarpus*) with a substantial component of bush rue (*Cneoridium dumosum*), and spiny redberry (*Rhamnus crocea*). Additional species include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and black sage (*Salvia mellifera*), with scattered small patches of purple needlegrass (*Nassella pulchra*).

***Encelia farinosa* Shrubland Alliance (Brittle bush scrub)**

This vegetation alliance comprises 0.21-acre of the Project site. This is dominated by *Encelia farinosa*, a desert species that is not native to Laguna Beach. Rather this species was planted for erosion control following permitting work in the Project site and was included in erosion control/landscape plants approved by the City in accordance with the LCP. Nevertheless, this species will be removed from the Project site during grading and or by fuel modification.

⁴ California Coastal Commission, 2007. Memorandum from John Dixon to Ryan Todaro. Habitat classification of the Athens Group LLC property at Hobo Aliso Ridge (formerly known as Driftwood Estates). April 16, 2007.

Disturbed Mixed Scrub/Fuel Modification Zone

This vegetation alliance covers 0.23 acre and does not meet the membership rules of any specific alliance in the MCV2; rather this area supports a mix of native scrub, non-native grasses and mustard as well as ornamental species such as garden nasturtium (*Tropaeolum majus*).

***Pennisetum setaceum* – *Pennisetum ciliare* Herbaceous Semi-Natural Alliance**

This non-native invasive grass covers approximately 0.04 acres, occurring on the road edge and slope overlooking the site of the improved access road.

Roads

The Project site includes a previously graded dirt road and dirt paths that cover 0.36-acre of the Project site. These areas are generally unvegetated or support only occasional weedy species that colonize highly disturbed areas and compacted soils. Species present within this land cover type include red brome (*Bromus madritensis* ssp. *rubens*), Russian thistle (*Salsola tragus*), summer mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*).

Cliff

The Project site contains a small area of vertical cliff or rock covering 0.04 acre that was created during construction of the dirt road that provides access along the eastern side of the Project site. Vegetation on the cliff is limited to mostly non-native invasive fountain grass which occurs at the base of the cliff described above.

Ornamental

Ornamental vegetation covers 0.06-acre of the Project site. This area consists of the overhanging canopies of allepo pine (*Pinus halepensis*) and myoporum (*Myoporum laetum*) originating on the neighboring property.

***Brassica nigra* Herbaceous Semi-Natural Alliance**

Adjacent to the entry road, and accounting for 0.88 acres, the Project site contains areas dominated by summer mustard (*Hirschfeldia incana*), which also includes non-native grasses and a low density of native shrubs such as buckwheat (*Eriogonum fasciculatum*).

***Centaurea melitensis* Herbaceous Semi-natural Alliance**

Approximately 0.17 acre near the northern Project site boundary consists of nearly monocultural cover of tocalote (*Centaurea melitensis*), a non-native invasive forb, located between thickets of lemonade berry chapparal.

4.3 Special Status Plants

Table 4-2 provides a summary of all plants evaluated for this report based on: 1) plants identified by the 2022 CNDDDB as occurring (either currently or historically) on or in the USGS Dana Point, San Juan Capistrano, and Laguna Beach quadrangles; 2) a review of the 2022 California Native Plant Society (CNPS) inventory, and 3) any other special status plants that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on the Project site. Following the table, additional discussions are provided for any special status plants observed on the Project site or for which potentially suitable habitat occurs on the Project site. A complete compendium of plants observed on the Project site is provided as Appendix A.

Table 4-2. Special status plants considered for the Vista del Sol Project site.

Species	Status	Habitat	Potential for Occurrence
Allen's pentachaeta <i>Pentachaeta aurea</i> ssp. <i>allenii</i>	Federal: None State: None CNPS: List 1B.1	Openings in coastal sage scrub and valley and foothill grassland. Blooming period Mar-Jun. Elevation range 75-520m.	Confirmed absent based on lack of detection during focused surveys.
Aphanisma <i>Aphanisma blitoides</i>	Federal: None State: None CNPS: List 1B.2	Coastal bluff scrub, coastal dunes, coastal dune scrubs. Blooming period Mar-Jun. Elevation range 1-305m	Does not occur on site due to a lack of suitable bluff and dune habitat.
Big-leaved crownbeard <i>Verbesina dissita</i>	Federal: FT State: ST CNPS: List 1B.1	Southern maritime chaparral, coastal sage scrub. Blooming period Apr-Jul. Elevation range 45-205m.	Confirmed absent based on lack of detection during focused surveys
Blochman's dudleya <i>Dudleya blochmanae</i> ssp. <i>Blochmanae</i>	Federal: None State: None CNPS: List 1B.1	Coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland. Rocky, often clay or serpentinite soils. Blooming period Apr-Jun. Elevation range 5-450m.	Does not occur on site due to a lack of suitable soils and openings in scrub habitat.
California Box-thorn <i>Lycium californicum</i>	Federal: None State: None CNPS: List 4.2	Coastal bluff scrub, coastal scrub. Blooming period Mar-Aug. Elevation range 5-150m.	Confirmed absent based on lack of detection during focused surveys.
Catalina mariposa lily <i>Calochortus catalinae</i>	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Does not occur due to lack of suitable CSS/grassland ecotonal areas .
Chaparral bear grass <i>Nolina cismontana</i>	Federal: None State: None CNPS: List 1B.2	Chaparral, coastal sage scrub. Occurring on sandstone or gabbro substrates. Blooming period May-Jul. Elevation range 140-1,275m.	Does not occur on site due to a lack of suitable soils. Not observed during focused surveys.
Chaparral ragwort <i>Senecio aphanactis</i>	Federal: None State: None CNPS: List 2B.2	Chaparral, cismontane woodland, coastal sage scrub. Occurs in alkaline soils. Blooming period Jan-Apr. Elevation range 15-800m.	Does not occur on site due to lack suitable soils.

Species	Status	Habitat	Potential for Occurrence
Cliff malacothrix <i>Malacothrix saxatilis</i> var. <i>saxatilis</i>	Federal: None State: None CNPS: Rank 4.2	Coastal bluff scrub, coastal scrub.	Does not occur on site due to lack of suitable habitat.
Cliff spurge <i>Euphorbia misera</i>	Federal: None State: None CNPS: List 2B.2	Coastal bluff scrub, coastal scrub, mojavean desert scrub. Rocky soils. Blooming period Dec-Aug. Elevation range 10-500m	Confirmed absent based on lack of detection during focused surveys.
Coast woolly-heads <i>Nemacaulis denudata</i> var. <i>denudata</i>	Federal: None State: None CNPS: List 1B.2	Coastal dunes	Does not occur on site due to lack of suitable habitat.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Federal: None State: None CNPS: List 1B.1	Playas, vernal pools, marshes and swamps (coastal salt). Blooming period Feb-Jun. Elevation range 1-1,220m	Does not occur on site due to a lack of suitable wetland habitat.
Coulter's matilija poppy <i>Romneya coulteri</i>	Federal: None State: None CNPS: List 4.2	Coastal scrub and chaparral in washes and on slopes. 20-120m.	Confirmed absent based on lack of detection during focused surveys.
Coulter's saltbush <i>Atriplex coulteri</i>	Federal: None State: None CNPS: List 1B.2	Coastal bluff scrub, coastal sage scrub, valley and foothill grassland. Occurring on alkaline or clay soils. Blooming period Mar-Oct. Elevation range 3-460m	Does not occur on site due to a lack of suitable soils and habitat.
Davidson's saltscale <i>Atriplex serenana</i> var. <i> davidsonii</i>	Federal: None State: None CNPS: List 1B.2	Alkaline soils in coastal sage scrub, coastal bluff scrub. Blooming period Apr-Oct. Elevation range 10-200m	Does not occur on site due to a lack of suitable soils and habitat.
Decumbent goldenbush <i>Isocoma menziesii</i> var. <i>decumbens</i>	Federal: None State: None CRPR: 1B.2	Utilizes coastal sage scrub habitat intermixed with grassland, and is more partial to clay soils than other closely related varieties.	Does not occur on site due to lack of suitable habitat.
Estuary seablite <i>Suaeda esteroa</i>	Federal: None State: None CNPS: List 1B.2	Coastal salt marsh and swamps. Occurs in sandy soils. Blooming period May-Oct. Elevation range 0-5m	Does not occur on site due to a lack of suitable soils and habitat.
Fish's milkwort <i>Polygala cornuta</i> var. <i>fishiae</i>	Federal: None State: None CNPS: List 4.3	Cismontane woodland, riparian woodland, chaparral. 100-1,000m	Does not occur on site based on lack of detection during focused surveys.
Golden-rayed pentachaeta <i>Pentachaeta aurea</i> ssp. <i>aurea</i>	Federal: None State: None CNPS: List 4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland, riparian woodland in clay soils. 80-1,850 m.	Does not occur on site due to a lack of suitable soils.
Intermediate mariposa lily <i>Calochortus weedii</i> var. <i>intermedius</i>	Federal: None State: None CNPS: List 1B.2	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland. Blooming period May-Jul. Elevation range 105-855m.	Confirmed present.

Species	Status	Habitat	Potential for Occurrence
Laguna beach dudleya <i>Dudleya stolonifera</i>	Federal: FT State: ST CNPS: List 1B.1	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland; occurring on rocky soils. Blooming period May-Jul. Elevation range 10-260m.	Does not occur due to lack of suitable rock outcrop habitat. Not observed during focused surveys.
Many-stemmed dudleya <i>Dudleya multicaulis</i>	Federal: None State: None CNPS: List 1B.2	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils. Blooming period Apr-Jul. Elevation range 15-790m	Confirmed absent based on lack of detection during focused surveys.
Lewis' evening-primrose <i>Camissoniopsis lewisii</i>	Federal: None State: None CNPS: Rank 3	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland.	Does not occur on site due to lack of suitable habitat.
Los Angeles sunflower <i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Federal: None State: None CNPS: Rank 1A	Marshes and swamps (coastal salt and freshwater).	Does not occur on site due to lack of suitable habitat.
Mesa horkelia <i>Horkelia cuneata</i> ssp. <i>puberula</i>	Federal: None State: None CNPS: List 1B.1	Chaparral, cismontane woodland, and coastal scrub. Occuring on sandy or gravelly soils. Blooming period Feb-Jul (Sept). Elevation range 70-810m.	Does not occur on site due to a lack of suitable habitat. Not observed during focused surveys.
Mud nama <i>Nama stenocarpum</i>	Federal: None State: None CNPS: List 2B.2	Marshes and swamps. Blooming period Jan-Jul. Elevation range 5-500m	Does not occur on site due to a lack of suitable habitat.
Nuttall's scrub oak <i>Quercus dumosa</i>	Federal: None State: None CNPS: List 1B.1	Closed-cone coniferous forest, chaparral, and coastal sage scrub. Occurs on sandy, clay loam soils. Blooming period Feb-Apr. Elevation range 15-400m.	Confirmed absent based on lack of detection during focused surveys.
Orcutt's pincushion <i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Federal: None State: None CNPS: List 1B.1	Coastal bluff scrub (sandy soils) and coastal dunes. Blooming period Jan-Aug. Elevation range 3-100m.	Does not occur on site due to a lack of suitable habitat.
Palmer's grapplinghook <i>Harpagonella palmeri</i>	Federal: None State: None CNPS: List 4.2	Chaparral, coastal scrub, valley and foothill grassland. Clay soils. Blooming period Mar-May. Elevation range 20-955m	Not expected to occur on site due to a lack of suitable soils and habitat.
Paniculate tarplant <i>Deinandra paniculata</i>	Federal: None State: None CNPS: Rank 4.2	Usually in vernal mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Confirmed absent based on lack of detection during focused surveys.
Parish's brittlescale <i>Atriplex parishii</i>	Federal: None State: None CNPS: List 1B.1	Chenopod scrub, playas, vernal pools. Blooming period Jun-Oct. Elevation range 25-1,900m.	Does not occur on site due to a lack of suitable habitat.
Parry's tetracoccus <i>Tetracoccus dioicus</i>	Federal: None State: None CNPS: Rank 1B.2	Chaparral and coastal sage scrub.	Does not occur; outside of known range.

Species	Status	Habitat	Potential for Occurrence
Prostrate vernal pool navarretia <i>Navarretia prostrata</i>	Federal: None State: None CNPS: Rank 1B.2	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Does not occur on site due to a lack of suitable habitat.
Red sand-verbena <i>Abronia maritima</i>	Federal: None State: None CNPS: Rank 4.2	Coastal dunes.	Does not occur on site due to a lack of suitable habitat.
Robinson's pepper grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	Federal: None State: None CNPS: Rank 4.3	Chaparral, coastal sage scrub, clay soils	Does not occur on site due to a lack of suitable habitat and soils.
Salt Spring checkerbloom <i>Sidalcea neomexicana</i>	Federal: None State: None CNPS: Rank 2B.2	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Does not occur on site due to a lack of suitable wetland habitat.
San Bernardino aster <i>Symphotrichum defoliatum</i>	Federal: None State: None CNPS: Rank 1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Does not occur on site due to a lack of suitable wetland habitat.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	Federal: None State: None CNPS: Rank 1B.2	Marshes and swamps (assorted shallow freshwater).	Does not occur on site due to a lack of suitable wetland habitat.
Seaside cistanthe <i>Cistanthe maritima</i>	Federal: None State: None CNPS: Rank 4.2	Sandy soils in coastal bluff scrub, coastal scrub, and valley and foothill grassland.	Does not occur on site due to a lack of suitable habitat.
Small-flowered microseris <i>Microseris douglasii</i> ssp. <i>platycarpa</i>	Federal: None State: None CNPS: List 4.2	Cismontane woodland, valley and foothill grassland, coastal scrub, vernal pools in alkaline clay soils. 15-1,070 m.	Does not occur on site due to a lack of suitable habitat.
Small-flowered morning-glory <i>Convolvulus simulans</i>	Federal: None State: None CNPS: Rank 4.2	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Does not occur on site due to a lack of suitable habitat and clay soils.
South coast branching phacelia <i>Phacelia ramosissima</i> var. <i>austrolitorialis</i>	Federal: None State: None CNPS: List 3.2	Chaparral, coastal scrub, coastal dunes, coastal salt marsh in sandy soils. 5-300 m	Does not occur on site due to a lack of suitable habitat.
South coast saltscale <i>Atriplex pacifica</i>	Federal: None State: None CNPS: List 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, playas. Blooming period Mar-Oct. Elevation range 0-140m	Does not occur on site due to a lack of suitable soils and habitat.
Southern California black walnut <i>Juglans californica</i>	Federal: None State: None CNPS: List 4.2	Chaparral, coastal scrub, cismontane woodland, riparian woodland. 50-900m	Confirmed absent based on lack of detection during focused surveys.
Southern tarplant <i>Centromadia parryi</i> ssp. <i>australis</i>	Federal: None State: None CNPS: List 1B.1	Marshes and swamps (margins), valley and foothill grassland, vernal pools; often in alkaline soils. 0-975m	Does not occur on site due to a lack of suitable habitat.

Species	Status	Habitat	Potential for Occurrence
Southwestern spiny rush <i>Juncus acutus</i> ssp. <i>leopoldii</i>	Federal: None State: None CNPS: List 4.2	Salt marshes, alkaline seeps, coastal dunes (mesic sites). 3-900 m	Does not occur on site due to a lack of suitable habitat.
Summer holly <i>Comarostaphylos diversifolia</i> ssp. <i>diversifolia</i>	Federal: None State: None CNPS: List 1B.2	Chaparral, cismontane woodland. Blooming period Apr-Jun. Elevation range 30-550m.	Confirmed absent based on lack of detection during focused surveys.
Thread-leaved brodiaea <i>Brodiaea filifolia</i>	Federal: FT State: SE CNPS: List 1B.1	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools. Blooming period Mar-Jun. Elevation range 25-1,219m.	Does not occur on site due to a lack of suitable soils and grassland habitat.
Vernal barley <i>Hordeum intercedens</i>	Federal: None State: None CNPS: List 3.2	Valley and foothill grassland, vernal pools, coastal dunes, coastal scrub in alkaline or saline areas. 5-1,000m.	Does not occur on site due to a lack of suitable habitat.
Western dichondra <i>Dichondra occidentalis</i>	Federal: None State: None CNPS: List 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Confirmed absent based on lack of detection during focused surveys.
White rabbit-tobacco <i>Pseudognaphalium leucocephalum</i>	Federal: None State: None CNPS: List 2B.2	Chaparral, cismontane woodland, coastal scrub, and riparian woodland in sandy and gravelly soils associated with high energy streams. Blooming period (Jul)Aug-Nov(Dec). Elevation range 0-2,100m.	Does not occur on site due to a lack of suitable alluvial soils and alluvial scrub habitat.
Woolly seablite <i>Suaeda taxifolia</i>	Federal: None State: None CNPS: List 4.2	Coastal bluff scrub, coastal dunes, marshes and swamps 0-50 m.	Does not occur on site due to a lack of suitable habitat.

Federal

FE – Federally Endangered
FT – Federally Threatened
FC – Federal Candidate

State

SE – State Endangered
ST – State Threatened

CNPS

Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere.
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2A – Plants presumed extirpated in California, but common elsewhere.
Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed (a review list).
Rank 4 – Plants of limited distribution (a watch list).

Threat Code extension

.1 – Seriously endangered in California (over 80% occurrences threatened)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Occurrence

- Does not occur—The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.

- Confirmed absent—The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur—The species is not expected to occur onsite on site due to low habitat quality, however absence presence cannot be ruled out.
- Potential to occur—The species has a potential to occur based on suitable habitat, however its presence/ or absence has not been confirmed.
- Confirmed present—The species was detected onsite on site incidentally or through focused surveys

4.3.1 Special Status Plants Observed on the Project Site

Intermediate mariposa lily (*Calochortus weedii* var. *intermedius*)

Intermediate mariposa lily (*Calochortus weedii* var. *intermedius*) is a member of the lily family (LILIACEAE) and is designated as a CNPS List 1B.2 species but is not a state or federal listed species. This species is known to occur in chaparral, coastal scrub and valley and foothill grasslands. Intermediate mariposa lily is known to occur from Los Angeles, Orange and Riverside counties. This species is known to bloom from May through July.

Approximately 53 individuals of intermediate mariposa lily were observed within the Project site boundaries with an additional 32 immediately offsite as depicted on Exhibit 3.

4.3.2 Special Status Plants Not Observed but Known from the Vicinity of the Project Site

The following plants were initially determined to have at least some potential to occur on the site or are addressed because there are known occurrences in south Laguna Beach.

Allen’s pentachaeta (*Pentachaeta aurea* ssp. *allenii*)

Allen’s pentachaeta is a member of the sunflower family (ASTERACEAE) that is designated as a CNPS List 1B.1 species but is not a state or federal listed species. This annual herb is known to occur in openings of coastal scrub and valley and foothill grasslands from 75 to 520 meters (246 to 1,705 feet) MSL. Allen’s pentachaeta is known to occur from Orange County and is known to bloom from March through June.

Allen’s pentachaeta was initially determined to have a low potential to occur on the Project site within the areas of coastal scrub. This species was not observed on the Project site during focused plant surveys and is confirmed absent based on lack of detection.

Big-leaved crownbeard (*Verbesina dissita*)

Big-leaved crownbeard is a member of the sunflower family (ASTERACEAE) and is designated as a state and federally threatened species as well as a CNPS List 1B.1 species. This perennial herb is known to occur in maritime chaparral and coastal sage scrub from 45 to 205 meters (148 to 672 feet) MSL. Big-leaved crownbeard is known to occur in canyons in south Laguna Beach and most occurrences are associated with north-facing slopes in Southern Maritime Chaparral described in the vegetation alliance descriptions above. This species is known to bloom from April through July.

Big-leaved crownbeard was initially determined to have a low to moderate potential to occur on the Project site, with the only suitable vegetation occurring on a south facing slope (not the preferred aspect for this species). When this species occurs, it is easily detected as its inflorescences emerge through the shrubs which comprise the canopy. Given the lack of detection, this easily observed shrub is confirmed absent on the site.

Cliff spurge (*Euphorbia misera*)

Cliff spurge is a member of the spurge family (EUPHORBIACEAE) that is designated as a CNPS List 2.2 species but is not a state or federal listed species. This perennial shrub is known to occur in coastal bluff scrub, coastal scrub and Mojavean desert scrub from 10 to 500 meters (33 to 1,640 feet) MSL. Cliff spurge is known to occur from Santa Barbara, Los Angeles, Orange, Riverside and San Diego Counties as well as several of the Channel Islands. This species is known to bloom from December through August.

Cliff spurge was initially determined to have a low to moderate potential to occur on the Project site; however, in Orange County it is most common on coastal bluffs. This easily detected shrub was not observed on the Project site during focused plant surveys and does not occur on the site.

Laguna Beach dudleya (*Dudleya stolonifera*)

Laguna Beach dudleya is a member of the stonecrop family (CRASSULACEAE) and is designated as a state and federal threatened species as well as a CNPS List 1B.1 species. This perennial herb is known to occur in north facing rock outcrops within chaparral, cismontane woodland, coastal scrub and valley and foothill grasslands from 10 to 260 meters (33 to 853 feet) MSL. Laguna Beach dudleya is known to occur from Laguna Beach, California and is known to bloom from May through July.

Laguna Beach dudleya was determined to have no potential to occur on the Project site due to the lack of suitable rock outcrops. This species was not observed on the Project site during focused plant surveys.

Many-stemmed dudleya (*Dudleya multicaulis*)

Many-stemmed dudleya is a member of the stonecrop family (CRASSULACEAE) that is designated as a CNPS List 1B.2 species but is not a federal or state listed species. This perennial herb is known to occur in chaparral, coastal scrub and valley and foothill grasslands and is often associated with clay soils. Many stemmed dudleya is known to occur from Los Angeles, Orange, Riverside, San Bernardino and San Diego counties from 15 to 790 meters (50 to 2,590 feet) MSL. This species is known to bloom from April through July.

Many-stemmed dudleya was determined to have a moderate potential to occur on the Project site. This species was not observed on the Project site during focused plant surveys and is confirmed absent based on lack of detection.

Nuttall's scrub oak (*Quercus dumosa*)

Nuttall's scrub oak is a member of the oak family (FAGACEAE) that is designated as a CNPS List 1B.1 species but is not a state or federal listed species. This prominent perennial shrub is known from closed cone coniferous forest, chaparral and coastal scrub from 15 to 400 meters (50 to 1,312 feet) MSL. Nuttall's scrub oak is known to occur from Santa Barbara, Orange and San Diego Counties as well as Baja, California and is known to bloom from February through April. Nuttall's scrub oak was initially determined to have a low to moderate potential to occur on the Project site, but this easily detected species was confirmed absent during focused plant surveys.

Summer holly (*Comarostaphylis diversifolia* subsp. *diversifolia*)

Summer holly is a member of the heath family (ERICACEAE) and is designated as a CNPS List 1B.2 species but is not designated as a state or federal listed species. This prominent perennial evergreen shrub is known to occur in chaparral and cis-montane woodland from 30 to 550 meters (98 to 1,804 feet) MSL. Summer holly is known to occur from Orange, Riverside and San Diego counties as well as Baja California and is known to bloom from April through June.

Summer holly was initially determined to have a low potential to occur on the Project site. This prominent and easily detected species was confirmed absent during focused plant surveys.

Western dichondra (*Dichondra occidentalis*)

Western dichondra (*Dichondra occidentalis*) is a member of the morning glory family (CONVOLVULACEAE) that is designated as a CNPS List 4.2 species but is not a state or federal listed species. This perennial herb is known to occur in chaparral, cismontane woodland, coastal scrub and valley and foothill grasslands from 50 to 500 meters (165 to 1,640 feet) MSL. Western dichondra is known to occur from Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties in southern California and is known to bloom from March through July.

Western dichondra was initially determined to have a low to moderate potential to occur on the Project site. This species was not observed on the Project site during focused plant surveys and is confirmed absent.

4.4 Special Status Animals

Table 4-3 provides a summary of all species evaluated for this report based on: 1) species identified by the May 2010 CNDDB as occurring (either currently or historically) on or in the USGS Dana Point, San Juan Capistrano, and Laguna Beach quadrangles, and 2) any other special status species that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on site. Following the table, additional discussions are provided for any special status animals observed on site or for which potentially suitable habitat occurs on the Project site. A complete compendium of plants observed on the Project site is provided as Appendix A.

Table 4-3. Special status wildlife evaluated for the Vista del Sol Project site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
INSECTS			
Crotch bumble bee <i>Bombus crotchii</i>	Federal: None State: CE (candidate endangered)	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Not expected to occur on site due to a lack of suitable habitat. Not observed during surveys.
Monarch butterfly (wintering) <i>Danaus plexippus</i>	Federal: None State: None	Roosts in winter in wind-protected tree groves along the California coast from northern Mendocino to Baja California, Mexico.	Does not occur on site for wintering due to a lack of wintering habitat on site.
FISH			
Arroyo chub <i>Gila orcuttii</i>	Federal: FE State: None CDFW: SSC	Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Does not occur on site due to a lack of suitable habitat.
Steelhead-southern California DPS <i>Oncorhynchus mykiss irideus</i> pop. 10	Federal: FE State: CE CDFW: None	Occurs in flowing waters	Does not occur on site due to a lack of suitable habitat.
Tidewater goby <i>Eucycloglobius newberryi</i>	Federal: FE State: None CDFW: None	Occurs in brackish water habitats along the California coast.	Does not occur on site due to a lack of suitable habitat.
AMPHIBIANS			
Arroyo southwestern toad <i>Bufo microscaphus californicus</i>	Federal: FE State: None CDFW: SSC	Historically along length of drainages; currently in headwaters, sandy washes and arroyos grown to willows, cottonwoods or sycamores.	Does not occur on site due to a lack of suitable habitat.
California red-legged frog <i>Rana aurora draytonii</i>	Federal: FT State: None CDFW: SSC	Permanent flowing water sources, including marshes, streams, lakes ponds; woodland or valley foothill grasslands; sufficient vegetative cover	Does not occur on site due to a lack of suitable habitat.
Western spadefoot toad <i>Scaphiopus hammondii</i>	Federal: None State: None CDFW: SSC	Coastal sage scrub, vernal pools, and grasslands; breeds in associated temporary pools and riparian areas.	Does not occur on site due to a lack of suitable habitat.
REPTILES			
California glossy snake <i>Arizona elegans occidentalis</i>	Federal: None State: None CDFW: SSC	Occurrences reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Low potential to occur on site. Not observed during biological surveys.
Coast patch-nosed snake <i>Salvadora hexalepis virgulata</i>	Federal: None State: None CDFW: SSC	Open areas within coastal sage scrub, chaparral, grassland, desert scrub, washes, sand flats, & rocky areas.	Low potential to occur on site. Not observed during biological surveys.
Orange-throated whiptail <i>Aspidoscelis hyperythra</i>	Federal: None State: None CDFW: WL	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes & other sandy areas with patches of brush & rocks. Perennial plants necessary for its major food—termites.	Observed on site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Coastal western whiptail <i>Aspidoscelis tigris stejnegeri</i>	Federal: None State: None CDFW: SSC	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Low to moderate potential to occur on site. Not observed during biological surveys.
Red diamond rattlesnake <i>Crotalus ruber</i>	Federal: None State: None CDFW: SSC	Chaparral, woodland, grassland, & desert areas from coastal San Diego county to the eastern slopes of the mountains. Occurs in rocky areas & dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Low potential to occur on site. Not observed during biological surveys.
Coast horned lizard <i>Phrynosoma blainvillei</i>	Federal: None State: None CDFW: SSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands. Sandy soils.	Not expected to occur on site due to lack of suitable friable soils.
Southern California legless lizard <i>Anniella stebbinsi</i>	Federal: None State: None CDFW: SSC	Sparse coastal sage scrub, chaparral, grassland, riparian and woodland habitats within moist sandy soil.	Does not occur on site due to a lack of suitable habitat.
Southwestern pond turtle <i>Emys marmorata</i>	Federal: FSC State: None CDFW: SSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur on site due to a lack of suitable habitat.
Two-striped garter snake <i>Thamnophis hammondi</i>	Federal: None State: None CDFW: SSC	Highly aquatic. Found in freshwater marshes and riparian habitats, in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Does not occur on site due to a lack of suitable habitat.
BIRDS			
American peregrine falcon <i>Falco peregrinus anatum</i>	Federal: None State: SE CDFW: None	Near wetlands, lakes, rivers or other water, on cliffs, banks, dunes, mounds, also human-made structures.	Does not occur on site due to a lack of suitable foraging habitat.
Ashy rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	Federal: None State: None CDFW: WL	Resident in southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass & forb patches.	Low to moderate potential to occur on site. Not observed during biological surveys.
Belding's savannah sparrow <i>Passerculus sandwichensis beldingi</i>	Federal: None State: SE CDFW: None	Occurs in coastal salt marshes.	Does not occur on site due to a lack of suitable habitat.
Bell's sage sparrow <i>Amphispiza belli belli</i>	Federal: None State: None CDFW: SSC	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above the ground.	Low to moderate potential to occur on site. Not observed during biological surveys.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Burrowing owl <i>Athene cunicularia</i>	Federal: None State: None CDFW: SSC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Does not occur on site due to a lack of suitable habitat.
California horned lark <i>Eremophila alpestris actia</i>	Federal: None State: None CDFW: SSC	Occupies a variety of open habitats, usually where trees and large shrubs are absent.	Does not occur on site due to a lack of suitable habitat.
Coastal cactus wren <i>Campylorhynchus brunneicapillus couesi</i>	Federal: None State: None CDFW: SSC	Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	Does not occur on site due to a lack of suitable cactus scrub habitat.
Coastal California gnatcatcher <i>Poliophtila californica californica</i>	Federal: FT State: None CDFW: SSC	Low elevation coastal sage scrub and coastal bluff scrub.	Does not occur on site due to a lack of suitable coastal sage scrub habitat.
Cooper's hawk (nesting) <i>Accipiter cooperi</i>	Federal: None State: None CDFW: WL	Primarily occurs in riparian areas and oak woodlands, most commonly in montane canyons. Known to use urban areas, occupying trees among residential and commercial.	Observed foraging over the site. Low potential to nest in ornamental trees adjacent to the site.
Ferruginous hawk <i>Buteo regalis</i>	Federal: FSC State: None CDFW: SSC	Only present as wintering individuals. Prefers open grasslands and agricultural areas.	Does not occur on site due to a lack of suitable habitat.
Golden Eagle <i>Aquila chrysaetos</i>	Federal: None State: None CDFW: CFP	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Does not occur on site due to a lack of suitable habitat.
Grasshopper sparrow (nesting) <i>Ammodramus savannarum</i>	Federal: None State: None CDFW: SSC	Occurs in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs, and scattered shrubs. Loosely colonial when nesting.	Does not occur on site due to a lack of suitable habitat.
Least Bell's vireo <i>Vireo belii pusilus</i>	Federal: FE State: SE CDFW: SSC	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Does not occur on site due to a lack of suitable riparian habitat.
Loggerhead shrike <i>Lanius ludovicianus</i>	Federal: None State: None CDFW: SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree & riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting with perches for scanning and fairly dense shrubs and brush for nesting.	Does not occur on site due to a lack of suitable habitat.
Merlin <i>Falco columbarius</i>	Federal: None State: None CDFW: SSC	Only present as wintering individuals. Forages in a variety of habitats including riparian areas, open woodlands, grasslands, farms, and ranches.	Not expected to forage or nest on site due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Northern harrier (nesting) <i>Circus cyaneus</i>	Federal: None State: None CDFW: SSC	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands. Nests on the ground in shrubby vegetation usually at a marsh edge.	Not expected to forage or nest on site due to a lack of suitable habitat.
Osprey <i>Pandion haliaetus</i>	Federal: None State: None CDFW: SSC	Ocean shore, bays, fresh-water lakes, and larger streams. Large nests built in treetops within one mile of a good fish-producing body of water.	Does not occur on site due to a lack of suitable habitat.
Tricolored blackbird <i>Agelaius tricolor</i>	Federal: BCC State: ST CDFW: SSC	This highly colonial species requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Does not occur on site due to a lack of suitable habitat.
White-tailed kite (nesting) <i>Elanus leucurus</i>	Federal: FSC State: None CDFW: CFP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Does not occur on site due to a lack of suitable habitat.
Yellow-breasted chat <i>Icteria virens</i>	Federal: None State: None CDFW: SSC	Occurs in dense riparian habitat.	Does not occur on site due to a lack of suitable habitat.
Yellow rail <i>Coturnicops noveboracensis</i>	Federal: BCC State: None CDFW: SSC	Occurs in freshwater marshes, meadows, and seeps.	Does not occur on site due to a lack of suitable habitat.
Yellow warbler <i>Setophaga petechia</i>	Federal: BCC State: None CDFW: SSC	Nests and forages in riparian forests, scrub, and woodlands.	Does not occur on site due to a lack of suitable habitat.
MAMMALS			
American badger <i>Taxidea taxus</i>	Federal: None State: None CDFW: SSC	Occurs in drier shrub, forest, and herbaceous habitats. Needs open, uncultivated ground and friable soils for digging burrows. Preys on burrowing rodents.	Does not occur on site due to a lack of suitable habitat.
Big free-tailed bat <i>Nyctinomops macrotis</i>	Federal: None State: None CDFW: SSC	Occurs in low-lying arid areas in Southern California. Roosts in high cliffs or rocky outcrops.	Low potential to occur for foraging only on site.
Dulzura pocket mouse <i>Chaetodipus californicus femoralis</i>	Federal: None State: None CDFW: SSC	Coastal scrub, grassland, and chaparral, especially at grass-chaparral edges	Does not occur on site due to a lack of suitable habitat and outside of the known range of the species.
Hoary bat <i>Lasiurus cinereus</i>	Federal: None State: None CDFW: SSC	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Not expected to occur on site due to a lack of aquatic habitat.
Mexican long-tongued bat <i>Choeronycteris mexicana</i>	Federal: None State: None CDFW: SSC	Occasionally found in San Diego County, which is on the periphery of its range. Feeds on nectar and pollen of night-blooming succulents. Roosts in relatively well-lit caves, and in and around buildings.	Not expected to occur on site due to a lack of roosting and foraging habitat.
Pacific pocket mouse <i>Perognathus longimembris</i>	Federal: FE State: None	Fine, alluvial soils along the coastal plain. Scarcely in rocky soils of scrub habitats.	Does not occur on site due to a lack of suitable habitat

Species Name	Status	Habitat Requirements	Potential for Occurrence
<i>pacificus</i>	CDFW: SSC		and soils.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	Federal: None State: None CDFW: SSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Low to moderate potential to occur on site. Not observed during biological surveys.
Western mastiff bat <i>Eumops perotis californicus</i>	Federal: None State: None CDFW: SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees, & tunnels.	Low potential to forage only on site.
Yuma myotis <i>Myotis yumanensis</i>	Federal: None State: None CDFW: None	Occurs in open forests and woodlands with sources of water over which to feed. Maternity colonies are in caves, mines, buildings, or crevices.	Not expected to occur on site due to a lack of suitable habitat.

Federal

FE – Federally Endangered
 FT – Federally Threatened
 FSC – Federal Species of Special Concern

State

SE – State Endangered
 ST – State Threatened

CDFW

SSC – California Species of Special Concern
 CFP – California Fully Protected Species
 WL – Watch List

Occurrence

- Does not occur—The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Confirmed absent—The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur—The species is not expected to occur onsite on site due to low habitat quality, however absence presence cannot be ruled out.
- Potential to occur—The species has a potential to occur based on suitable habitat, however its presence/ or absence has not been confirmed.
- Confirmed present—The species was detected onsite on site incidentally or through focused surveys

4.4.1 Special Status Animals Observed on the Project Site

Orange-throated whiptail (*Aspidoscelis hyperythra*)

The orange-throated whiptail is a CDFW Watch List Species that is endemic to southwestern California. This lizard is known to occur in coastal sage scrub, chaparral, and valley-foothill hardwood habitats of San Bernardino, Riverside, Los Angeles, Orange and San Diego counties. This lizard requires loose well-drained soils and is dependent upon the western subterranean termite (*Reticulitermus hesperus*) as its principal food source. The orange-throated whiptail inhabits chaparral, coastal sage scrub, coastal strand vegetation, oak woodland, grassland and riparian communities.

The orange throated whiptail was observed in open disturbed chaparral in the center of the site.

Cooper's hawk (*Accipiter cooperi*)

The Cooper's hawk is a CDFW Watch List species. Cooper's hawks are found in woodland habitats. The Cooper's hawk is a wide-ranging species in North America that breeds from British Columbia eastward to Nova Scotia and southward to northern Mexico and Florida. This species preys primarily on birds but they are known to eat small mammals, reptiles, amphibians, insects and fish.

The Cooper's Hawk was observed circling over the Project site, which provides potential foraging habitat for this species. Although the not within the Project site, it was noted that the ornamental trees associated with the residence southwest of the Project site provide marginal nesting habitat for this species.

4.4.2 Special Status Animals Not Observed but With the Potential To Occur On Site

California glossy snake (*Arizona elegans*)

The California glossy snake is a CDFW Species of Special Concern. Occurrences reported from a range of scrub and grassland habitats, and reportedly prefers microhabitats of open areas with loose or sandy soils.

The California glossy snake was determined to have a low potential to occur on the project site, but was not observed during biological surveys.

Coast patch-nosed snake (*Salvadora hexalepis virgulata*)

The coast patch-nose snake has been designated a CDFW California Species of Special Concern. This snake inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains, and, sandy flats and rocky open areas in coastal sage scrub and chaparral, from Central to Southern California.

The coast patch-nose snake was determined to have a low potential to occur on the Project site. This species was not observed on site during biological surveys.

Coastal western whiptail (*Aspidoscelis tigris stejnegeri*)

The coastal western whiptail is a CDFW Species of Special Concern. This species occupies a variety of habitats, including coastal sage scrub, chaparral, and grasslands and is still fairly common. It forages actively, probing cracks and crevices and digging in loose soil.

The coastal western whiptail was determined to have a low to moderate potential to occur on the Project site. This species was not observed on site during biological surveys.

Red diamond rattlesnake (*Crotalus ruber*)

The red diamond rattlesnake is a Federal Species of Concern and a CDFW Species of Special Concern. This snake ranges from San Bernardino County in California to Baja California, Mexico. This species prefers dense chaparral, cactus patches and brush covered rocky areas. This species is declining, with the major threats being habitat loss and being run over by automobiles.

The red diamond rattlesnake was determined to have a low potential to occur on the Project site. This species was not observed on site during biological surveys.

Ashy Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

The ashy rufous-crowned sparrow, which is a CDFW Watch List species⁵, is a year-round resident of southern California. It is frequently found in coastal sage scrub, open chaparral, and in other dry habitats. Like other sparrows, it primarily eats seeds and insects.

The ashy rufous-crowned sparrow was determined to have a low to moderate potential to occur on site. This species was not observed on site during biological surveys.

Bell's sage sparrow (*Amphispiza belli belli*)

The Bell's sage sparrow is listed as a CDFW Species of Special Concern. This species is a non-migratory subspecies that occurs in chaparral and sagebrush scrub from Baja California, Mexico to Central California. Bell's sage sparrow typically occurs in areas with large intact blocks of scrub habitat (typically 100's of acres). Nests are built low in shrubs or occasionally on the ground.

The Bell's sage sparrow was determined to have a low to moderate potential to occur on the Project site. This species was not observed on site during biological surveys.

Big free-tailed bat (*Nyctinomops macrotis*)

The big free-tailed bat is a California Species of Special Concern. It is generally solitary and prefers roosting in rock crevices of cliffs but will also roost in buildings and upland woody vegetation.

The big free-tailed bat was determined to have a low potential to forage only on the Project site. This species was not observed during biological surveys.

San Diego Desert Woodrat (*Neotoma lepida*)

The San Diego desert woodrat has been designated a CDFW SSC. This woodrat inhabits coastal sage scrub, chaparral, woodlands, and desert areas from coastal San Diego County to the eastern slopes of the mountains covering essentially all of southern and portions of central California

⁵ The ashy rufous-crowned sparrow was formerly a CDFW Species of Special Concern but was removed from the list because it was determined to be more widespread and common than previously thought.

The San Diego desert woodrat was determined to have a low to moderate potential to occur on the Project site. This species was not observed on site during biological surveys.

Western mastiff bat (*Eumops perotis*)

The western mastiff bat is a California Species of Special Concern and a Federal Species of Concern. It is a colonial, cliff-roosting species whose distribution is constrained to areas where there are significant rock features offering suitable roosting habitat and major threats to the species are urban expansion and activities that disturb or destroy cliff habitat. Roosts of this species are usually within crevices high above the ground, and maternity colonies may consist of 30 to several hundred bats (less than 100 is more typical).

The western mastiff bat was determined to have a low potential to forage only on the Project site.

4.5 Special Status Habitats and City Habitat Values

CNDDDB Review

A review of the 2022 CNDDDB identified the following special status habitats as occurring within the Dana Point, Laguna Beach, and San Juan Capistrano quadrangles: southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern sycamore alder riparian woodland, and valley needlegrass grassland. None of the special status habitats identified in the CNDDDB review occur on site.

City-Designated High and Very High Value Habitat

A portion of the northern parcel is mapped as High Value Habitat and Very High Value Habitat by the City's General Plan. Additionally, one Significant Drainage Course are mapped for the northerly parcel, and an additional Significant Drainage Course is mapped directly south of the proposed improved access road.⁶ Exhibit 6: City Habitat Value Map, depicts the areas mapped as High Value and Very High Value Habitat. These areas are within the area designated as open space. Additionally, it is important to note that a significant portion of the area mapped as High and Very High Value Habitat is subject to ongoing vegetation removal and thinning for existing fuel modification, and the High/Very High Value designation is not warranted given the ongoing fuel modification activities. However, other areas not mapped as High Value and Very High Value Habitat support lemonade berry scrub, an S3 Alliance, which would meet the City's definition for Very High Value Habitat.

⁶ Because the Significant Drainage Courses are fully avoided by the Project, they were not evaluated for potential federal jurisdiction under Section 404 of the Clean Water Act and state jurisdiction under Section 1600 of the California Fish and Game Code.

Other Areas Meeting Definition of ESHA

As noted in the excerpt below from Policy 8F of The Open Space Element of the General Plan,

*...The following areas shall be designated as Environmentally Sensitive Areas: those areas shown on the Biological Resource Values Map in the Open Space/Conservation Element as “Very High” habitat value...**and any other areas which contain environmentally sensitive habitat resources as identified through an onsite biological assessment process**, including areas of “High” and “Moderate” habitat value on the Biological Resources Value Map and areas which meet the definition of ESA’s in Section 30107.5 of the Coastal Act...”*
[Emphasis not in Original]

Areas of lemonade berry scrub depicted on Exhibits 3, 4 and 5, meet the Open Space Element definition of ESHA.

4.6 Critical Habitat

The Project Site is not within any Critical Habitat Areas as mapped by the US Fish and Wildlife Service.

5.0 IMPACT ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of implementation of the project. Project-related impacts can occur in two forms, direct and indirect. Direct impacts are those that involve the loss, modification or disturbance of plant communities, which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or wildlife, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Other impacts, such as loss of foraging habitat, can occur although these areas or habitats are not directly removed by project development, i.e., indirect impacts. Indirect impacts can also involve the effects of increases in ambient levels of noise or light, unnatural predators (i.e., domestic cats and other non-native animals), competition with exotic plants and animals, and increased human disturbance such as hiking and dumping of green waste on site. Indirect impacts may be associated with the subsequent day-to-day activities associated with project build-out, such as increased traffic use, permanent concrete barrier walls or chain link fences, exotic ornamental plantings that provide a local source of seed, etc., which may be both short-term and long-term in their duration. These impacts are commonly referred to as “edge effects,” and may result in a slow replacement of native plants by exotics, and changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundances in habitats adjacent to project sites.

The potential for significant adverse effects, either directly or through habitat modifications, on any special status plant, animal, or habitat that could occur as a result of project development is discussed below.

5.1 California Environmental Quality Act

Thresholds of Significance

Environmental impacts relative to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the state legislature has established it to be the policy of the state of California:

“Prevent the elimination of fish or wildlife species due to man’s activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities...”

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

“The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ...”

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project.

Criteria for Determining Significance Pursuant to CEQA

Appendix G of the 2019 state CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.1.1 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.

5.2 Direct Impacts to Biological Resources

Impacts to Special Status Plants

Intermediate Mariposa Lily

One special status plant species was observed on the Project site during focused surveys: intermediate mariposa lily. Approximately 53 individuals of intermediate mariposa lily were observed within the Project site boundaries, of which 3 individuals are in the Project footprint (grading and Fuel Modification Zone A), 11 individuals are in irrigated Fuel Modification Zone B, 4 individuals are in Fuel Modification Zone C (thinning zone), and the remaining 35 individuals are within onsite open space. Exhibit 4 – Vegetation Impact Map depicts the locations of intermediate mariposa lily within the grading limits and proposed fuel modification.

Project grading and Fuel Modification in Zones A and B would impact 14 individuals as discussed in further detail below in Section 6: Mitigation. The 4 individuals in Fuel

Modification Zone C would not be impacted, as they will be avoided during periodic vegetation thinning in accordance with Laguna Beach protocols for fuel modification in areas subject to Coastal Development Permits.

When considering impacts to intermediate mariposa lily, it is important to note that this species is secure in Orange County, where it has benefitted from significant conservation efforts. In a 2006 letter [Appendix C] to the Irvine Company with the subject “Amendment to Proposed Mitigation for Impacts to Intermediate Mariposa Lily Associated with Mountain Park, East Orange, and Irvine Planning Areas 1, 2, and 6, Orange County, California,” USFWS representative Karen A. Goebel stated that within the Central/Coastal NCCP, USFWS estimates conservation of 758 of 826 known occurrences accounting for 79,108 of 90,140 individuals. Similarly, in the Southern Subregion HCP, a combination of preservation and restoration will result in conservation of more than 20,000 individuals. Given the large-scale regional conservation of this species in the County, the loss of 14 individuals would not be considered a significant impact, i.e., would not result in a “substantial adverse effect”.

To provide for maximum conservation, the applicant will implement the City of Laguna Beach *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* dated May 27, 2020, to ensure that impacts are avoided to intermediate mariposa lily in Fuel Modification Zone C. Furthermore, the 35 intermediate mariposa lily individuals within project open space would be permanently protected adding an additional unreported occurrence of 35 individuals within the region, further contributing to the conservation of this taxon.

However, because the Project is located in the coastal zone, the LCP standards must be considered when making a determination of significance. The intermediate mariposa lily has a CRPR of 1B.2, and habitat occupied by plants with a 1B ranking are typically considered ESHA with impacts considered significant. Intermediate mariposa lily is also identified as a rare plant to be protected within fuel modification zones that are subject to LCP approval.

As discussed below under Section 5.1.5, the intermediate mariposa lily occurs within an environmentally sensitive habitat area (ESHA) as defined by the City’s LCP, and under Paragraph e) of the CEQA guidelines, the impacts would be considered significant and subject to mitigation to reduce the impacts to less than significant.

Impacts to Special Status Animals

Impacts to Special Status Animals Observed on the Project Site

Orange-throated whiptail (*Aspidoscelis hyperythra*)

One orange-throated whiptail was observed in disturbed open chaparral in the middle of the site. Suitable foraging and breeding habitat is present on the site within the open disturbed areas of scrub and chaparral habitat. The Project will impact 1.68 acre of lemonade berry chaparral, desert brittle bush scrub, and disturbed mixed scrub, while avoiding 2.28 acres of suitable scrub and chaparral habitats. . Therefore, no potentially significant impacts to orange-throated whiptail are associated with the project.

Cooper's hawk (*Accipiter cooperi*)

A single Cooper's hawk was observed foraging over the project site. Additionally, the ornamental trees associated with the adjacent property may provide marginal nesting habitat for Cooper's hawk, although no nests were observed. The project would not impact the marginal nesting habitat that the off-site ornamental/invasive trees represent, and thus no potentially significant impacts to Cooper's hawks are associated with the project.

Impacts to Special Status Animals Not Observed But With The Potential To Occur On Site

California glossy snake (*Arizona elegans*)

No California glossy snakes were observed during surveys on the site, but the absence of this species cannot be confirmed. The Project will impact 1.68 acre of lemonade berry chaparral, desert brittle bush scrub, and disturbed mixed scrub, while avoiding 2.28 acres of suitable scrub and chaparral habitats. Of the 1.68 acres of impacts to scrub and chaparral habitat, much of the habitat is not suitable due to the density of vegetation and presence of leaf litter. Therefore, no potentially significant impacts to California glossy snake are associated with the project.

Coast patch-nosed snake (*Salvadora hexalepis virgultea*)

No coast patch-nosed snakes were observed during surveys on the site, but the absence of this species cannot be confirmed. The Project will impact 1.68 acre of lemonade berry chaparral, desert brittle bush scrub, and disturbed mixed scrub, while avoiding 2.28 acres of suitable scrub and chaparral habitats. Of the 1.68 acres of impacts to scrub and chaparral habitat, much of the habitat is not suitable due to the density of vegetation and presence of leaf litter. Therefore, no potentially significant impacts to coast patch-nosed snake are associated with the project.

Coastal western whiptail (*Aspidoscelis tigris stejnegeri*)

No coastal western whiptails were observed on site, but the absence of this species cannot be confirmed. The Project will impact 1.68 acre of lemonade berry chaparral, desert brittle bush scrub, and disturbed mixed scrub, while avoiding 2.28 acres of suitable scrub and chaparral habitats. Of the 1.68 acres of impacts to scrub and chaparral habitat, much of the habitat is not suitable due to the density of vegetation. Therefore, no potentially significant impacts to coastal western whiptails are associated with the project.

Red diamond rattlesnake (*Crotalus ruber*)

No red diamond rattlesnakes were observed on site, but the absence of this species cannot be confirmed. The Project will impact 1.68 acre of lemonade berry chaparral, desert brittle bush scrub, and disturbed mixed scrub, while avoiding 2.28 acres of suitable scrub and chaparral habitats. However, the impacted habitat is mostly unsuitable for this species due to the density of the vegetation and presence of leaf litter, as well as the lack of open, rocky habitat. Therefore, no potentially significant impacts to the red diamond rattlesnake are associated with the project.

Ashy Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

No ashy rufous-crowned sparrows were observed on site, but their potential occurrence cannot be ruled out. The Project will impact 1.68 acre of lemonade berry chaparral, desert brittle bush scrub, and disturbed mixed scrub, while avoiding 2.28 acres of suitable scrub and chaparral habitats. However, much of the impacted habitat is unsuitable for this species due to the density of the vegetation. Therefore, no potentially significant impacts to ashy rufous-crowned sparrow are associated with the project.

Bell's sage sparrow (*Amphispiza belli belli*)

No Bell's sage sparrows were observed on site, but their potential occurrence cannot be ruled out. The Project will impact 1.68 acre of lemonade berry chaparral, desert brittle bush scrub, and disturbed mixed scrub, while avoiding 2.28 acres of suitable scrub and chaparral habitats. However, much of the impacted habitat is unsuitable for this species due to the density of the vegetation. Therefore, no potentially significant impacts to Bell's sage sparrow are associated with the project.

Big free-tailed bat (*Nyctinomops macrotis*)

No big free-tailed bats were observed on site, but because focused bat surveys were not performed, their use of the Project site for foraging cannot be ruled out. The proposed project will impact only a limited amount of foraging habitat suitable for big free-tailed bats. Therefore, no potentially significant impacts to big free-tailed bats are associated with the project.

San Diego Desert Woodrat (*Neotoma lepida*)

No San Diego desert woodrats or nests of San Diego desert woodrats were observed on site, but their potential occurrence cannot be ruled out. The Project will impact 1.68 acre of lemonade berry chaparral, desert brittle bush scrub, and disturbed mixed scrub, while avoiding 2.28 acres of suitable scrub and chaparral habitats that may provide suitable foraging habitat. However, the impacted habitat is mostly unsuitable for this species due to the density of the vegetation and the lack of open, rocky habitat. Therefore, no potentially significant impacts to the San Diego desert woodrat are associated with the project.

Western mastiff bat (*Eumops perotis*)

No western mastiff bats were observed on site, but because focused bat surveys were not performed, their potential occurrence cannot be ruled out. The proposed project will impact only a limited amount of foraging habitat suitable for western mastiff bats. Therefore, no potentially significant impacts to western mastiff bats are associated with the project.

5.1.2 b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations

or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Permanent impacts to vegetation communities associated with the Project footprint and fuel modification zones A and B account for approximately 2.01-acres of the 4.58-acre Project site. Table 5-1 below summarizes both permanent and temporary impacts associated with Project implementation.

Table 5-1. Summary of Impacts to Vegetation Associations/Land Use Types

Vegetation Type	State Rarity Ranking	Total (acres)	Grading + FMZ A Impacts (Acres)	FMZ B Impacts (Acres)	Total Impacts (Acres)	Areas Preserved (Acres)
<i>Rhus integrifolia</i> Shrubland Alliance	S3	2.01	0.12	0.32	0.44	1.57
Southern Maritime Chaparral	S3	0.60	0.0	0.0	0.0	0.60
Desert Brittle Bush Scrub	S4	0.21	0.09	0.08	0.17	0.04
Disturbed Mixed Scrub/FMZ	NA	0.23	0.03	0.15	0.18	0.05
<i>Pennisetum</i> Herbaceous Alliance	NA	0.04	0.02	0.01	0.03	0.01
Roads	NA	0.36	0.21	NA	0.21	0.15
Cliffs	NA	0.04	0.01	0.03	0.04	0.00
Ornamental	NA	0.06	0.01	0.05	0.06	0.00
<i>Brassica</i> Herbaceous Semi-Natural Alliance	NA	0.88	0.23	0.65	0.88	0.00
<i>Centaurea melitensis</i> Herbaceous Semi-Natural Alliance	NA	0.17	0.00	0.00	0.00	0.17
TOTAL		4.58	0.72	1.29	2.01	2.57

***Rhus Integrifolia* Shrubland Alliance (Lemonade berry chaparral)**

This vegetation alliance covers 2.01 acres of the Project site, of which 0.12 acre is proposed for grading impacts including fuel modification Zone A, plus an additional 0.32 acre subject to complete removal for fuel modification within Zone B. An additional 0.32 acre is subject to thinning for Fuel Modification Zone C; however, this will not constitute a significant impact because periodic vegetation thinning will be conducted in accordance with Laguna Beach protocols for fuel modification in areas subject to Coastal Development Permits, which specifies that non-native and dead native vegetation should be removed by trained hand crews under the supervision of a biological monitor.

This alliance has a state rarity ranking of S3 and is considered special status, and impact would be considered significant under CEQA. This alliance also meets the City’s LCP definition of High or Very High Value Habitat and considered ESHA. Therefore, impacts would be considered significant and as discussed below, impacts can be mitigated to less than significant through a combination of replacement and preservation with dedication of the habitat.

Southern Maritime Chaparral

Southern mixed chaparral is located at the northeast corner of the site and is fully avoided by project grading and fuel modification. Therefore, there would be no significant impacts to this alliance.

***Encelia farinosa* Shrub land alliance (Brittle bush scrub)**

Desert brittle bush is in the center of the development area, extending to the north into the fuel modification zone, accounting for 0.21 acre of which grading and fuel modification Zone A, would impact 0.09 acre and fuel modification Zone B would impact 0.08 acre. The area is dominated by desert brittle bush (*Encelia farinosa*), which is not native to Laguna Beach, and deer weed (*Acmispon glaber*). The desert brittle bush was planted on the site for erosion control following installation of a water tank authorized by the City of Laguna Beach. Because this species is not native to Laguna Beach, and has a Rarity Ranking of S4, impacts would not be significant.

Disturbed Scrub/Existing Fuel Modification

Areas along the western edge of the site consist of scrub habitat that is subject to ongoing fuel modification. Ongoing fuel modification in this area would not be significant as this is an existing use for the area.

Ornamental, *Brassica* Herbaceous Semi-Natural Alliance, *Centaurea melitensis* Herbaceous Semi-Natural Alliance, and *Pennisetum* Herbaceous Alliance

Impacts to these non-native vegetation alliances would not be considered significant.

5.1.3 c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The Vista Del Sol Project site contains no wetlands as defined by the state of California, including by the California Coastal Act or the City of Laguna Beach LCP. The site does not contain wetlands as defined by the U.S. Army Corps of Engineers for Section 404 Jurisdiction of the federal Clean Water Act.

As previously discussed, two ephemeral drainages that are identified by the City of Laguna Beach as Significant Drainage Courses occur on the Project site. Both drainage features are fully avoided by the project and the project includes setbacks from the drainages that exceed the City's 25-foot requirement as depicted on Exhibit 5. To ensure that there would be no significant impacts to either drainage feature, the Project will implement standard BMPs as a mitigation measure as outlined below.

5.1.4 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.

The proposed Vista Del Sol residence will be constructed on the ridgeline, which includes existing development to the northeast and southwest and large areas of City open space to the northwest. A small block of open space occurs to the southeast that terminates with existing residential development in the City of Dana Point that includes Crown Valley Drive. As such, given the ridgeline topography and the existing development to the northeast and southwest, the site is not located within a wildlife movement corridor and there would be no significant impacts to wildlife movement. The site does not contain native wildlife nursery sites such as heronries or other such sites and the project would not result in significant impacts to native wildlife nursery sites.

Nesting Avifauna

The Vista Del Sol Project site currently contains trees and shrubs that have the potential to support nesting birds. Impacts to migratory nesting birds are prohibited under the Migratory Bird Treaty Act.⁷ Mitigation is necessary to reduce potential impacts to less than significant.

5.1.5 e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

As noted, the project is subject to review under the City of Laguna Beach LCP, which has identified areas of High Value Habitat and Very High Value Habitat in the vicinity of the site, which are depicted on Exhibit 5.

In addition, Policy 8F of The Open Space Element of the General Plan includes a definition, as excerpted below for ESA's, that also includes a requirement for onsite surveys that would identify unmapped areas as potential ESA:⁸

“Environmentally Sensitive Area (ESA’s) as defined in Section 30107.5 of the California Coastal Act shall be identified and mapped on a Coastal ESA Map. The following areas shall be designated as Environmentally Sensitive Areas: those areas shown on the Biological Resource Values Map in the Open Space/Conservation Element as “Very High” habitat value...and any other areas which contain environmentally sensitive habitat resources as identified through an onsite biological assessment process, including areas of “High” and “Moderate” habitat value

⁷ The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R.21). In addition, sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

⁸ The Term Environmentally Sensitive Area is equivalent to the term Environmentally Sensitive Habitat Area (ESHA) as both are used to define such areas.

on the Biological Resources Value Map and areas which meet the definition of ESA's in Section 30107.5 of the Coastal Act..."

The Vista Del Sol site contains areas that are not included as High or Very High Value Habitat in the City's GIS database that, nevertheless, meet the definition of ESAs in Section 30107.5 of the Coastal Act, specifically the areas of lemonade berry scrub, which exhibits a state rarity ranking of S3. This has been identified as a significant impact under Section 5.1.2 above.

5.1.6 f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The Vista Del Sol site is not within a Habitat Conservation Plan or Natural Community Conservation Plan. As addressed above, the site is within the City of Laguna Beach LCP review area.

5.3 Indirect Impacts to Biological Resources

In the context of biological resources, indirect effects are those effects associated with developing areas adjacent to adjacent native open space. Potential indirect effects associated with development include water quality impacts associated with drainage into adjacent open space/downstream aquatic resources; lighting effects; noise effects; and invasive plant species from landscaping. Temporary, indirect effects may also occur as a result of construction-related activities. Each of these is addressed below:

5.2.1 Water Quality'

The project has been designed to ensure that project drainage is treated before being discharge offsite and there will be no impacts to adjacent open space due to construction of the project or associated with the post-project development condition. There would be no significant indirect impacts to water quality associated with the project.

5.2.2 Lighting Impacts

The project has been designed to reduce lighting impacts to the greatest extent feasible including shielding to limit light spillage into open space. There would be no significant indirect impacts due to lighting associated with the project.

5.2.3 Noise Impacts

The project will result in temporary noise impacts associated with construction activities. Long-term post project conditions would be occupation of the site by a single-family residence. The single-family residence would not result in significant impacts.

5.2.4 Invasive Species

The project will not incorporate any non-native invasive species within the landscape plant palette. Implementation of the City's *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* dated May 27, 2020 requires removal of non-native species before removing a native species, thus ensuring that non-native invasive species do not become established. There are no potential significant impacts associated with invasive species associated with the project.

6.0 MITIGATION/AVOIDANCE MEASURES

The following section discusses actual or potential impacts to sensitive resources that would be considered potentially significant prior to mitigation. As applicable, specific mitigation measures are provided to ensure that impacts to sensitive biological resources, as a result of the Project, are less than significant after mitigation.

6.1 Intermediate Mariposa Lily

Three intermediate mariposa lily individuals occur within the grading limits and Fuel Modification Zone A. Approximately 11 individuals occur within Fuel Modification Zone B, and 4 individuals occur within Fuel Modification Zone C. Impacts to the intermediate mariposa lily within Fuel Modification Zone C will be avoided through implementation of the City of Laguna Beach *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* dated May 27, 2020 which states:

For all Coastal Development Permit FMZ's, a qualified biologist shall inspect proposed fuel modification sites for the presence of sensitive species prior to the initiation of work. If the presence of sensitive species is identified, a trained biological monitor shall be present at all times while work is conducted in the immediate vicinity of identified habitat to ensure no accidental takings occur, and sensitive species are protected. Crews conducting fuel modification work shall receive instruction and training in sensitive species management and avoidance prior to initiation of work.

Sensitive species include those identified in the California Endangered Species Act (CESA), the Native Plant Protection Act (NPPA), the California Environmental Quality Act (CEQA), the Natural Community Conservation Planning Act (NCCPA), California Penal Code Section 384a, or by Federal designation in the Endangered Species Act (F-ESA). Sensitive species shall not be disturbed by fuel modification activities.

Sensitive plant species of principal concern in Laguna Beach include [among others]:

- 1. Big-leaved Crownbeard (Verbesina dissita)*

2. Intermediate Mariposa Lily (*Calochortus weedii* var. *intermedius*)...⁹

The intermediate mariposa lily is considered ESHA and impacts to 14 individuals would be considered significant under the LCP.

Mitigation would include the following components:

- Replacement at a ratio of 4:1 within project open space of 14 individuals affected by project grading and fuel modification;
- Preservation of 4 individuals within Fuel Modification Zone C through *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* dated May 27, 2020; and
- Preservation of 35 individuals within project open space.

Prior to issuance of a grading permit, the applicant shall prepare a Rare Plant Restoration Plan that will provide the details of the intermediate mariposa lily restoration program. The Rare Plant Restoration Plan will be prepared by a Biologist of Habitat Restoration Specialist familiar with the ecology of the intermediate mariposa lily and with implementing restoration of rare plants in southern California. The plan shall include:

- Locations for planting;
- Methods of propagation and installation;
- Methods for site preparation;
- Maintenance procedures;
- Performance standards;
- Reporting requirements;
- Contingency measures

With implementation of these measure, the impacts to ESHA would be reduced to less than significant.

6.2 Lemonade Berry Chaparral

Project grading and Fuel Modification Zone A would directly impact 0.12 acre of this alliance and fuel modification for Zones B would impact an additional 0.32 acre of this alliance. Lemonade berry scrub has a state rarity ranking of S3 and is considered sensitive for CEQA and ESHA by the City. Impacts would be considered significant but with the mitigation set forth below, impacts would be reduced to less than significant.

Mitigation for 0.12 acre of grading impacts to lemonade berry chaparral would be provided at a ratio of 5:1 and would include the following:

- On-site replacement of lemonade berry scrub within the existing trail in the northern-

⁹ Laguna Beach Fire Department. May 27, 2020. *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting*.

most portion of the Project site, which would be closed, and within areas of *Centaurea melitensis* Alliance, desert brittle bush scrub and other disturbed areas within the lemonade berry alliance on the northern portion of the site totaling 0.24 acre.

- On-site dedication of 0.36 acres of lemonade berry chaparral and/or southern maritime chaparral.

Impacts to lemonade berry chaparral associated with vegetation clearing for fuel modification zones A and B totaling 0.32 acre would be provided at a ratio of 4.5:1 and would include the following:

On-site dedication of 1.43 acres of lemonade berry scrub and/or southern maritime chaparral scrub.

Prior to issuance of a grading permit, the applicant shall prepare a Habitat Mitigation and Monitoring Plan (HMMP) that will provide the details of the lemonade berry scrub chaparral restoration program. The HMMP will be prepared by a Biologist of Habitat Restoration Specialist familiar with southern California scrub restoration. The plan shall include:

- Locations for planting;
- Methods of propagation and installation;
- Methods for site preparation;
- Maintenance procedures;
- Performance standards;
- Reporting requirements;
- Contingency measures

With implementation of these measure, the impacts to lemonade berry ESHA would be reduced to less than significant.

6.3 Nesting Birds Protected Under the MBTA

As noted above, the site contains vegetation suitable for nesting birds (trees, shrubs, etc.). Because there is the potential for migratory birds to nest in vegetation on site, the following recommendations are provided to ensure that nesting birds are not harmed during project construction:

- If feasible, the removal of vegetation should occur outside of the nesting season, generally recognized as January 1 to September 15 where suitable nesting habitat for raptors is present, and February 1 to September 15 when no raptor nesting habitat is present. If vegetation removal must occur during the nesting season, then a qualified biologist shall conduct a nesting bird survey prior to any vegetation removal. If active nests are identified, the biologist shall flag vegetation containing active nests. The biologist shall establish appropriate buffers around active nests to be avoided until the nests are no longer active and the young have fledged. Buffers will based on the species identified, but generally will consist of 50 feet for non-raptors and 300 feet for raptors.

- If for some reason it is not possible to remove all vegetation during the non-nesting season, then vegetation to be removed during the nesting season must be surveyed by a qualified biologist no more than three days prior to removal. If no nesting birds are found, the vegetation can be removed. If nesting birds are detected, then removal must be postponed until the fledglings have vacated the nest or the biologist has determined that the nest has failed. Furthermore, the biologist shall establish an appropriate buffer zone where construction activity may not occur until the fledglings have vacated the nest or the biologist has determined that the nest has failed.
- Similarly, for vegetation being preserved in close proximity to the impact areas, if construction is to occur during the nesting season, preserved vegetation should be surveyed for the presence of nesting birds. If nesting birds are detected, the biologist shall establish an appropriate buffer zone where construction activity may not occur until the fledglings have vacated the nest or the biologist has determined that the nest has failed.

6.4 Avoidance of Impacts to Significant Drainage Courses

As previously stated, the Project has been designed to fully avoid any impacts to the two mapped Significant Drainage Courses as well as a 25-foot buffer zone around each drainage courses. No construction activity is anticipated to occur in close proximity of the drainage on the northern end of the Project site, but construction activity will occur adjacent to the buffer around the drainage on the southern end of the Project site. To ensure no inadvertent impacts to the drainages and associated biological resources, standard BMPs, which may include silt fencing, fiber rolls, and sandbags, will be installed prior to any vegetation removal or ground disturbance where construction activity will occur near the 25-foot buffer around the drainages on the southern end of the Project site. Care shall be taken not to disturb native vegetation when installing the BMPs.

7.0 CERTIFICATION

“CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.”

DATE: July 6, 2022

SIGNED: Tony Bonlang

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0916-3_Biotech_2022.doc

Source: ESRI World Street Map



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

150 VISTA DEL SOL

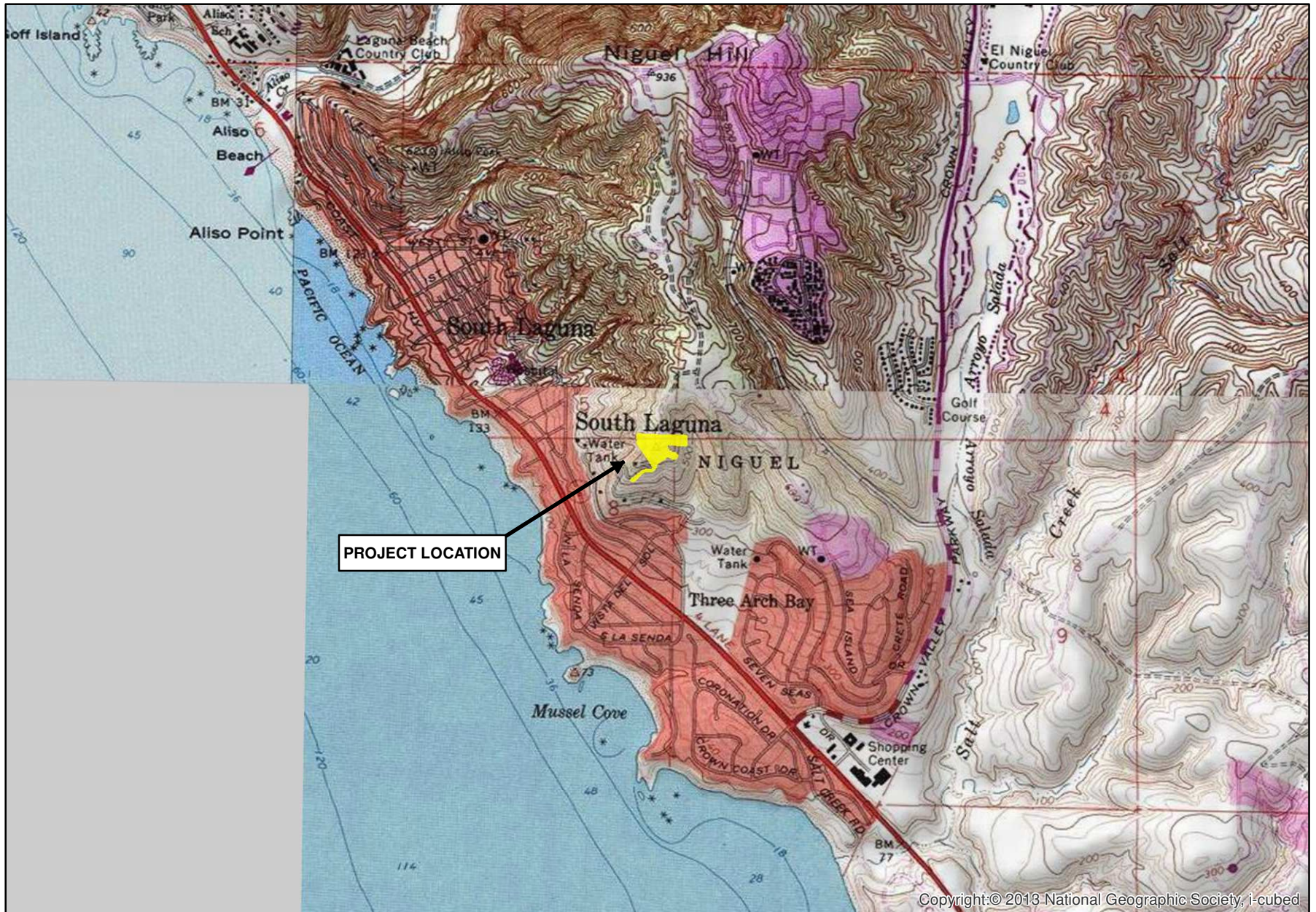
Regional Map

GLENN LUKOS ASSOCIATES

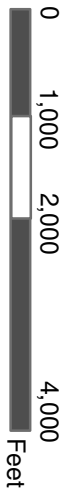


Exhibit 1

Adapted from USGS Dana Point, CA quadrangle



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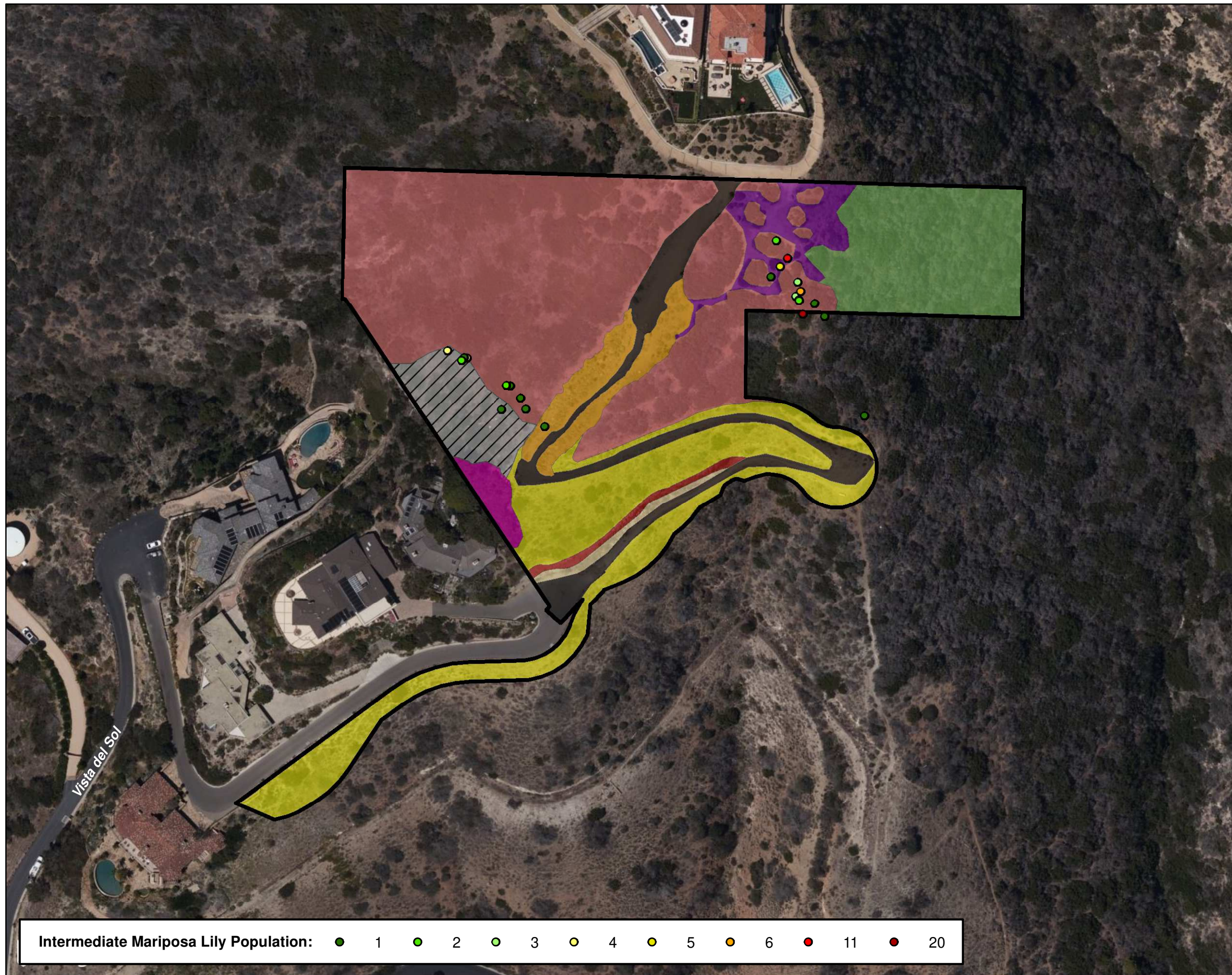
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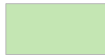




Vicinity Map

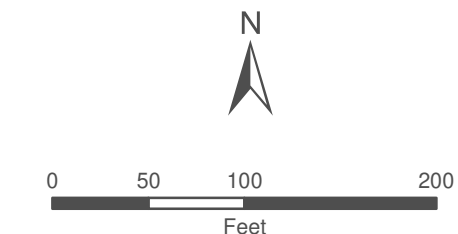
GLENN LUKOS ASSOCIATES



Exhibit 2



-  Project Site
-  Desert Brittle Bush Scrub
-  Disturbed Scrub/Existing FMZ
-  Fountain Grass Swards
-  Lemonade Berry Chaparral
-  Ornamental
-  Southern Maritime Chaparral
-  Summer Mustard Fields
-  Tocalote Fields
-  Cliff
-  Road



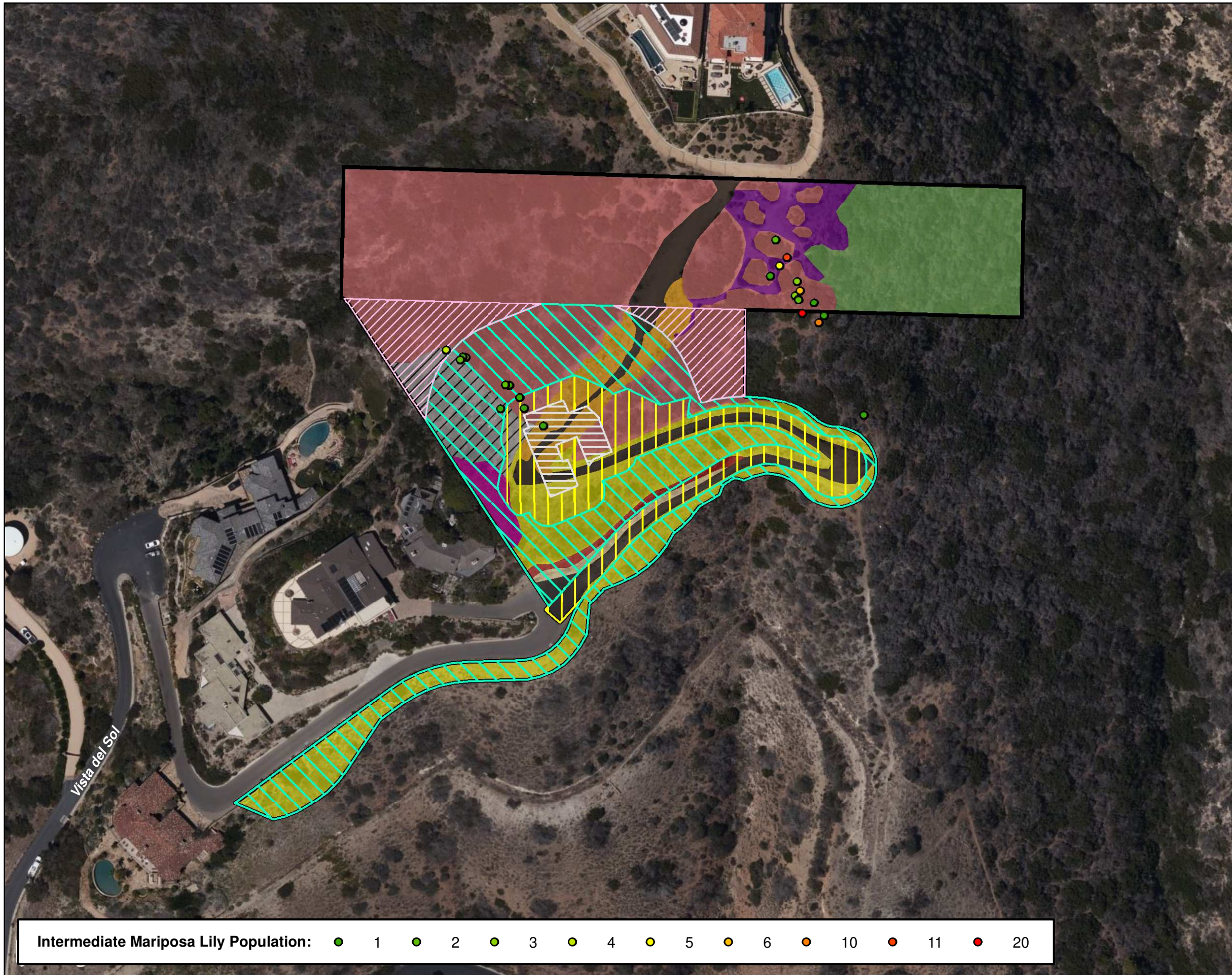
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





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 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: B. Gale, GLA
 Date Prepared: September 7, 2021

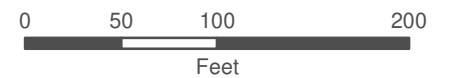
150 VISTA DEL SOL
 Vegetation Map

GLENN LUKOS ASSOCIATES 
 Exhibit 3

Intermediate Mariposa Lily Population: ● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 11 ● 20



-  Project Site
-  Building Footprint
-  Zone A Impact
-  Zone B / Roadside Setback Impact
-  Zone C
-  Brassica Herbaceous Semi-Natural Alliance
-  Centaurea melitensis Herbaceous Semi-Natural Alliance
-  Desert Brittle Bush Scrub
-  Disturbed Scrub/Existing FMZ
-  Lemonade Berry Chaparral
-  Pennisetum Herbaceous Alliance
-  Southern Maritime Chaparral
-  Ornamental
-  Cliff
-  Road



1 inch = 100 feet

Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: B. Gale, GLA
 Date Prepared: July 1, 2022

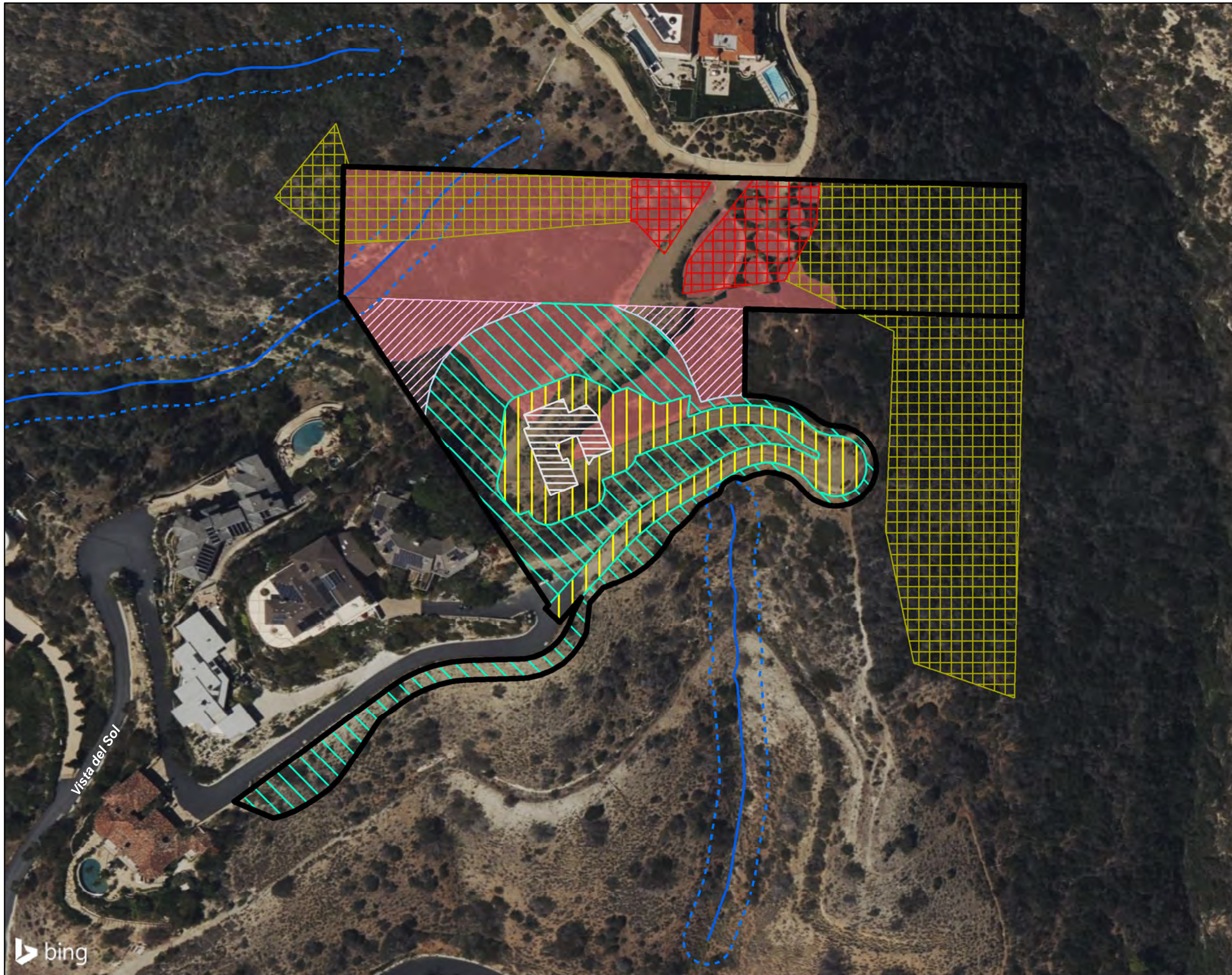
150 VISTA DEL SOL
 Vegetation Impact Map







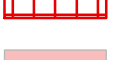
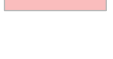


GLENN LUKOS ASSOCIATES

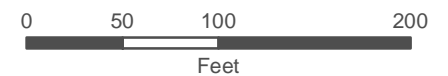


Exhibit 4

Intermediate Mariposa Lily Population: ● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 10 ● 11 ● 20



-  Project Site
-  Building Footprint
-  Zone A Impact
-  Zone B / Roadside Setback Impact
-  Zone C
-  High Value Habitat
-  Very High Value Habitat
-  Lemonade Berry Chaparral ESHA
-  Drainage Course
-  25 ft Buffer of Drainage Course



1 inch = 100 feet

Coordinate System: State Plane 6 NAD 83
 Projection: Lambert Conformal Conic
 Datum: NAD83
 Map Prepared by: B. Gale, GLA
 Date Prepared: March 16, 2023

150 VISTA DEL SOL

City Constraints Map

GLENN LUKOS ASSOCIATES



Exhibit 5



APPENDIX A – FLORAL COMPENDIUM

**Species marked with an asterisk are non-native*

ANGIOSPERMS (DICOTYLEDONS)

AIZOACEAE - FIG-MARIGOLD FAMILY

- * *Carpobrotus edulis*
hottentot-fig

ANACARDIACEAE - SUMAC OR CASHEW FAMILY

Malosma laurina
laurel sumac

Rhus integrifolia
lemonadeberry

ASTERACEAE - SUNFLOWER FAMILY

Artemisia californica
California sagebrush

Brickellia californica
California brickelbush

- * *Centaurea melitensis*
tocalote

Encelia californica
California encelia

Encelia farinosa
Desert brittle bush

Isocoma menziesii
coastal goldenbush

Porophyllum gracile
odora

BRASSICACEAE - MUSTARD FAMILY

- * *Brassica nigra*
Black mustard

- * *Hirshfeldia incana*
short-podded mustard

CACTACEAE - CACTUS FAMILY

- Opuntia littoralis*
coastal prickly pear

CHENOPODIACEAE - GOOSEFOOT FAMILY

- * *Atriplex semibaccata*
Australian saltbush
- * *Salsola tragus*
Russian thistle

CONVOLVULACEAE - MORNING-GLORY FAMILY

- Calystegia macrostegia*
western bindweed

FABACEAE - LEGUME FAMILY

- Acmispon glaber*
deerweed

LAMIACEAE - MINT FAMILY

- * *Marrubium vulgare*
horehound
- Salvia mellifera*
black sage

POLYGONACEAE - BUCKWHEAT FAMILY

- Eriogonum fasciculatum*
California buckwheat

RHAMNACEAE - BUCKTHORN FAMILY

- Ceanothus megacarpus*
big-podded ceanothus
- Rhamnus crocea*
spiny redberry

ROSACEAE - ROSE FAMILY

Heteromeles arbutifolia
toyon

RUTACEAE - RUE FAMILY

Cneoridium dumosum
bushrue

SOLANACEAE - NIGHTSHADE FAMILY

* *Nicotiana glauca*
tree tobacco

ANGIOSPERMS (MONOCOTYLEDONS)

LILIACEAE - LILY FAMILY

Calochortus weedii var. *intermedius*
Intermediate Mariposa lily

POACEAE - GRASS FAMILY

* *Avena fatua*
wild oat

* *Bromus madritensis rubens*
red brome

* *Bromus diandrus*
ripgut grass

Nassella pulchra
purple needlegrass

* *Pennisetum setaceum*
fountaingrass

FAUNAL COMPENDIUM

Vertebrates identified in the field by sight, calls, tracks, scat, or other signs are cited according to the nomenclature of Collins (1997) for amphibians and reptiles, AOU (1998) for birds, and Jones et al. (1992) for mammals. An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME

COMMON NAME

TERRESTRIAL VERTEBRATES: REPTILES

PHRYNOSOMATIDAE

Uta stansburiana

Phrynosomatid Lizards

common side-blotched lizard

TEIIDAE

Aspidoscelis hyperythra

WHIPTAIL LIZARDS

orange-throated whiptail

TERRESTRIAL VERTEBRATES: BIRDS

CATHARTIDAE

Cathartes aura

NEW WORLD VULTURES

turkey vulture

ACCIPITRIDAE

Accipiter cooperii

Buteo jamaicensis

HAWKS

Cooper's hawk

red-tailed hawk

CUCULIDAE

Geococcyx californianus

CUCKOOS, ROADRUNNERS, AND ANIS

greater roadrunner

TROCHILIDAE

Calypte anna

HUMMINGBIRDS

Anna's hummingbird

CORVIDAE

Corvus corax

JAYS & CROWS

common raven

MUSCICAPIDAE

Chamaea fasciata

KINGLETS, GNATCATCHERS, THRUSHES & BABBLERS

wrentit

EMBERIZIDAE

Pipilo maculatus

Pipilo crissalis

WOOD WARBLERS, TANAGERS, BUNTINGS & BLACKBIRDS

spotted towhee

California towhee

FRINGILLIDAE

Carpodacus mexicanus

FINCHES

house finch

TERRESTRIAL VERTEBRATES: MAMMALS

LEPORIDAE

Sylvilagus audubonii

HARES & RABBITS

desert cottontail

UNMAINTAINED

351-1854



U.S. Fish and Wildlife Service
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011
(760) 431-9440
FAX (760) 431-5902 + 9618



California Department of Fish & Game
South Coast Regional Office
4949 Viewridge Avenue
San Diego, California 92123
(858) 467-4201
FAX (858) 467-4299

In Reply Refer To:
FWS/CDFG-OR-2261.44

JUL 7 2006

Scot Scialpi, Senior Director
Environmental Compliance
The Irvine Company
550 Newport Center Drive
Newport Beach, California 92660-7011

Subj: Amendment to Proposed Mitigation for Impacts to Intermediate Mariposa Lily
Associated with Mountain Park, East Orange, and Irvine Planning Areas 1, 2 and
6, Orange County, California

Dear Mr. Scialpi:

This letter responds to your April 27, 2006, request for approval of mitigation for Intermediate Mariposa Lily (*Calochortus weedii* var. *intermedius*, "IML") for the above referenced development areas in the Central Subregion of Orange County. Previously, we approved a mitigation scheme for IML in these areas presented in a February 12, 2004, document entitled "Proposed Mitigation for Impacts to Intermediate Mariposa Lily in the North Ranch." Along with the preservation of an estimated 68,871 individual plants from 712 occurrences within the Nature Reserve of Orange County (NROC) and other adjoining conserved lands in the Central Subregion, that scheme involved selective salvage and translocation of 6,000 IML bulbs to offset the loss of about 21,269 individuals from 114 occurrences.

Through additional scaling back of the Mountain Park and East Orange/Santiago Hills II development limits since approval of that mitigation scheme, the current proposal estimates that an additional 10,237 plants from 46 occurrences will be avoided and conserved. Thus, the revised mitigation plan no longer proposes to translocate IML.

Even if 100% success were to be attained under the prior translocation proposal, the modified development boundaries will conserve *in-situ* over 4,000 plants more than would have been achieved by the previous combination of avoidance and translocation. As an additional measure, the April 27, 2006 request includes a proposal to map and quantify undocumented IML occurrences in the Central portion of the Nature Reserve of Orange County that are now apparent due to favorable weather conditions and promotion of germination of plants following the February 2006 Sierra fire. That information will then be provided to us on maps and in electronic format.

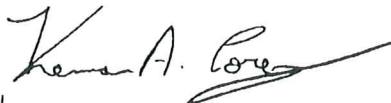


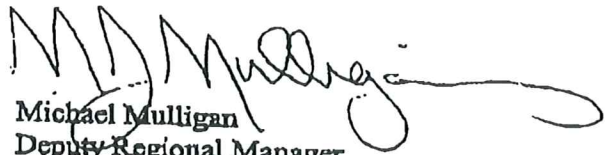
As is obvious from the above numbers, the revised mitigation proposal is superior to that previously approved. Overall, it is estimated that 758 of 826 known IML occurrences (92%) and 79,108 of 90,140 individuals (87%) will be conserved in the Central Subregion. Additionally, prior survey efforts along with those proposed constitute a form of mitigation by providing baseline information for the monitoring and adaptive management of IML in the NROC.

We find that the terms for conditional coverage of IML in the Orange County Central and Coastal Subregions Natural Community Conservation Plan/Habitat Conservation Plan will be met and concur with the revised mitigation proposal. We request that the updated survey information be provided to NROC as well as our agencies.

Thank you for your ongoing efforts to conserve habitats and species within Orange County. Should you have questions or concerns please contact William Miller of the U.S. Fish and Wildlife Service at (760) 431-9440 ext. 206, or Meredith Osborne of the Department of Fish and Game at (858) 636-3163.

Sincerely,


Karen A. Goebel
Assistant Field Supervisor
U. S. Fish and Wildlife Service


Michael Mulligan
Deputy Regional Manager
California Department of Fish and Game

cc:

Lyndine McAfee, NROC
Community Development Director, City of Orange
Community Development Director, City of Anaheim
Community Development Director, City of Irvine

Appendix D

Cultural Resources Assessment



Rincon Consultants, Inc.

180 North Ashwood Avenue
Ventura, California 93003

805 644 4455

info@rinconconsultants.com
www.rinconconsultants.com

July 1, 2022

Project No: 21-12219

Martina Caron, Senior Planner
Planning Division
City of Laguna Beach
505 Forest Avenue
Laguna Beach, California 92651
Via email: mcron@lagunabeachcity.net

Subject: Cultural Resources Assessment for the Property Located at 150 Vista Del Sol in Laguna Beach, 150 Vista Del Sol, Laguna Beach, Orange County, California 92651

Dear Ms. Caron

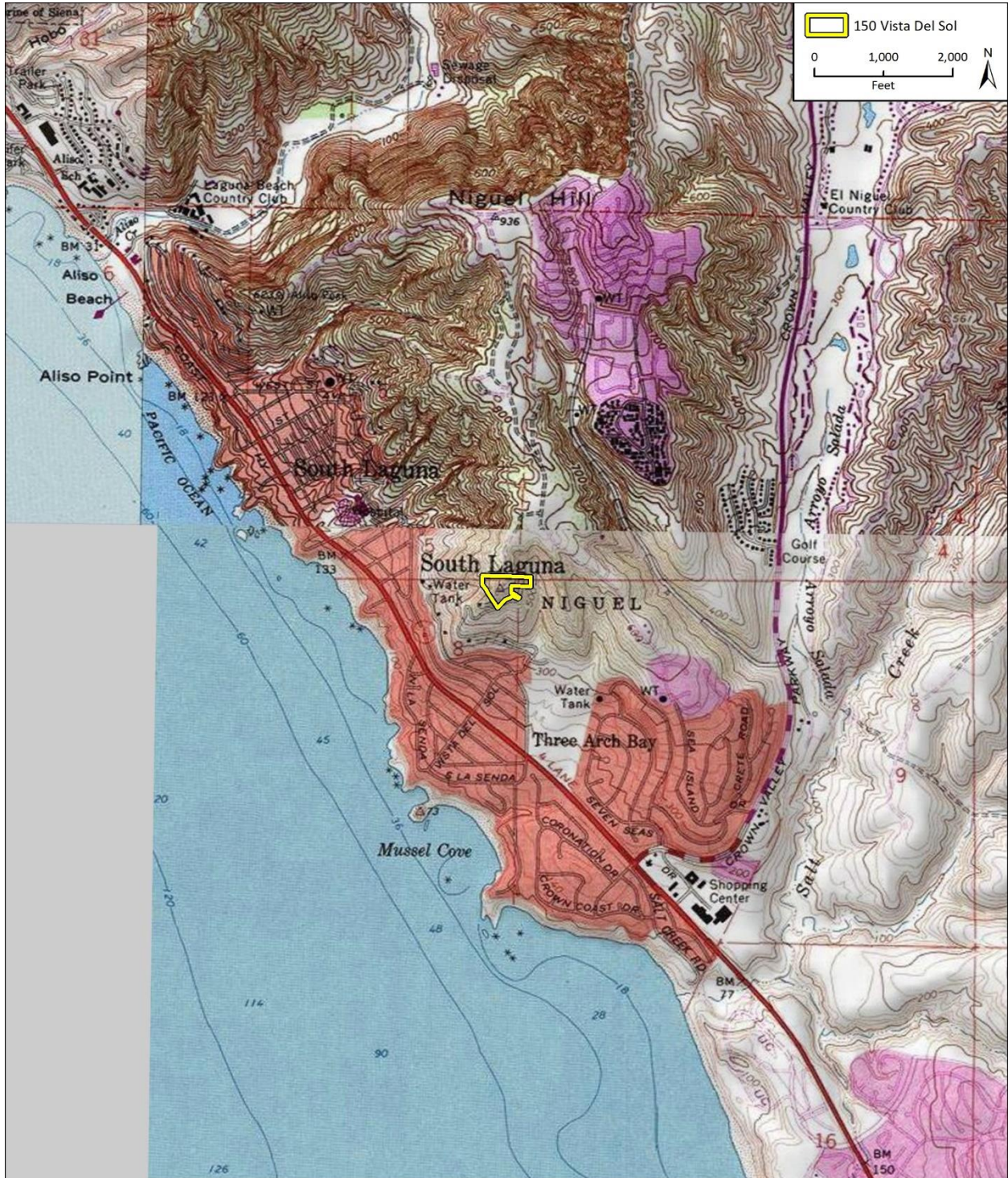
This letter report presents the findings of a cultural resources assessment completed in support of the proposed development located at 150 Vista Del Sol in Laguna Beach (APNs 670-241-07 and 056-231-32). The City of Laguna Beach (City) retained Rincon Consultants, Inc. (Rincon) to support the proposed project's compliance with the California Environmental Quality Act (CEQA). This letter report documents the results of the tasks performed by Rincon, specifically a cultural resources records search, archival and background research, and field survey. All work was completed in accordance with CEQA.

Project Site and Description

The project site is located at 150 Vista Del Sol in Laguna Beach, Orange County, California. Specifically, the proposed project encompasses portions of Sections 5 and 8 of Township 8S, Range 8W on the *Dana Point, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1). The 10,000-square-foot site is located on a hillside approximately 0.43 miles east of the Pacific Ocean and 0.3 miles east of State Route 1, also known as the Pacific Coast Highway (PCH).

The following project description has been adapted from information provided by the City in April 2022. The proposed project involves the construction of a new single-family residential development on a vacant lot in the foothills of the City of Laguna Beach. The project site consists of two parcels with buildable lot area of 0.61 acres. The proposed project consists of a new three-level single-family home with a total of 13,108 square feet of livable space, landscape walls, terrace, pool, pool deck, courtyard, exterior stairs, grading, fuel modification, and a three-car attached garage with a new fire turnaround with retaining walls and driveway improvements. It is anticipated that 5,540 cubic yards (CY) of soil will be excavated during grading, with 1,742 CY of the soil retained as fill material.

Figure 1 Project Location





Methods

Background and Archival Research

Rincon completed background and archival research in support of this assessment in March through May 2022. A variety of primary and secondary source materials were consulted. Sources included, but were not limited to, historical maps, aerial photographs, and written histories of the area. The following sources were utilized to develop an understanding of the project site and its context:

- Orange County Assessor's Office
- Historical aerial photographs accessed via NETR Online
- Historical aerial photographs obtained from Environmental Resources Data, Inc.
- Historical aerial photographs accessed via University of California, Santa Barbara Library FrameFinder
- Historical USGS topographic maps

California Historical Resources Information System Records Search

On March 29, 2022, Rincon received California Historical Resources Information System (CHRIS) records search results (records search #23638) from the South Central Coastal Information Center (SCCIC) (Attachment A). The SCCIC is the official state repository for cultural resources records and reports for the county in which the proposed project falls. The purpose of the records search was to identify previously recorded cultural resources, as well as previously conducted cultural resources studies within the project site and a 0.5-mile radius surrounding it. Rincon also reviewed the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historical Landmarks list, and the Built Environment Resources Directory (BERD), as well as its predecessor the California State Historic Property Data (HPD) File. Additionally, Rincon reviewed the Archaeological Determination of Eligibility (ADOE) list.

Sacred Lands File Search

Rincon contacted the Native American Heritage Commission (NAHC) on March 29, 2022 to request a search of the Sacred Lands File (SLF), as well as a contact list of Native Americans culturally affiliated with the project site vicinity (Attachment B). A response was received from NAHC on May 10, 2022, stating the SLF search had been completed with positive results and provided a tribal consultation list of Native American contacts. The City of Laguna Beach sent letters in June of 2022 to 22 Native American contacts in the area to request information on potential cultural resources in the project site vicinity that may be impacted by the proposed projects development.

Field Survey

Rincon Archaeologist Andrea Bean conducted a pedestrian survey of the project site on May 6, 2022. Rincon conducted a pedestrian survey using transect intervals spaced 10 meters and oriented generally from north to south. Exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes,



foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were also visually inspected. Survey accuracy was maintained using a handheld Global Positioning Satellite unit and a georeferenced map of the project site. Site characteristics and survey conditions were documented using field records and a digital camera. Copies of the survey notes and digital photographs are maintained at our Rincon Los Angeles office.

Findings

Known Cultural Resources Studies

The CHRIS records search and background research identified 16 cultural resources studies within 0.50 mile of the project site (Attachment A). Of these studies, six included a portion of the project site and none included areas directly adjacent to the project site. Approximately 80 percent of the project site has been studied and surveyed in the last 30 years. Known studies that occurred within the project site are discussed in further detail below.

Study OR-00628

Archaeologist Nancy A. Desautels of Scientific Resource Surveys, Inc. completed a field survey of 15 acres, including a large portion of the project site in June 1981. The report noted that no ethnohistoric village or ceremonial sites were recorded on the subject property. Several archaeological sites were recorded within 2 kilometers of the survey area, including shattered shells, midden, grinding tools, and lithic waste. The results of the field survey were negative and no archaeological resources were identified within the current project boundary.

Study OR-00664

Scientific Resource Surveys, Inc., conducted a field survey of two parcels totaling over 80 acres, including a small portion of the north boundary of project site in May 1982. The report noted that a known ethnohistoric village was located in the vicinity and that no cultural resources had been previously recorded within the project boundaries. One resource (Ora-437) was previously recorded within the northern portion of study boundary. That resource included 149 artifacts such as millingstones, handstones, cores, hammerstones, projectile points, and debitage, as well as food remains represented by marine shellfish and sparse mammal bones, indicating the resource functioned primarily as a seasonal location for gathering and processing of seed materials and shellfish and secondarily as a stone tool manufacturing area. Subsequent testing and trenching conducted as part of this study were negative and inspection of paths and roads in the adjacent area revealed no recognizable artifacts or marine shell and the likelihood of the previously recorded site extending within the subject boundary was determined to be low. Additionally, survey of the remaining area of the subject boundary failed to identify any new archaeological resources. The results of the field survey were negative and no archaeological resources were identified within the current project boundary.

Study OR-00735

Archaeologist Ronald M. Bissell of RMW Paleo Associates, Inc., conducted an archaeological survey that included portions of the project site in June 1984. The results of the background research and field survey concluded there two recorded resources that included a light surface scatter of Native American artifacts, including groundstone implements and an archaeological site previously excavated with



potential for additional deposits at the western boundary of the study area, outside the boundary of the current project site (Ora-813 and Ora-814). The field survey recoded a granite mano associated with Ora-437, two manos determined to be either archaeological or modern, and rock shelters with evidence of modern cultural deposition. The observed materials were outside of the current project site.

Study OR-01121

Archaeologist William H. Breece conducted a study of a 22-acre area, including a portion of the northern end of project site property for LSA Associates, Inc. in June 1991. This study was limited to background and archival research, including a review of two previously completed surveys in the immediate area, both of which were negative for cultural resources. The report concluded that the negative results of the previous surveys appeared accurate and that no cultural resources are present in the project site.

Study OR-01221

Archaeologist Ronald M. Bissell of RMW Paleo Associates, Inc., conducted a reconnaissance survey of a 22-acre area, including a portion of the northern end of the project site in August 1992. The report noted that the study area had been studied on two previous occasions (Study OR-00735 and OR-00664) and no cultural resources were previously recorded within this study area. The study included careful examination of the surface on and adjacent to roads and trails and brush was penetrated where possible. No archaeological resources were seen on the property. Historic remains of an apparent modern quarry were observed, but no historic artifacts were recorded and was determined not to be important. The results of the field survey were negative and no archaeological resources were identified within the current project boundary.

Study OR-04179

Study OR-04179 is the City's Historic Resources Inventory (HRI) ordinance and provides a list of properties included on the City of Laguna Beach Historic Resources Inventory as the best examples of historically significant architecture within the city. The boundary of the study covers the whole city, including the project site. No cultural resources were identified within the project site boundary.

Known Cultural Resources

The CHRIS records search and background research identified four cultural resources within 0.50 miles of the project site. Resources recorded in the search radius are listed in Table 1 below. No cultural resources have been previously recorded within or adjacent to the project site.



Table 1 Known Cultural Resources

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	Eligibility Status	Relationship to Project Site
P-30-000437	CA-ORA-000437	Site	Prehistoric – Midden with shell and detritus scatter	<i>G. Fenenfa and T. Cooley, Architectural Research Inc. (1981)</i>	NA	Outside
P-30-001060	CA-ORA0001060	Site	Prehistoric – Shell midden	<i>W. Lewis and J. Tadlock (1976)</i>	NA	Outside
P-30-160186	NA	District	South Laguna Historic District	<i>K. Turnbull, Environmental Coalition (1981)</i>	Eligible Local Historic District (5D2)	Outside
P-30-177513	NA	Structure	Southcoast Water District Beach Interceptor Sewer and Tunnel	<i>D. Brunzell, BCR Consulting (2014)</i>	NA	Outside

Source: SCCIC, 2022

Aerial Imagery and Historical Topographic Maps Review

Rincon completed a review of historical topographic maps and aerial imagery to ascertain the development history of the project site. Historical topographic maps from 1904 to 1948 depict the project site as undeveloped land (USGS 2022). From 1904 to 1942, historical topographic maps depict residential development outside of and to the west of the project site (USGS 2022). Aerial imagery from 1967 confirms the presence of some residential development to the northeast of the project site and outside of the current project site (NETR Online 2022). By 1972, the slope to the east of the current project site had been graded for development. Additional residential development continued on the slope to the east of the project site in 1987 with it infill residential in the years immediately following until 2000 (NETR Online 2022). In 2000, the residential development to the east of the project site was extended westward, toward the project site but did not extend into the current project site. The current project site has remained undeveloped (NETR Online 2022).

Sacred Land File Search

On May 10, 2022, the NAHC responded to Rincon’s AB52 contacts and SLF request, stating that the results of the SLF search were positive. See Attachment B for the NAHC response, including Tribal contacts list(s). As the lead agency, the City is responsible for conducting AB52 outreach. The City sent letters in June of 2022 to 22 Native American contacts in the area to request information on potential cultural resources in the project site vicinity that may be impacted by the proposed projects development. The City has not received any responses to date.



Survey Results

The following section summarizes the results of all background research and fieldwork as they pertain to archaeological resources that may qualify as historical resources and/or unique archaeological resources.

Ground visibility was generally poor (approximately 10 to 30 percent) and terrain was very steep in portions. Overall, the vegetation consisted of coastal sage scrub (Figure 2). An existing unpaved access road bisects the project site oriented approximately east to west and was used as access and to segment the survey area (Figure 3).

In the southern portion of the project site, visibility increased to approximately 30 percent due to coastal sage being more prevalent in this area and areas of ground more visible as a result. The area was covered with loose sandstone and granite gravels with many larger granite boulders noted throughout. Modern trash scatters and isolated modern materials were noted throughout the southern portion. All of these deposits were modern and not over 50 years in age. There was a modern, personal monument (including a Christian cross and a photograph of an individual with a hand drawn "2017") encountered on this south side, but it is not over fifty years in age.

In the north, ground visibility ranged from 10 to 20 percent with the ground obscured primarily by an invasive ice plant (*Delosperma*) (Figure 4). The northern portion was also covered with loose sandstone and granite gravels. . A modern water conveyance pipe approximately 2 ft in diameter and 50 ft long crossed from an existing house (outside of the current project site) from east to west in this portion of the project (Figure 5). Additionally, two partially underground modern water cisterns and associated pipes were observed within the exiting access road (Figure 5). The access road is presently used as a trail, and several recreational hikers were observed crossing the project site using this road.

Results of the field survey identified no evidence of archaeological remains or Native American cultural resources within the project site.

Figure 2 View of project site, view to the Southwest



Figure 3 Access road at eastern project boundary, view to the Southwest



Figure 4 Typical dense ground cover at northern project boundary, view to the Northwest



Figure 5 Modern water conveyance systems, view to the Northwest



Conclusions and Recommendations

The impact analysis included here is organized based on the cultural resources thresholds included in CEQA Guidelines Appendix G: Environmental Checklist Form:

- a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?
- b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Threshold A broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, we have chosen to limit analysis under Threshold A to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are considered under Threshold B.



Historical and Unique Archaeological Resources

This assessment did not identify any archaeological resources or archaeological deposits in the project site. The lack of surface evidence of archaeological materials does not preclude their subsurface existence. The absence of substantial prehistoric or historic-period archaeological remains within the immediate vicinity coupled with the results of previously conducted nearby surveys indicates that no known resources occur within the project site. However, as the positive SLF result suggests there is moderate potential for encountering intact subsurface archaeological deposits, Rincon presents the following recommended mitigation measures for monitoring and for unanticipated discoveries during construction. With adherence to this measure, Rincon recommends a finding of ***less than significant impact with mitigation for archaeological resources*** under CEQA.

Recommended Mitigation

Archaeological Monitoring

The City shall retain a qualified archaeological to spot-check and/or monitor all project-related ground disturbing activities. Archaeological monitoring shall be performed under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archeology (National Park Service 1983). Monitors will have the authority to halt and redirect work should any archaeological resources be identified during monitoring. If archaeological resources are encountered during ground-disturbing activities, work in the immediate area must halt and the find will be evaluated for listing in the CRHR and NRHP. Archaeological monitoring may be reduced or halted at the discretion of the monitor, in consultation with the lead agency, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 50 percent of ground-disturbance. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock). The monitors shall submit a report to the City to document compliance within 30 days of completion of ground disturbing activities.

Unanticipated Discovery of Cultural Resources

In the unlikely event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area should be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the find is prehistoric, then a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the proposed project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

Human Remains

No human remains are known to be present within the project site. However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources



Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. With adherence to existing regulations, Rincon recommends a finding of less than significant impact to human remains under CEQA.

Should you have any questions concerning this study, please do not hesitate to contact the undersigned at 510-834-4455 or jmurphy@rinconconsultants.com.

Sincerely,

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Attachments

- Attachment A California Historical Resources Information System Results
- Attachment B Native American Heritage Commission SLF Results
- Attachment C Native American Outreach Efforts



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Appendix E

Paleontological Resources Assessment



150 Vista Del Sol Project

Paleontological Resources Assessment

prepared for

City of Laguna Beach

Planning Division, Department of Community Development

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Executive Summary

Purpose and Scope

Rincon Consultants, Inc. (Rincon) was retained to conduct a Paleontological Resources Assessment (PRA) for the 150 Vista Del Sol Project (project) in Laguna Beach, Orange County, California. This PRA includes a literature review, paleontological sensitivity assessment, formal locality search from the Natural History Museum of Los Angeles County and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010) to determine whether the proposed action would result in significant impacts to paleontological resources under the California Environmental Quality Act.

Results of Investigation

The geologic map of Kennedy and Tan (2007) identified a single geologic unit, San Onofre Breccia, within the project site. A geotechnical report conducted for the project identified two other types of sediment, undocumented fill and surficial slope failure, in small areas of the project site in addition to the San Onofre Breccia (GMU Geotechnical, Inc. 2009). Undocumented fill and surficial slope failure represent sediments that were deposited by humans during previous development of the Project Site. Therefore, these sediments cannot preserve paleontological resources and have no paleontological sensitivity. The San Onofre Breccia has produced few fossil localities that bear fragmentary marine invertebrate or mammal fossils (Bell 2022; Démeré and Walsh 2011; Paleobiology Database 2022; University of California Museum of Paleontology 2022). Given its lack of history of producing scientifically significant fossils, the San Onofre Breccia has low paleontological sensitivity.

A formal fossil locality search of the Natural History Museum of Los Angeles County recovered no fossil localities within the project site (Bell 2022).

Impacts and Recommendations

The project site is underlain by one geologic unit, San Onofre Breccia, per Kennedy and Tan (2007). The San Onofre Breccia has low paleontological sensitivity given the rarity and fragmentary nature of fossils recovered from this geologic unit. The geotechnical report (GMU 2009) found two other types of sediment within the project site, undocumented fill, and surficial slope failure, which are both artificial sediments placed by humans, and so, have no paleontological sensitivity.

Construction associated with the project has the potential to impact one geologic unit with low paleontological sensitivity (San Onofre Breccia) and two types of sediment with no paleontological sensitivity (undocumented fill and surficial slope failure). Therefore, the Project has a low potential to impact paleontological resources.

Mitigation Measure PAL-1 is recommended to reduce potential impacts to paleontological resources to a less-than-significant level. This mitigation measure involves the implementation of a Worker Environmental Awareness Program training for construction personnel and management of paleontological resources if any are discovered.

1 Introduction

Rincon Consultants, Inc. (Rincon) conducted a desktop Paleontological Resources Assessment (PRA) for the 150 Vista Del Sol Project (project) on behalf of the City of Laguna Beach (City). This assessment includes a literature review, paleontological sensitivity assessment, fossil locality search from the Natural History Museum of Los Angeles County (NHMLA) and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010).

Paleontological resources (i.e., fossils) are the remains or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils across the landscape is controlled by the distribution and exposure of the fossiliferous sedimentary rock units at and near the surface. Construction-related impacts that typically affect or have the potential to affect paleontological resources include mass excavation operations, drilling/borehole excavations, trenching/tunneling, and grading. Ground-disturbing construction activities associated with the proposed project would mainly consist of trenching and other excavation. This PRA provides a list of the formations mapped at the surface within the project site and formations that underlie those mapped at the surface that may be impacted by project construction activities.

1.1 Project Location

The project site is located hillside at 150 Vista Del Sol, Laguna Beach, CA 92651, in the City of Laguna Beach, Orange County. The site is located along Vista Del Sol which is and approximately 2,251.87 feet (0.43 miles) east of the Pacific Ocean and approximately 1,561.19 feet (0.30 miles) east of the State Route 1 also known as the Pacific Coast Highway. Figure 1 shows the project location at a regional scale, and Figure 2 shows it at a local scale.

1.2 Project Description

The project involves the construction of a new single-family residential development on a vacant lot in the foothills of the City of Laguna Beach. The project site consists of two parcels with buildable lot area of 0.61 acres. The project consists of a new three-level structure with a total of 13,108 square feet of livable space, landscape walls, terrace, pool, pool deck, courtyard, exterior stairs, grading, and three-car garage with a new fire turnaround with retaining walls and driveway improvements. Grading and excavation are anticipated to require cutting 5,540 cubic yards of sediment withing the project site.

Figure 1 Regional Location



Imagery provided by Esri and its licensors © 2021.

- ★ Project Location
- City of Laguna Beach



Fig 1. Regional Location

Figure 2 Project Site Location



Imagery provided by Microsoft Bing and its licensors © 2022.

Fig. 2 Project Location

2 Regulations

2.1 State Regulations

California Environmental Quality Act

Paleontological resources are protected under CEQA, which states a project would “normally” have a significant effect on the environment if project effects exceed an identified threshold of significance (CEQA Guidelines Section 15064.7[a]). Appendix G of the CEQA Guidelines (the Environmental Checklist Form) provides suggested thresholds of significance for evaluating a project’s environmental impacts, including impacts to paleontological resources. In Section VII(f), the question is posed thus: “Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?” To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, CEQA mandates mitigation of adverse impacts, to the extent practicable, to paleontological resources.

CEQA does not define “a unique paleontological resource or site.” However, the SVP (2010) has defined a “significant paleontological resource” in the context of environmental review as follows:

Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information.

Paleontological resources are typically to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for mitigating impacts to paleontological resources, where practicable, in compliance with CEQA and other applicable statutes.

California Public Resources Code

California Public Resources Code Section 5097.5 states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here “public lands” means those owned by, or under the jurisdiction of, the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

2.2 Regional and Local Regulations

Orange County General Plan

The Resources Element of the Orange County General Plan addresses paleontological resources (Orange County 2013):

Goal 2. To encourage through a resource management effort the preservation of the county's cultural and historic heritage.

Objective 2.2. Take all reasonable and proper steps to achieve the preservation of archaeological and paleontological remains, or their recovery and analysis to preserve cultural, scientific, and educational values.

Paleontological Resources Policies:

1. To identify paleontological resources through literature and records research and surface surveys.
2. To monitor and salvage paleontological resources during the grading of a project.
3. To preserve paleontological resources by maintaining them in an undisturbed condition.

3 Paleontological Resources Assessment Guidelines

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state and local laws and regulations. This PRA satisfies Public Resources Code Section 5097.5 requirements, follows guidelines and significance criteria specified by the SVP (2010).

3.1 Paleontological Sensitivity

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Because fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. These activities may constitute significant impacts under CEQA or adverse effects under federal environmental protection laws and may require mitigation. Sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

3.2 Resource Assessment Criteria

In its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, the SVP outlines guidelines for categorizing paleontological sensitivity of geologic units within a project site. The SVP describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically, stratigraphically, taxonomically, or regionally (SVP 2010). The paleontological sensitivity of the project site has been evaluated according to the following SVP (2010) categories:

- **High Potential (Sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the

preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Full-time monitoring is typically recommended during any project-related ground disturbance in geologic units with high sensitivity.

- **Low Potential (Sensitivity).** Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic (processes affecting an organism following death, burial, and removal from the ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.
- **Undetermined Potential (Sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.
- **No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

4 Methods

Rincon reviewed published geologic maps to identify the geologic units present at and below the surface within the project site (Kennedy and Tan 2007). Rincon reviewed the online paleontological collections database of the University of California Museum of Paleontology (UCMP; 2022) and Paleobiology Database (PBDB; 2022) and consulted primary literature to identify known fossil localities in Orange County and surrounding regions from similar geologic units to those identified within the project site. Rincon requested a records search of the NHMLA on June 2, 2022, to identify any fossil localities known from within the project site or nearby fossil localities known from the same geologic units as found in the project site. The project site contains no bedrock exposures, so a field survey was not warranted.

Paleontological sensitivity ratings of the geological formations were assigned based on the findings of the records search and literature review and based on the potential impacts to nonrenewable paleontological resources from project construction following SVP (2010) guidelines.

5 Description of Resources

5.1 Geologic Setting

The project site is situated in the Peninsular Ranges, one of the 11 geomorphic provinces of California (California Geological Survey 2002), defined as a region of unique topography and geology that is distinguished from other regions based on its landforms and geologic history. In general, the Peninsular Ranges consist of northwest-southeast trending mountain ranges and faults (Norris and Webb 1990). These mountains are generally comprised of Mesozoic to Cenozoic plutonic and extrusive igneous and Cretaceous marine sedimentary rocks. Locally, the project site is located in the City of Laguna Beach, approximately 0.5 miles east of the Pacific Ocean and 1 mile west of Arroyo Salado (Salt Creek). The project site is within the *Dana Point* United States Geological Survey 7.5-minute topographic quadrangle. The project site is located at 150 Vista Del Sol, Laguna Beach, CA 92651, in the City of Laguna Beach, Orange County. The site is located along Vista Del Sol which is and approximately 2,251.87 feet (0.43 miles) east of the Pacific Ocean and approximately 1,561.19 feet (0.30 miles) east of the State Route 1 also known as the Pacific Coast Highway. Figure 1 shows the project location at a regional scale, and Figure 2 shows it at a local scale.

5.2 Geology of the Project Site

The surface geology of region around the project site was mapped at a scale of 1:100,000 by Kennedy and Tan (2007), who identified a single geologic unit underlying the project site, San Onofre Breccia (Figure 3). The geotechnical report identified three types of sediment in the project site (GMU Geotechnical, Inc. [GMU] 2009): undocumented fill, surficial slope failure, and San Onofre Breccia. This report will follow the interpretation of GMU (2009) because it represents a more precise and, therefore, likely accurate assessment of the geology of the project site.

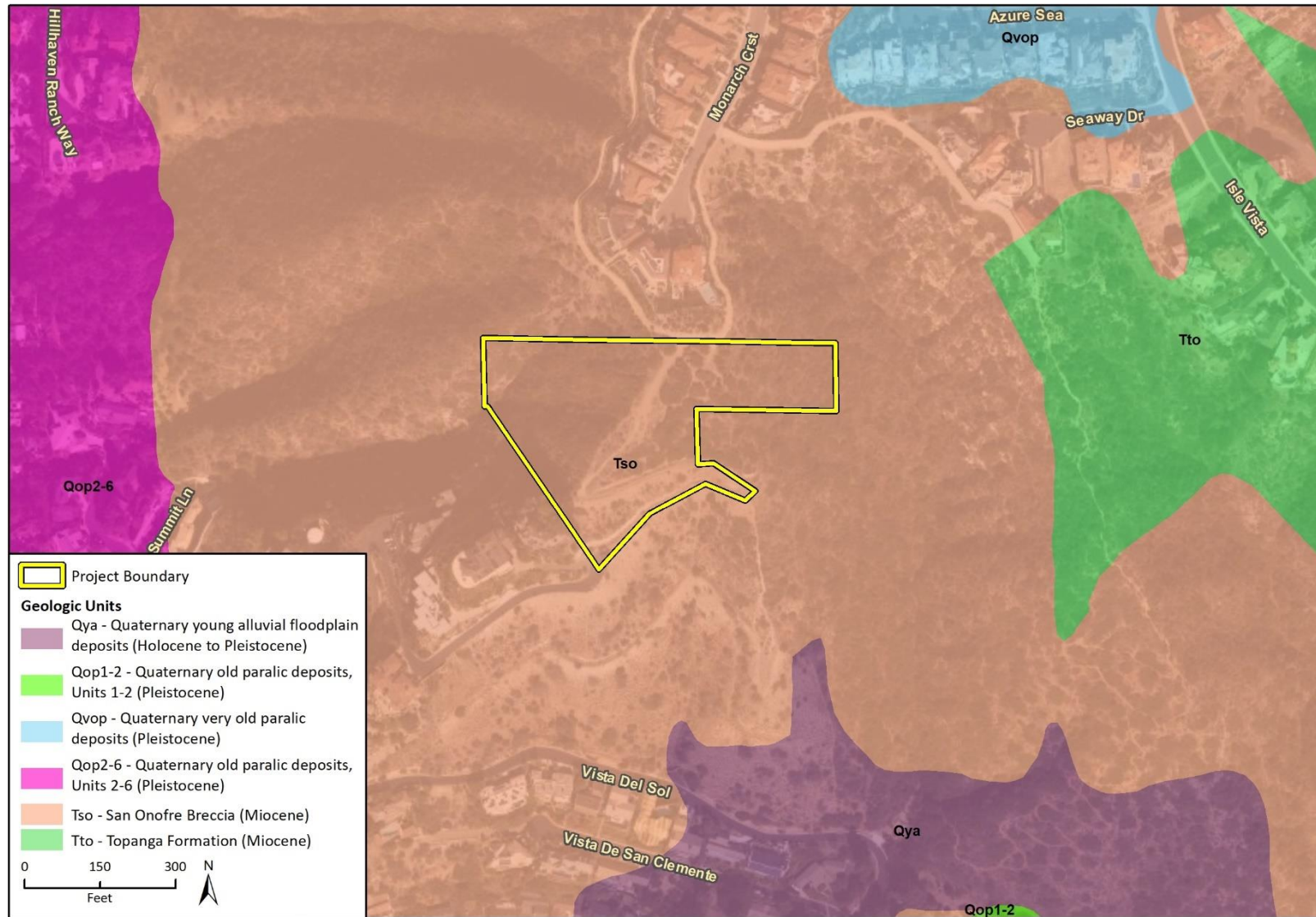
Undocumented Fill and Surficial Slope Failure

The geotechnical report documented a few small areas of undocumented fill that were placed during access road grading (GMU 2009:plate 2). Undocumented fill may be up to 4 feet thick on the downslope side of existing access roads or comprise piles of sediments that represent the spoils of road construction. The geotechnical report noted one area of surficial slope failure that was comprised of previously placed undocumented fill (GMU 2009). Both sediment types are human-deposited and therefore have **no paleontological sensitivity**.

San Onofre Breccia (Tso)

The San Onofre Breccia underlies the entire project site per Kennedy and Tan (2007) and the vast majority of the project site per the geotechnical report (GMU 2009). The San Onofre Breccia consists of interbedded breccia, conglomerate, and sandstone (Kennedy and Tan 2007). Within the project site, the San Onofre Breccia consisted of lenticular interbeds of poorly bedded breccia, conglomeratic sandstone, and sandstone (GMU 2009). The San Onofre Breccia is middle Miocene in age and has produced a few fragmentary mammal and bivalve fossils from the sandstone facies (Bell 2022; Démeré and Walsh 2011; PBDB 2022; UCMP 2022). However, given that fossils are quite rare and fragmentary, the San Onofre Breccia is assigned **low paleontological sensitivity**.

Figure 3 Regional Geologic Map



Imagery provided by Microsoft Bing and its licensors © 2022. Additional data provided by Kennedy and Tan, "Geologic Map of the Oceanside 30' x 60' Quadrangle, California," 2005.

5.3 Paleontology of the Project Site

A formal fossil locality search of the NHMLA discovered no fossil localities within the project site (Bell 2022). However, fossil localities bearing unspecified marine invertebrates are known from the San Onofre Breccia in the communities of Laguna Hills and Dana Point. Other nearby fossil localities originate from geologic units (e.g., Topanga Formation) that are not expected to be impacted by project construction.

6 Evaluation, Impacts, and Recommendations

6.1 Paleontological Sensitivity Evaluation

The project site is underlain by one geologic unit, San Onofre Breccia, per Kennedy and Tan (2007) (Figure 3). The San Onofre Breccia has low paleontological sensitivity given the rarity and fragmentary nature of fossils recovered from this geologic unit. The geotechnical report (GMU 2009) found two other types of sediment within the project site, undocumented fill, and surficial slope failure, which are both artificial sediments placed by humans, and so, have no paleontological sensitivity.

6.2 Impacts

Ground-disturbing activities (i.e., grading, excavation) in previously undisturbed portions of the project site that are underlain by geologic units with a low paleontological sensitivity (i.e., San Onofre Breccia) are unlikely to result in significant impacts to paleontological resources under CEQA. Ground-disturbing activities in areas of the project site underlain by sediments with no paleontological sensitivity are not expected to result in significant impacts to paleontological resources under CEQA. If construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data, they would be considered as having a significant impact or adverse effect on paleontological resources.

6.3 Recommendations

The following mitigation measure would address potentially significant impacts if paleontological resources are encountered during project ground-disturbing activities. Implementation of Mitigation Measure PAL-1 would effectively mitigate the project's potentially significant impacts to these resources through the recovery, identification, and curation of previously unrecovered fossils.

PAL-1 Unanticipated Fossil Discovery

Paleontological Worker Environmental Awareness Program

Prior to the start of construction, a Qualified Professional Paleontologist (as accordance with SVP [2010] standards) or their designee shall conduct a paleontological Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.

Unanticipated Discovery of Paleontological Resources

In the event a fossil is discovered during construction of the project, excavations within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by a Qualified Professional Paleontologist. If the find is determined to be significant, the applicant shall retain a

Qualified Professional Paleontologist, to direct all mitigation measures related to paleontological resources. The Qualified Professional Paleontologist shall design and carry out a data recovery plan consistent with the SVP standards (2010).

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Appendix F

Drainage Report

150 Vista Del Sol Laguna Beach, CA Drainage Study



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150 VISTA DEL SOL DRAINAGE STUDY

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Figure 1: Vicinity Map	
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Appendix A: Soils Map and Description	
Appendix B: Undeveloped Condition Drainage Map and Rational Hydrology Calculations	
Appendix C: Proposed Condition and Drainage Map and Rational Hydrology Calculations	



August 25, 2021

150 VISTA DEL SOL

PROJECT INTRODUCTION:

150 Vista Del Sol is a proposed hillside residence located within the City of Laguna Beach, California, as shown on the Vicinity Map included as Figure 1. The 2.06 acre RHP+OSC Residential Hillside Preservation zoned property is owned by Villa 150, LLC.

The proposed site currently lies within natural hillside consisting of native brush and grassland groundcover with an existing dirt access road traversing the property. Existing residential development exists to the north and southwest of the proposed residence. Access to the proposed residence will be the extension of Vista Del Sol along the existing dirt access road.

This project consists of grading approximately 1,020 cubic yards of earthwork with slope grading eliminated by incorporating retaining walls, construction of a 4,540 square foot residence, 487 square foot garage, and 1,149 square feet of hardscape. Upon completion, the project creates approximately 5,835 square feet of impervious surfacing.

FINAL GRADING CONFIGURATION

The proposed final grading configuration consists of a terraced building pad supported by retaining walls, and Vista Del Sol graded at a minimum to provide for required fire access.

METHOD OF ANALYSIS:

The proposed residence at 150 Vista Del Sol is located within an existing hillside with Vista Del Sol as access. Developed impervious drainage areas supported by retaining walls with natural slopes tributary to extended Vista Del Sol pervious access will be conveyed through the proposed pervious surfaced extension of Vista Del Sol to the existing curb and gutter located at the current terminus of Vista Del Sol.

The Orange County Hydrology Manual Rational Method was used to calculate and compare flows in both the undeveloped and developed conditions. This method incorporates values for rainfall intensities, runoff coefficients, and drainage areas into the equation $Q=CIA$.

- The property lies within Soils Type "C" per the USDA Natural Resources Conservation Service Soil Surveys.
- Drainage Coefficients calculated as outlined in the Orange County Hydrology Manual.
 $C = 0.9 \times (I - F_m) \times A$
- Intensities were obtained from Figure B-3 of the Hydrology Manual since the property lies below 2000 ft in elevation.
- Time of Concentration was obtain from the Initial Time of Concentration Nomograph contained in the Hydrology Manual.

Results for the 10-Yr and 100-Yr events were then compared between the Undeveloped and Developed Conditions.

Undeveloped Condition

The undeveloped condition was modeled utilizing the property topographic conditions prior to proposed residence and the graded extension of Vista Del Sol. The attached Figure 2 represents the Undeveloped Condition Hydrology Map with calculated values.

Developed Condition

The Developed Condition incorporates the proposed graded configuration along with the related impervious building and hardscape improvements generating the developed storm runoff flows. The attached Figure 3 represents the Developed Condition Hydrology Map with calculated values.

Results of Analysis

The following table represents a summary of the comparative flows between the Undeveloped and Developed Condition for the 10 year and 100 year storm events.

RESULTS OF ANALYSIS TABLE			
10-YEAR	UNDEVELOPED CONDITION	DEVELOPED CONDITION	NET CHANGE
	2.3 cfs	3.7 cfs	1.4 cfs
100-YEAR	UNDEVELOPED CONDITION	DEVELOPED CONDITION	NET CHANGE
	3.7 cfs	5.7 cfs	2.0 cfs

See Appendix A for Undeveloped calculation results and Appendix B for Developed calculation results

FIGURE 1
VICINITY MAP



150 VISTA DEL SOL LAGUNA BEACH CA.



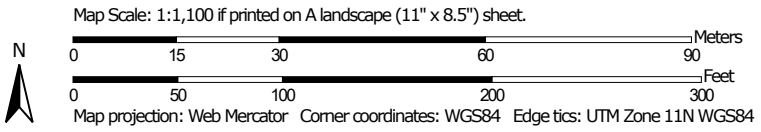
APPENDIX A

SOILS MAP AND DESCRIPTION

Soil Map—Orange County and Part of Riverside County, California
(150 Vista Del Sol)



Soil Map may not be valid at this scale.



Soil Map—Orange County and Part of Riverside County, California
(150 Vista Del Sol)


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Orange County and Part of Riverside County, California

Survey Area Data: Version 13, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 11, 2018—May 5, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
137	Chesterton loamy sand, 2 to 15 percent slopes	0.1	3.3%
202	Soper gravelly loam, 30 to 50 percent slopes, MLRA 20	3.1	96.7%
Totals for Area of Interest		3.2	100.0%

Orange County and Part of Riverside County, California

202—Soper gravelly loam, 30 to 50 percent slopes, MLRA 20

Map Unit Setting

National map unit symbol: 2wv8f
Elevation: 10 to 2,010 feet
Mean annual precipitation: 13 to 18 inches
Mean annual air temperature: 63 to 65 degrees F
Frost-free period: 271 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Soper and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Soper

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 8 inches: gravelly loam
Bt - 8 to 29 inches: gravelly clay loam
Cr - 29 to 79 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 22 to 36 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat):
Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: LOAMY (1975) (R019XD029CA)
Hydric soil rating: No

Minor Components

Cieneba

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Yorba

Percent of map unit: 3 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Gabino

Percent of map unit: 3 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Gaviota

Percent of map unit: 2 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Fontana

Percent of map unit: 1 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex

Across-slope shape: Convex
Hydric soil rating: No

Data Source Information

Soil Survey Area: Orange County and Part of Riverside County, California
Survey Area Data: Version 13, Sep 16, 2019



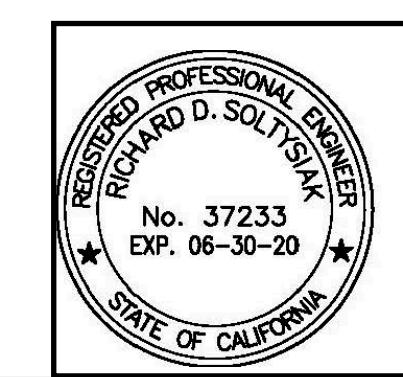
APPENDIX B
UNDEVELOPED CONDITION
DRAINAGE MAP AND
RATIONAL CALCULATIONS



UNDEVELOPED CONDITION HYDROLOGY BASE SHEET

150 VISTA DEL SOL
IN THE CITY OF LUGUNA BEACH
COUNTY OF ORANGE
STATE OF CALIFORNIA

SCALE 1" = 20'

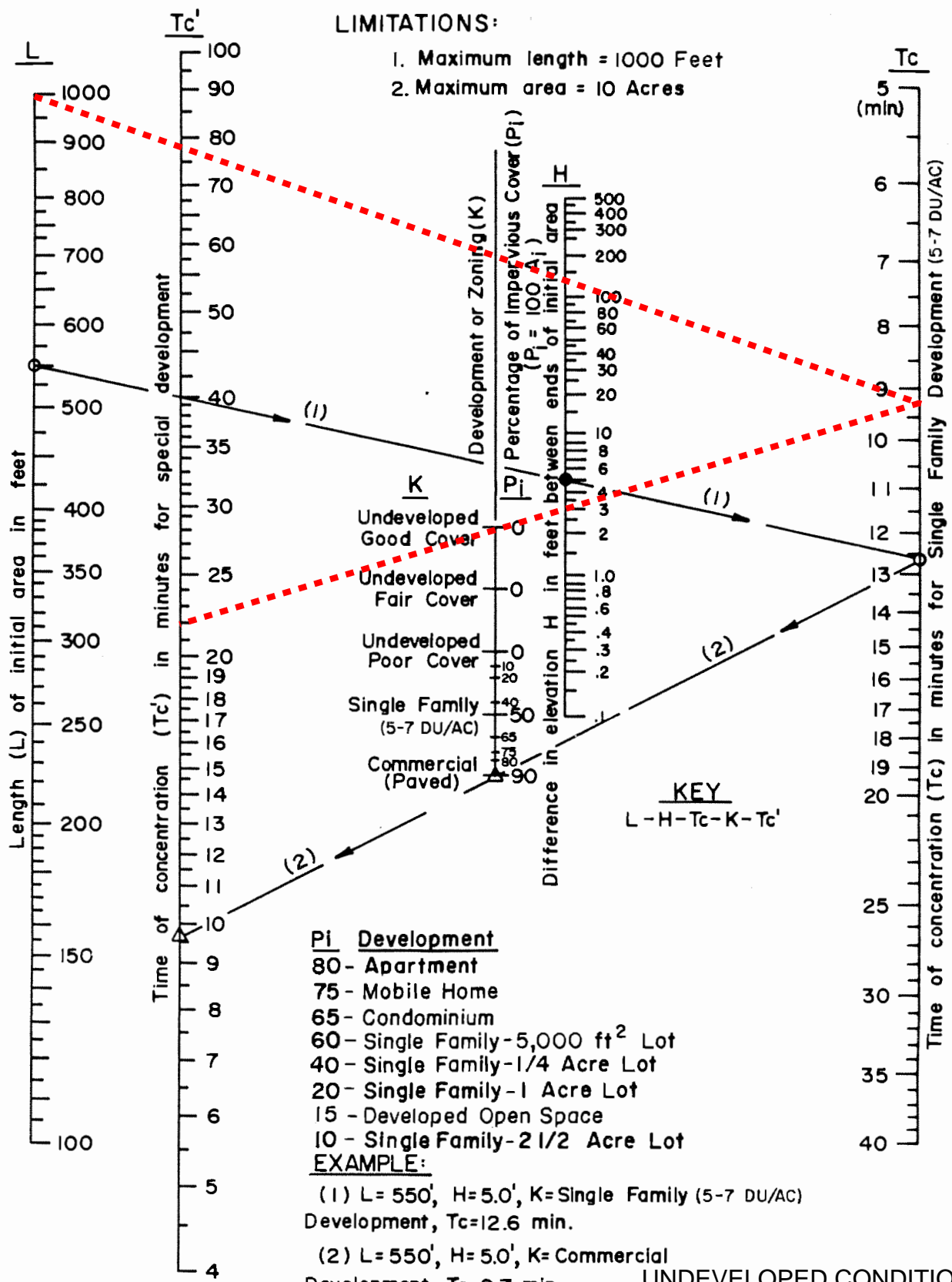


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Civil Engineering
Project Management
Construction Management

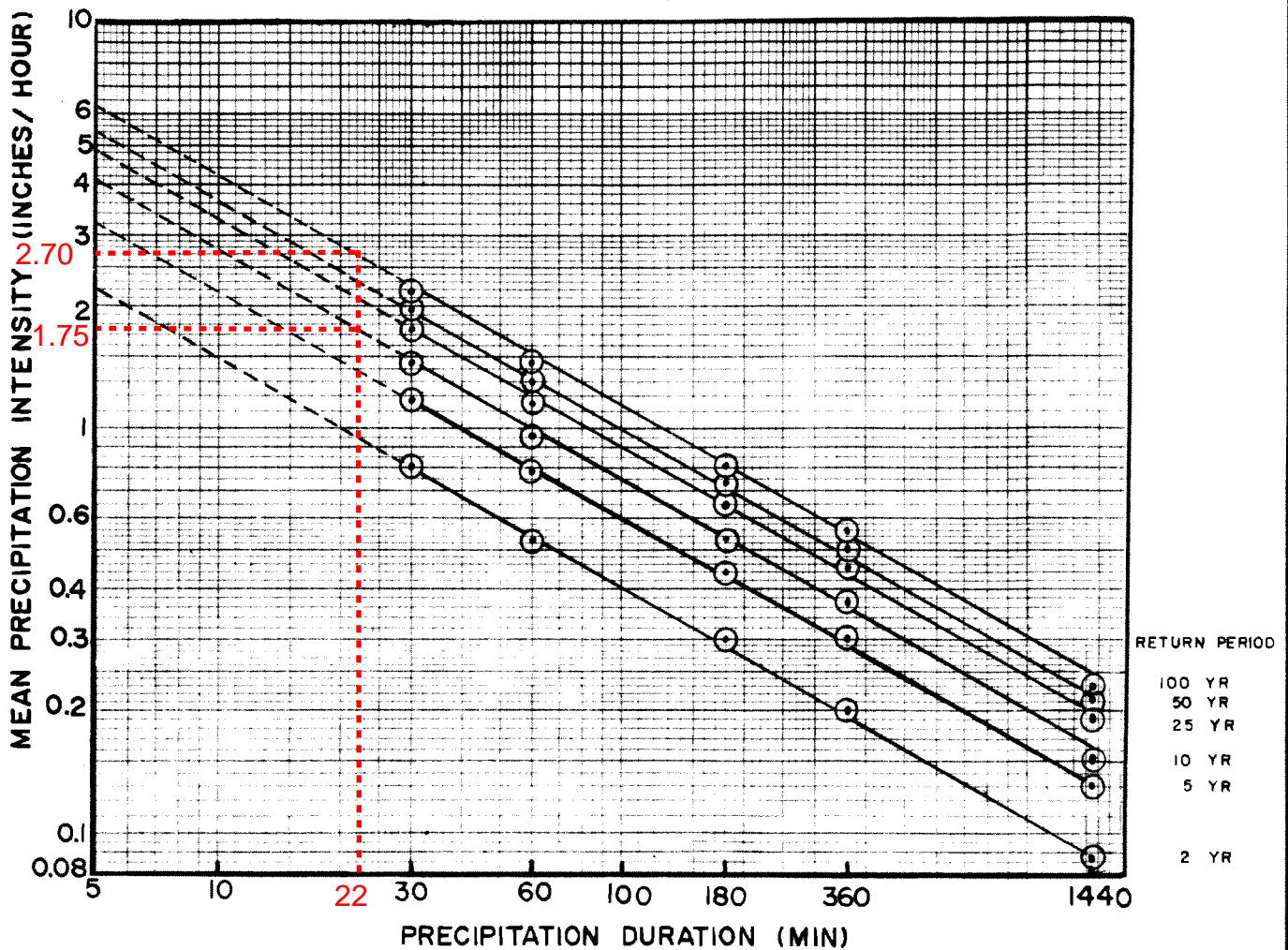
LIMITATIONS:

1. Maximum length = 1000 Feet
2. Maximum area = 10 Acres



Regression Equations: $I(t) = at^b$
 (I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

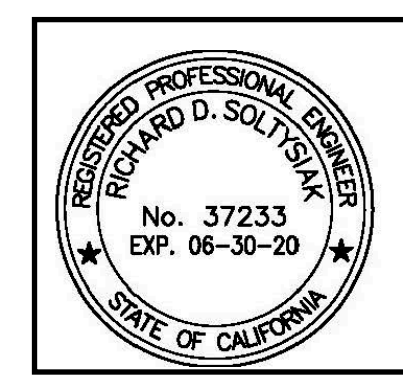
APPENDIX C
DEVELOPED CONDITION
DRAINAGE MAP AND
RATIONAL CALCULATIONS



DEVELOPED CONDITION HYDROLOGY BASE SHEET

150 VISTA DEL SOL
 IN THE CITY OF LUGUNA BEACH
 COUNTY OF ORANGE
 STATE OF CALIFORNIA

SCALE 1" = 20'

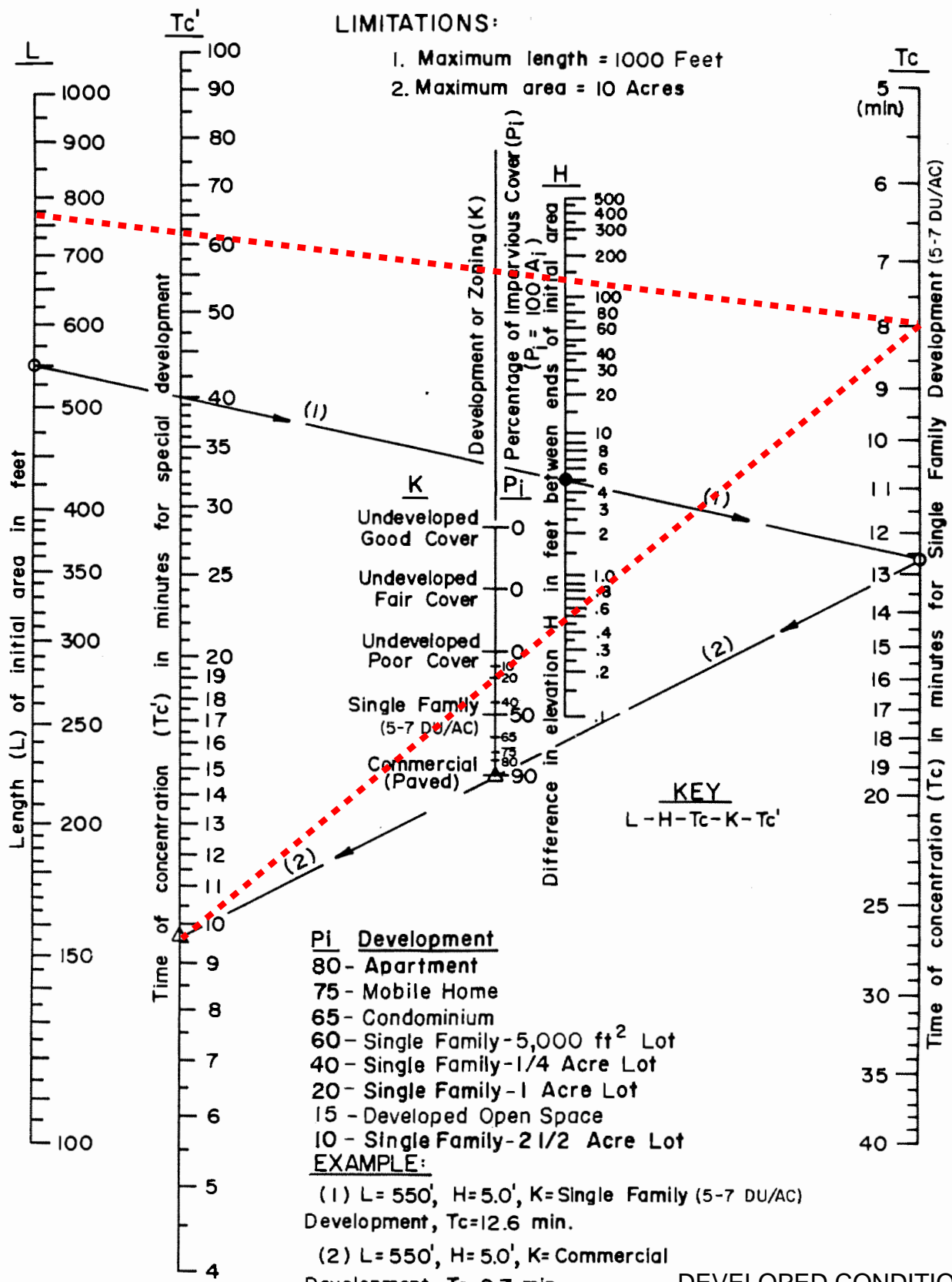


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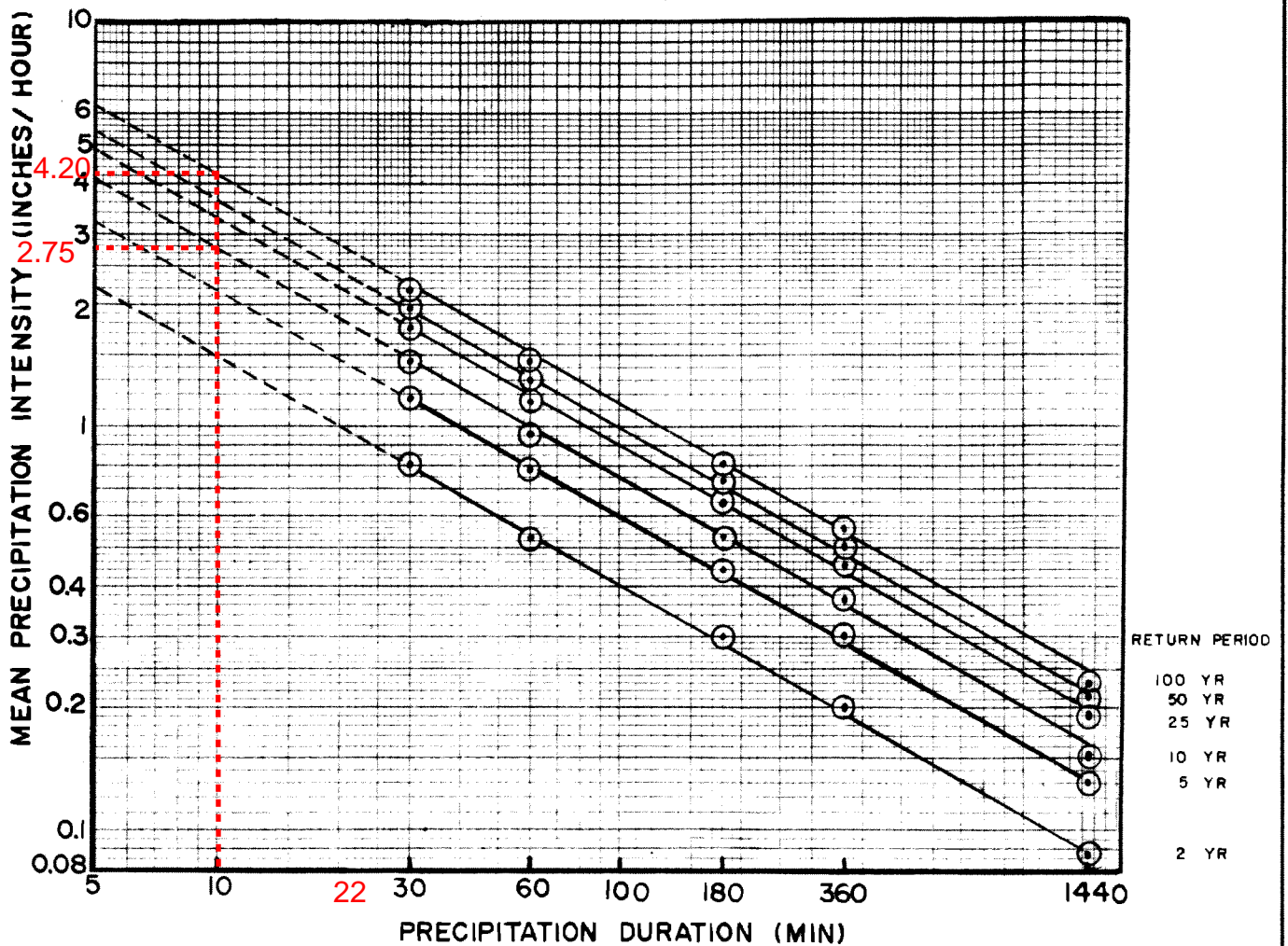
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ORANGE COUNTY
 HYDROLOGY MANUAL

**MEAN PRECIPITATION
 INTENSITIES FOR
 NONMOUNTAINOUS AREAS**

Appendix G

Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program

Introduction

This document is the Mitigation Monitoring and Reporting Program (MMRP) for the 150 Vista Del Sol Project, located in Laguna Beach in Los Angeles County, California. Public Resources Code Section 21081.6(a) requires that a Lead Agency adopt an MMRP before approving a project in order to mitigate or avoid significant impacts that have been identified in an Initial Study – Mitigated Negative Declaration (IS-MND). The purpose of the MMRP is to ensure that the required mitigation measures and project design features identified in the IS-MND are implemented as part of overall project implementation. In addition to ensuring implementation of mitigation measures and project design features, the MMRP provides feedback to agency staff and decision-makers during project implementation and identifies the need for enforcement action before irreversible environmental damage occurs.

The following table summarizes the mitigation measures and project design features for each issue area identified in the IS-MND for the 150 Vista Del Sol Project. The table identifies each mitigation measure or project design feature; the action required for the measure or project design feature to be implemented; the time at which the monitoring is to occur; the monitoring frequency; and the agency or party responsible for ensuring that the monitoring is performed. In addition, the table includes columns for compliance verification. Where an impact was identified to be less than significant, no mitigation measures were required.

This MMRP will be used by the City of Laguna Beach, Planning Division, to determine compliance with mitigation measures and project design features included in the Mitigated Negative Declaration.



**150 Vista Del Sol Project
Initial Study-Mitigated Negative Declaration
Mitigation Monitoring and Reporting Plan**

Mitigation Measure	Action Required	When Monitoring to Occur	Implementation Responsibility	Monitoring Responsibility	
Aesthetics					
AES-1	Construction Staging Areas. Construction equipment staging areas shall be located, to the greatest extent feasible, away from nearby existing residential uses, and utilize appropriate screening (i.e., temporary fencing with opaque material) to shield public views of construction equipment and material. Prior to issuance of a grading permit, the City Engineer shall verify that staging areas are identified on final grading/development plans and that appropriate perimeter screening is included as a construction specification.	Verify staging areas are identified on final grading/development plans.	Before issuance of grading permit.	Applicant	City of Laguna Beach
Biological Resources					
BIO-1	Pre-Construction Rare Plant Survey. Impacts to intermediate mariposa lilies will be minimized and/or avoided through implementation of the City of Laguna Beach Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting dated May 27, 2020, which states: “For all Coastal Development Permit Fuel Modification Zones (FMZ’s), a qualified biologist shall inspect proposed fuel modification sites for the presence of sensitive species prior to the initiation of work. If the presence of sensitive species is identified, a trained biological monitor shall be present at all times while work is conducted in the immediate vicinity of identified habitat to ensure no accidental takings occur, and sensitive species are protected. Crews conducting fuel modification work shall receive instruction and training in sensitive species management and avoidance prior to initiation of work.”	Verify that required surveys have been completed. As necessary, verify trained biological monitor is present at all times while work is conducted.	Prior to initiation of work. Verify compliance with any required measures as necessary during construction.	Applicant	City of Laguna Beach
BIO-2	Intermediate Mariposa Lily Restoration Program. Impacts to intermediate mariposa lilies will be mitigated through the following: <ul style="list-style-type: none"> ▪ Replacement of the three individuals affected by grading at a ratio of 4:1 within the project’s open space areas. 	Verify that a Rare Plant Restoration Plan is prepared and approved prior to ground/vegetation disturbance.	Prior to issuance of a grading permit.	Applicant	City of Laguna Beach

**150 Vista Del Sol Project
Initial Study-Mitigated Negative Declaration
Mitigation Monitoring and Reporting Plan**

	Mitigation Measure	Action Required	When Monitoring to Occur	Implementation Responsibility	Monitoring Responsibility
	<ul style="list-style-type: none"> ▪ Preservation of the 11 individuals within the fuel modification zones through the guidelines outlined in BIO-1. ▪ Preservation of the 39 individuals within the project’s open space areas. <p>Prior to issuance of a grading permit, the applicant shall prepare a Rare Plant Restoration Plan that will provide the details of the intermediate mariposa lily restoration program. The Rare Plant Restoration Plan will be prepared by a Biologist or Habitat Restoration Specialist familiar with the ecology of the intermediate mariposa lily and with implementing restoration of rare plants in southern California. The plan shall be submitted to the City of Laguna Beach for review and approval prior to ground and/or vegetation disturbance activities. The plan shall include the performance criteria outlined above, as well as the following information:</p> <ul style="list-style-type: none"> ▪ Locations for planting ▪ Methods of propagation and installation ▪ Methods for site preparation ▪ Maintenance procedures ▪ Performance standards ▪ Reporting requirements ▪ Contingency measures 				
BIO-3	<p>Qualified Biological Monitor. A qualified biological monitor familiar with special status species with potential to occur on the project site will be present during initial ground disturbance or vegetation removal activities. The biological monitor shall have the authority to temporarily stop work if one or more individuals of these special status species are observed; the monitor will then relocate those individuals to suitable undisturbed habitat, outside the areas directly and indirectly affected by ground disturbance activities. Confirmation of a monitor at the project site shall be submitted to the City of Laguna Beach for review and approval prior to ground and/or vegetation disturbance activities.</p>	<p>Verify and approve the qualified biological monitor will be present prior to ground/vegetation disturbance.</p>	<p>Prior to ground/vegetation disturbance.</p> <p>Verify compliance with any required measures as necessary during construction.</p>	<p>Applicant</p>	<p>City of Laguna Beach</p>

**150 Vista Del Sol Project
Initial Study-Mitigated Negative Declaration
Mitigation Monitoring and Reporting Plan**

Mitigation Measure		Action Required	When Monitoring to Occur	Implementation Responsibility	Monitoring Responsibility
BIO-4	<p>Nesting Bird Avoidance. Project-related activities shall occur outside of the bird breeding season (February 1 to August 31) to the extent practicable. If construction must occur within the bird breeding season, then no more than 14 days prior to initiation of ground disturbance and/or vegetation removal, a nesting bird pre-construction survey shall be conducted by a qualified biologist within the disturbance footprint plus a 300-foot buffer, where feasible. If the proposed project is phased or construction activities stop for more than two weeks, a subsequent pre-construction nesting bird survey shall be completed prior to each phase of construction. Pre-construction nesting bird surveys shall be conducted during the time of day when birds are active and shall factor in sufficient time to perform this survey adequately and completely. A report of the nesting bird survey results, if applicable, shall be submitted to the City of Laguna Beach for review and approval prior to ground and/or vegetation disturbance activities.</p> <p>If nests are found, their locations shall be flagged to facilitate avoidance. An appropriate avoidance buffer of 150 feet for passerines and up to 300 feet for raptors, and depending on the proposed work activity, shall be determined, and demarcated by a qualified biologist with bright orange construction fencing or other suitable flagging. Active nests shall be monitored at a minimum of once per week until it has been determined that the nest is no longer being used by either the young or adults. No ground disturbance shall occur within this buffer until the qualified biologist confirms that the breeding/nesting is completed, and all the young have fledged. If project activities must occur within the buffer, they shall be conducted at the discretion of the qualified biologist. If no nesting birds are observed during pre-construction surveys, no further actions would be necessary.</p>	<p>If project related activities occur during the breeding bird nesting season, verify that a qualified biologist has performed a nesting bird survey.</p> <p>If nests are found, an avoidance buffer shall be implemented, and nests shall be monitored.</p>	No more than 14 days prior to initiation of ground disturbance and/or vegetation removal.	Applicant	City of Laguna Beach
BIO-5	<p>Bat Habitat Assessment Survey. Construction activities should occur outside the bat maternity season (April 1 – August 31), as-feasible. If construction activities must occur during the maternity season, a bat</p>	If project related activities occur during the bat maternity season, verify	Prior to any construction activities.	Applicant	City of Laguna Beach

**150 Vista Del Sol Project
Initial Study-Mitigated Negative Declaration
Mitigation Monitoring and Reporting Plan**

	Mitigation Measure	Action Required	When Monitoring to Occur	Implementation Responsibility	Monitoring Responsibility
	<p>habitat assessment survey shall be conducted by a qualified biologist prior to any construction activities. The survey will document any evidence of bat species use within the project site through direct observation (e.g., roosting bats) and/or sign (e.g., bat guano). If no observance and/or sign of bats are detected during these surveys, then construction-related activities may proceed. If observance or sign of special status bat species are detected during the survey, special status bat species emergence survey(s) will need to be conducted in accordance with BIO-6.</p>	<p>that a qualified biologist has performed a habitat assessment survey.</p>			
BIO-6	<p>Special-Status Bat Species Emergence Survey(s). If special status bat species and/or sign are documented within the project site during implementation of BIO-5, and construction activities must occur during the bat maternity season (April 1 through August 31), special-status bat species emergence survey(s) will be conducted. As part of BIO-6, a habitat assessment survey generally outlined in BIO-5 will be conducted on the first night of the emergence survey(s) to document the areas of suitable bat habitat within the project site. Emergence surveys will be conducted in areas of suitable bat habitat (e.g., near trees) during the bat maternity season to document any special status bat species emerging from features identified during the habitat assessment survey. Multiple emergence surveys may be required depending on the size and number of suitable habitat locations. The emergence survey(s) will be conducted 30 minutes before sunset and may last until midnight. Any special status bat species maternity roosting within or adjacent to the project site should be avoided and provided a minimum buffer as determined by the qualified biologist (a 100-foot to 300-foot buffer is recommended) until roosting is complete.</p>	<p>If special status bat species are found, verify emergence survey(s) are conducted.</p>	<p>Prior to any construction activities.</p> <p>Verify compliance with any required measures as necessary during construction.</p>	<p>Applicant</p>	<p>City of Laguna Beach</p>

**150 Vista Del Sol Project
Initial Study-Mitigated Negative Declaration
Mitigation Monitoring and Reporting Plan**

Mitigation Measure	Action Required	When Monitoring to Occur	Implementation Responsibility	Monitoring Responsibility
<p>BIO-7 Lemonade Berry Scrub Restoration and Habitat Mitigation and Monitoring Plan. Mitigation for grading impacts to lemonade berry scrub shall be provided at a ratio of 4:1 and would include the following:</p> <ul style="list-style-type: none"> ▪ On-site replacement of lemonade berry scrub within the existing trail that would be closed and within the area of tocalote fields, brittle bush scrub, and other disturbed areas within the lemonade berry scrub alliance on the northern portion of the site totaling 0.12 acre ▪ On-site dedication of 0.36 acre of lemonade berry scrub <p>Impacts associated with fuel modification to lemonade berry scrub totaling 0.32 acre shall be mitigated at a ratio of 4:1 and would include the following:</p> <ul style="list-style-type: none"> ▪ On-site dedication of 1.28 acres of lemonade berry scrub <p>Prior to issuance of a grading permit, the applicant shall prepare a Habitat Mitigation and Monitoring Plan (HMMP) that will provide the details of the lemonade berry scrub restoration program. The HMMP will be prepared by a Biologist or Habitat Restoration Specialist familiar with southern California scrub restoration. The plan shall include the performance criteria specified above, and the following information:</p> <ul style="list-style-type: none"> ▪ Locations for planting ▪ Methods of propagation and installation ▪ Methods for site preparation ▪ Maintenance procedures ▪ Performance standards ▪ Reporting requirements ▪ Contingency measures 	<p>Verification</p>	<p>Prior and during any construction activities.</p> <p>Verify compliance with any required measures as necessary during construction.</p>	<p>Applicant</p>	<p>The City of Laguna Beach</p>

**150 Vista Del Sol Project
Initial Study-Mitigated Negative Declaration
Mitigation Monitoring and Reporting Plan**

Mitigation Measure	Action Required	When Monitoring to Occur	Implementation Responsibility	Monitoring Responsibility	
Cultural Resources					
CR-1	<p>Unanticipated Discovery of Archaeological Resources. During initial ground disturbance for the project site, an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology (National Park Service 1983) shall monitor construction activities. Initial ground disturbance is defined as disturbance within previously undisturbed native soils. If, during initial ground disturbance, the qualified archaeologist determines that the construction activities have little or no potential to impact cultural resources (e.g., excavations are within previously disturbed, non-native soils, or within soil formation not expected to yield cultural resources deposits), the qualified archaeologist may recommend that monitoring be reduced or eliminated. If cultural resources are identified during initial monitoring, work in the immediate vicinity should halt until the resource has been evaluated for significance. Should cultural resources be discovered during excavation, additional studies including data recovery efforts may be needed to reduce project impacts.</p>	Verify a qualified archaeologist is present at initial ground disturbance. Verify that if archaeological resources are encountered, appropriate measures are implemented.	During construction.	Applicant	City of Laguna Beach
CR-2	<p>On-Site Tribal Monitoring. A qualified and certified indigenous tribal member of Gabrielino Tongva Indians of California (GTIOC) and direct lineal descendant of the project site (NAGPRA section 10.14) to provide the professional Native American Monitoring required for only the ground disturbing activity on the site. Ground disturbances including but not limited to the removal of asphalt/cement/slurry, trenching, boring, excavation, auguring, grubbing, tree removal, grading and drilling will be monitored. The Tribal Monitor will only be required on site when these ground disturbing activities occur. The GTIOC monitor will be responsible for observing all mechanical and hand labor excavations to include paddle scrapers, blade machines, front-end loaders, backhoe, boring and drill operations as well as hydraulic and electric chisels. Associated work using tools such as</p>	Verify certified member of GTIOC and direct lineal descendant of the project site is present for ground disturbing activity on the site. Verify that all mitigation measures are followed throughout ground disturbing activities.	During ground disturbing activity.	Applicant	City of Laguna Beach

**150 Vista Del Sol Project
Initial Study-Mitigated Negative Declaration
Mitigation Monitoring and Reporting Plan**

Mitigation Measure	Action Required	When Monitoring to Occur	Implementation Responsibility	Monitoring Responsibility
<p>picks and other non-electric or gasoline tools that are not regarded as mechanical will be monitored for their soil disturbances. Soils that are removed from the work site are considered culturally sensitive and are subject to inspection. These soils whether placed in a dump truck or spots piles are to be inspected. The monitor will temporarily hold excavations until a determination is made on the sensitivity of the of the soil. If the soils are sensitive, an archeological monitor will verify the find and notify site supervisor.</p> <p>The GTIOC monitor may make recommendations during the course of the project when a cultural area has been impacted. The GTIOC monitor will be authorized to halt or redirect excavation activities to another area as an assessment is made. Both archeological and GTIOC will work together to ensure that the area is warranted as being culturally sensitive before a determination is made. Avoidance and directing an alternative route from this culturally sensitive area is highly recommended. Any artifacts associated within the site that are not associated with any burials are subject to collection by the designated archaeologist for purposes of data and information vital for their final report. The GTIOC monitor does not collect artifacts for any reason. Unauthorized removal of artifacts will jeopardize sites orientation and successful data recovery. Only a qualified archeologist will remove artifacts for their reports. The landowner will work with the GTIOC monitor to ensure that a proper repository is established. A final report will be issued to the cultural consultant by the archeological company.</p> <p>It is the sole responsibility of the GTIOC monitor to provide the client with a written daily field report that includes photos of their accounting of the soil disturbances of the daily activities. This perspective of the daily activities by the GTIOC monitor will enhance the information gathered by the field archeologist. The daily report will include observations the GTIOC visually observed the project site at the beginning of each workday (i.e. weather conditions, overnight</p>				

**150 Vista Del Sol Project
Initial Study-Mitigated Negative Declaration
Mitigation Monitoring and Reporting Plan**

	Mitigation Measure	Action Required	When Monitoring to Occur	Implementation Responsibility	Monitoring Responsibility
	disturbances). Written daily monitoring reports will include daily observations on surface soil as well as disturbed soil. Photographic documentation is included in the daily reports. When project is completed, GTIOC will certify that work performed was done so within compliance of AB52 and SB18 within 5 days of completion of the Native American monitoring aspect of the project.				
CR-3	Unanticipated Discovery of Cultural Resources. In the unlikely event that cultural resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area should be halted and an archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for archeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the find is prehistoric, then a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the proposed project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.	If cultural resources are encountered, verify work is halted and a qualified archaeologist is contacted immediately to evaluate the find.	During construction.	Applicant	City of Laguna Beach
CR-4	Unanticipated Discovery of Human Remains. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the County Coroner will notify the Native American Heritage Commission under the California Health and Safety Code (Senate Bill 297, Chapter 1492, statutes of 1982 and section 7050.50), which will determine and notify a most likely descendant (MLD). The MLD must not be a Native American Monitor assigned to monitor the site where human remains were unearthed to avoid a conflict of interest. The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.	If human remains are discovered, verify the appropriate measures are implemented.	During construction.	Applicant	City of Laguna Beach

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<p>If any archaeological or paleontological, or cultural deposits, are discovered, including but not limited to skeletal remains and grave related artifacts, artifacts of traditional cultural, religious, or spiritual sites, or any other artifacts relating to the use or habitation sites, all construction shall cease within at least 50 feet of the discovery and held until the proper authorities are contacted. In the event blade machines are operating in an adjacent area, a maximum of 2" cuts or less will be permitted in all cultural areas. If more than one area is being excavated for extraction of remains simultaneously, an additional GTIOC must be required. Each excavated burial will be monitored exclusively. Wooden tools are preferred for process of recovery; electric chisels and other power tools should be avoided. If remains are pedestaled, they will be placed on plywood for removal. If remains cannot be pedestaled due to soil conditions, remains just be carefully placed in cloth bags. Soils adjacent to burials will be saved for reburial in plastic containers. No photography (both film and digital) or video is allowed to be taken of the remains or the site. Drawings of remains are permitted to retain the orientation of the ancestors for reinterment purposes only. Coroner photographs of the remains may not be published for any purpose.</p> <p>Authorities, to include the county coroner, a certified osteologist, and law enforcement, will evaluate, make a determination and a formal review of the find. DNA or invasive testing that would compromise the integrity of the remains is not permitted by GTIOC. Macroscopic analysis is permitted, and any associated grave goods may be used for dating purposes of each burial. When remains are unearthed, the 1'X 1' test pits will be allowed to establish the extent of the burial area when necessary. All windrows within a 50-foot area must be screened (either wet or dry).</p> <p>A certified osteologist will be retained to verify the human remains authenticity and work to help remove the ancestor(s) from the site area with the discretion and advise from the MLD. The county</p>				

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<p>coroner has the legal responsibility for determining whether or not the remains are native indigenous people. The GTIOC monitor(s) assigned to the project will assist the osteologist and archeological monitors in the recovery process. The MLD will determine where the ancestors will be housed pending a final decision for the reinterment of the ancestor(s).</p> <p>Natural cotton bags and sheeting or cotton drop cloths will be used to store remains and bone fragments until the time of reinterment. Deer or other native hides may be used to cover the bagged and wrapped remains until the reburial and may become the burial wrapping. Until the scope of the project is completed, storage of ancestors should be done in close proximity to location of excavation or protected area must be provided by landowner or archeologist.</p> <p>Reburial efforts of the remains and associated grave goods should be made to keep the remains within the same location or in close proximity to the removal site as possible, preferably within a 0.5-mile radius of the original site. If the preponderance of remains is uncovered in or excavated from one area, the reinterment should be in that area. Each reburial requires approximately 4' X 51/2' when fully articulated and should be at a depth of 6-10 feet. All associated grave goods and artifacts along with soils will be buried together with the ancestors and any isolated bone fragments uncovered on site may be buried together in an individual burial pit with indigenous animal skins, seaweed, or the cotton cloth used for all bagged fragments. The landowner(s) will be responsible for all costs related to the proper storage and reburial of remains excavated on their property to include all burial materials as required in these procedure guidelines. Landowner(s) will be financially responsible for providing reburial plots that are acceptable by the MLD.</p>					
Geology and Soils					
GEO-1	Paleontological Worker Environmental Awareness Program. Prior to the start of construction, a Qualified Professional Paleontologist (as	Verify a Qualified Professional Paleontologist	Prior to construction.	Applicant	City of Laguna Beach

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	accordance with SVP [2010] standards) or their designee shall conduct a paleontological Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.	conducts a WEAP training prior to construction.			
GEO-2	Unanticipated Discovery of Paleontological Resources. In the event a fossil is discovered during construction of the project, excavations within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by a Qualified Professional Paleontologist. If the find is determined to be significant, the applicant shall retain a Qualified Professional Paleontologist, to direct all mitigation measures related to paleontological resources. The Qualified Professional Paleontologist shall design and carry out a data recovery plan consistent with the SVP standards (2010).	Verify if paleontological resources are encountered, appropriate measures are implemented.	During construction.	Applicant	City of Laguna Beach
Noise					
NOI-1	Construction Activity. During construction activities, the following construction practices are recommended; a) Stockpiling and staging activities should be located as far as practicable from dwellings. b) All mobile equipment shall have properly operated and maintained mufflers. c) Require that construction activities employ feasible and practical techniques to minimize noise impacts on adjacent uses. Particular emphasis shall be placed on the restriction of hours in which work other than emergency work may occur. d) As a condition of approval, non-emergency construction activities adjacent to existing noise sensitive uses shall be limited to daylight hours between the hours of 8:00 a.m. and 4:00 p.m. Monday through Friday. e) Construct temporary enclosures around exceptionally noisy activities. For example, shields can be used around pavement breakers such as jackhammers. f) Select quieter demolition methods when possible.	Verify that noise control mitigation measures are followed.	During construction.	Applicant	City of Laguna Beach

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	<p>g) Notify adjacent homes near any hardscape demolition activities as to time and place to allow residents to adjust their schedule to avoid noise disruption.</p> <p>h) To minimize construction-related noise in the area with the potential to significantly impact nesting birds and other wildlife, specific construction noise level thresholds (average of 60 decibels) and noise reduction techniques to minimize potential impacts may include:</p> <ul style="list-style-type: none"> ▪ Temporary noise barriers ▪ Using noise pads or dampers ▪ Replacing and updating noisy equipment ▪ Using moveable task noise barriers ▪ Locating vehicle access points and loading and shipping facilities away from the nest site ▪ Reducing the number of noisy activities that occur simultaneously ▪ Relocating noisy stationary equipment away from the nest sites 				
Tribal Cultural Resources					
TCR-1	<p>Unanticipated Discovery of Tribal Cultural Resources. In the event cultural resources of Native American origin are identified during ground-disturbing activities, all earth-disturbing work within 50 feet of the find shall be temporarily suspended or redirected until a qualified archaeologist has evaluated the nature and significance of the find; an appropriate Native American representative(s), based on the nature of the find, is consulted; and mitigation measures are put in place for the disposition and protection of any find pursuant to Public Resources Code Section 21083.2. In the event blade machines are operating in an adjacent area, a maximum of 2” cuts or less will be permitted in all cultural areas. If more than one area is being excavated for extraction of remains simultaneously, an additional GTIOC monitor must be required. Each excavated burial will be monitored exclusively. Wooden tools are preferred for process of recovery; electric chisels and other power tools should be avoided. If</p>	<p>Verify that if tribal cultural resources are encountered, appropriate measures are implemented.</p>	<p>During construction.</p>	<p>Applicant</p>	<p>City of Laguna Beach</p>

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<p>remains are pedestaled, they will be placed on plywood for removal. If remains cannot be pedestaled due to soil conditions, remains just be carefully placed in cloth bags. Soils adjacent to burials will be saved for reburial in plastic containers. If SCWD, in consultation with local Native Americans, determines the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with State guidelines and in consultation with local Native American group(s) prior to continuation of any earth-disturbing work within the vicinity of the find. The plan shall include avoidance of the resource or, if avoidance of the resource is infeasible, shall outline the appropriate treatment of the resource in coordination with the appropriate local Native American tribal representative and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, or heritage recovery.</p>				