

DESCANSO GARDENS MASTER PLAN

MITIGATED NEGATIVE DECLARATION

VOLUME III APPENDICES 6–11

PREPARED FOR:

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Appendix 6

Hydrology Technical Report

DESCANSO GARDENS MASTER PLAN

HYDROLOGY TECHNICAL REPORT

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DRAFT FOR REVIEW

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ACRONYMS AND ABBREVIATIONS

BFE	Base Flood Elevation
BMP	Best Management Practice
CASQA	California Stormwater Quality Association
CFS	Cubic Feet per Second
CLOMR	Certified Letter of Map Revision
DSOD	Division of Safety of Dams
Ep	Erosion Potential
FEMA	Federal Emergency Management Agency
FIMA	Federal Insurance and Mitigation Administration
FIRM	Flood Insurance Rate Map
Guild	Descanso Gardens Guild, Inc.
HEC	Hydrologic Engineering Center
HSPF	Hydrological Simulation Program – Fortran
LACDPW	Los Angeles County Department of Public Works
LID	Low Impact Development
RAS	River Analysis System
MSL	Mean Sea Level
NFIP	National Flood Insurance Program
PMF	Probable Maximum Flood
PMP	Probable Maximum Precipitation
Project Area	Descanso Gardens Master Plan Area
RCC	Reinforced Cement Concrete
SAM	Sediment Analysis Model
SWMM	Storm Water Management Model
USGS	United States Geological Survey
WQTR	Water Quality Technical Report

1 INTRODUCTION

1.1 Background

Descanso Gardens (Project Site) is an approximately 149-acre property operated by the nonprofit Descanso Gardens Guild, Inc. (Guild), located in the City of La Cañada Flintridge, California. The Guild has developed a comprehensive Master Plan and programmatic environmental impact review (the Project) that will guide the Descanso Garden’s development over the next fifteen years.

Land development modifies natural watershed and stream hydrologic (water) and geomorphic (landform) processes by introducing impervious surfaces and drainage infrastructure that in turn changes runoff patterns. Potential changes may include increases in runoff volumes, frequency of runoff events, flow duration, and peak flows. These changes to runoff patterns caused by land use modifications are referred to as “hydromodification.”

Unless managed, hydromodification can cause impacts associated with flooding, erosion, sedimentation, or channel migration and can result in biologic impacts to stream systems. Such impacts may be associated with impairment of beneficial uses and degradation of stream conditions. Potential consequences, including injury, loss of resources, monetary losses, and disruption to private citizens and businesses, carry significant liability (CASQA, 2009).

1.2 Purpose

This Hydrology Technical Report assesses potential impacts on local hydromodification and hydrology associated with the Descanso Gardens Master Plan. This technical report incorporates baseline data gathered during preparation of the Master Plan. The level of significance of impacts are evaluated based on CEQA significance criteria. Potential impacts on local surface water quality, groundwater quality, and groundwater recharge are addressed in the Descanso Gardens Master Plan Water Quality Technical Report (WQTR) prepared by Geosyntec Consultants (Geosyntec, 2019a).

1.3 Report Organization

This report is organized into the following chapters.

Chapter 1: Introduction

This chapter provides background information on the Project and hydromodification, the purpose of this report, and the organization of this report.

Chapter 2: Hydrologic Setting

This chapter characterizes the hydrologic setting of the Project Area. This includes the existing physical setting, known flooding and erosion issues, and proposed development and improvements.

Chapter 3: Regulatory Setting

This chapter provides a summary of regulatory requirements and specific project criteria associated with flood hydrology and hydromodification.

Chapter 4: Hydrologic Conditions of Concern

This chapter provides a characterization of the changes to hydrology that affect downstream stream stability and flood control, also termed hydrologic conditions of concern, as they relate to the proposed Project.

Chapter 5: Hydrologic Management Strategies

This chapter provides a discussion of the hydrologic management strategies that would be incorporated into the Project to address potential hydrologic conditions of concern and manage hydrologic impacts to less than significant levels.

Chapter 6: Impact Assessment

This chapter evaluates impacts related to Project development with respect to hydrology. This evaluation is organized based on Los Angeles County CEQA significance criteria questions.

2 HYDROLOGIC SETTING

This chapter characterizes the hydrologic setting of the Project Area. This includes the existing physical setting, known flooding and erosion issues, and proposed development and improvements.

2.1 Existing Physical Setting

An assessment of the Project's existing physical setting was conducted to provide context to the existing drainage and stream system potentially impacted by the proposed Project. Characterization includes project location, receiving waters, catchment delineation, geology, climate, and land cover. The overall outcome of this is a compilation of data to qualitatively assess the present hydrologic conditions of the Project.

2.1.1 Project Location

The Project Area is an approximately 149-acre area in the Crescenta Valley, in the City of La Cañada Flintridge and adjacent to the eastern boundary of the City of Glendale, approximately 11 miles north of the Los Angeles Civic Center. The Project area is located in the San Rafael Hills to the south of the valley and across from the San Gabriel Mountains and Angeles National Forest to the east and north. The Project location is shown on Figure 2-1.

2.1.2 Receiving Waters

A vast majority of the Project Area drains to the Winery Canyon Channel (146.4 acres), which also traverses the Project area. This flood control channel is a reinforced cement concrete (RCC) lined rectangular channel managed by the Los Angeles County Department of Public Works Flood Control District (LACFCD). Winery Canyon Channel transitions underground into a reinforced concrete box (RCB) culvert approximately 850-feet downstream and east of the Project Boundary. This box culvert confluences with the Hay Canyon Channel approximately 1,850-feet further downstream, which shortly transitions into the Flint Canyon Channel. The Flint Canyon Channel transitions from an RCB storm drain to an open RCC-lined channel until it discharges to an earthen-lined channel, approximately 1.5-miles downstream and southeast of the Project boundary. This portion of the Flint Canyon Wash is the first receiving water downstream of the Project Area that is considered susceptible to hydromodification impacts. The Flint Canyon Wash discharges to Devils Gate Reservoir, which outlets to the Arroyo Seco Channel, which is primarily RCC-lined. The Arroyo Seco confluences with Reach 2 of the Los Angeles River, near the Interstate 5 and Highway 110 interchange, just north of downtown Los Angeles. A map of receiving waters is provided in Figure 2-2.

A minor portion of the Project along the western Project boundary is not tributary to Winery Canyon Channel (4.2 acres). This area of Native Chaparral hillside, within the San Rafael Mountains Open Space, drains to the west toward the Verdugo Wash, which discharges to the Los Angeles River. These areas are not proposed for modification as part of the Master Plan, and thus are not analyzed in this technical report.

2.1.3 Drainage

Water Features

The Project area currently has surface water features onsite which are both aesthetic and functional for drainage. These features include the Lake and two recirculating streams (i.e., the Southern Recirculating Stream and the Northern Recirculating Stream) all of which are upgradient and west of the Winery Canyon Channel. These are described below and shown on Figure 2-3.

The Lake is 1.5 acres in area and receives runoff from hillside on the western half of the Project. If the Lake's water level drops low enough, two isolated lakes (one north and one south) form. The Lake is currently unlined and has leakage losses into the ground. When the Lake's water level rises high enough (i.e., during heavy storm events) it overflows to the east via a spillway and drainage ditch to an outlet into Winery Canyon Channel, at Outlet A. Currently water from the Hall Beckley or Valley Water systems can be supplied to the Lake. Lake water can be used for irrigation of the gardens when desired.

The Southern Recirculating Stream is a 1,470-foot long concrete-lined water feature, which has a series of cascading pools that flow to the east. It is located south of the overflow drainage ditch of the Lake. The Southern Recirculating Stream experiences leakage losses into the ground. The Southern Recirculating Stream intercepts runoff from the upgradient landscape. The downstream pool of the Southern Recirculating Stream, at Outlet C, contains pumps that recirculate water to the top pool of the Southern Recirculating Stream. If water levels in the Southern Recirculating Stream were to rise high enough, it would overflow and drain offsite at an existing tennis court. Currently, water from the Lake, Hall Beckley, or Valley Water systems can be supplied to the Southern Recirculating Stream.

The Northern Recirculating Stream is a concrete lined water feature, which is 370-feet long, and has a series of cascading pools that flow to the east. It is located north of the overflow drainage ditch of the Lake in the Rose Garden. The downstream pool of the Northern Recirculating Stream contains pumps that recirculate water to the top pool of the Northern Recirculating Stream. If water levels in the Northern Recirculating Stream were to rise high enough, it would overflow and drain into Winery Canyon Channel at Outlet A, via the overflow drainage ditch of the Lake. Currently, water from the Lake, Hall Beckley, or Valley Water systems can be supplied to the Northern Recirculating Stream.

Catchments

Geosyntec delineated drainage catchments tributary to specific outlet locations within the Winery Canyon Channel watershed. The catchment delineations and their outlets are shown on Figure 2-3 and described below.

Catchment L is the area tributary to the Lake and includes the steep hillside on the western half of the Project. Catchment L comprises 68.5 acres and includes Native Chaparral hillside, California Natives, Oak Woodland, and the Boddy Lodge. When the Lake's water level rises high enough (i.e., during heavy storm events), it overflows to the east via a spillway and drainage ditch to Outlet A, which is a discharge point into Winery Canyon Channel. Catchment L is distinguished separately from the downgradient Catchment A because overtopping of the Lake is a rare occurrence and the systems are typically isolated from one another.

Catchment A is the area tributary to Outlet A, which is a discharge location into Winery Canyon Channel from the west. Catchment A comprises 15.3 acres and includes part of the Native Chaparral area, the Auxiliary Parking Lot, and the Rose Garden.

Catchment B is the area tributary to Outlet B, a discharge location into Winery Canyon Channel from the northeast. Catchment B comprises 9.7 acres and includes the entrance from Descanso Drive, the Main Parking Lot, the Visitor Center, and the Van di Kamp Café Courtyard.

Catchment C is the area tributary to Outlet C, a low point along the eastern boundary of the Project. This location is 200-feet south of where the Winery Canyon Channel discharges offsite. Outlet C is adjacent to the downstream limit of the Southern Recirculating Stream. Catchment C comprises 47.6 acres and includes steep Native Chaparral hillside, the Boddy House, the Oak Grove, Oak Forest Camelias, Ancient Forest, Main Lawn, Promenade, Japanese Garden, and Lilac Garden. During heavy enough storm events, runoff at Outlet C drains onto offsite property to the east, where there is a private tennis court.

Catchment D is the area tributary to Outlet D, which is a discharge location at the Winery Canyon Channel at the eastern limit of the Project. Catchment D comprises 3.9 acres north of Winery Canyon Channel and includes the Nursery and Administration Trailers.

Catchment E is an area that drains offsite along the eastern boundary of the Project. Catchment E comprises 1.6 acres east of Catchment C and the Boddy House. It includes Native Chaparral.

Catchment F is an area that drains offsite along the northern boundary of the Project adjacent to private residences. Catchment F comprises 2.7 acres of Native Chaparral hillside which drains to Winery Canyon Creek via surface flow and a drop inlet along Descanso Drive.

2.1.4 Topography

The topography of the Project Area consists of a relatively flat area in the northeastern portion of the property where the parking area and visitor buildings are located, sloping upwards to the west and south. Elevations range from 1,820 feet above mean sea level (MSL) at the southern property boundary, to 1,251 feet above MSL at the eastern property boundary near the Project Area's immediate receiving water, Winery Canyon Channel. Steep hillsides along the perimeter of the Project Area slope toward the flatter central and northeastern portions, thus creating a natural C-shaped amphitheater. The developed gardens are situated on the flatter terrain whereas the steep hillslope is primarily undeveloped open space.

2.1.5 Geology and Soils

The Project Area lies at the foot of the Transverse Ranges and is characterized by alluvial fan gravel and sand derived from the San Gabriel Mountains during the Pleistocene era (Geosyntec, 2019b). Rock units within the central Transverse Ranges adjacent to the study area consist of early Cretaceous and older plutonic and meta-igneous rocks such as quartz diorite (Geosyntec, 2019b). The geological structure surrounding the property immediately to the north, south, and west consists of early Cretaceous age non-gneissoid quartz diorite and late Mesozoic granitic rock (Geosyntec, 2019b). A majority of the mapped alluvium within the Project Area is within a designated liquefaction hazard zone. A small portion of the Project Area is within a designated

landslide hazard zone. Figure 2-4 provides a geologic map with the liquefaction and landslide hazard zones.

The soil classifications of the Master Plan Area are primarily Hanford Fine Sandy Loam (County Soil Class 6) at the lower elevations of the property, with Upper Los Angeles River soil classification (County Soil Class 68) from the canyon edges to the ridgeline. Figure 2-5 includes a map of soil classification.

2.1.6 Land Cover

The 149-acre Project area includes 138 acres owned by Los Angeles County and three smaller areas, totaling approximately 11 acres, owned by other parties. Approximately 66 acres within the Project area have been developed into gardens and supporting facilities, including parking lots, entrance areas, and other structures. Approximately 83 acres of the Project site have not been developed as part of Descanso Gardens. These western, southern, and eastern undeveloped margins retain remnants of native plant communities, primarily coastal sage scrub and chaparral. A summary of the existing Project Area land cover is provided in Figure 2-6 and Table 2-1.

Table 2-1: Existing Project Land Uses

Land Use	Acres
Buildings	1.4
Paved Surfaces	13.3
Channels	0.4
Developed Pervious Surfaces (Gardens and Landscaping)	50.9
Undeveloped Lands	82.7
Total	148.7

2.1.7 Climate

The Project site has a Mediterranean climate with typically hotter summers and slightly cooler winters than nearby coastal areas. Orographic lift from the nearby San Gabriel mountains produces slightly more precipitation than nearby areas. The 85th percentile 24-hour storm depth for the Project area is approximately 1.15 inches, per the Los Angeles County Hydrology Map (Los Angeles County, 2019). The 50-year 24-hour rainfall depth ranges from 7.6 to 8.2 inches in the Project area. The 30-year average annual rainfall (for years 1981 – 2010) for the area is 22.9 inches, according to PRISM (<http://www.prism.oregonstate.edu/explorer/>). Descanso Gardens is located in the foothills and thus would be expected to have an intermediate average annual rainfall.

2.2 Observed Flooding and Erosion

Descanso Gardens operations and maintenance (O&M) staff have identified specific areas of known flooding and erosion (Descanso Guild, 2019). These issues are described below and shown on Figure 2-7.

1. Localized puddling on asphalt pavement at the southern portion of the California Natives garden, within Catchment L. O&M staff suggest that the pavement needs to be regraded.

2. Significant localized runoff occurs during heavy storm events on a path adjacent to and southeast of the Boddy Lodge, within Catchments L and A. O&M staff suggest two catch basins on either side of the paved path should be installed to alleviate flooding.
3. Localized ponding occurs at a low point in the Rose Garden, within Catchment A. O&M staff suggest routing runoff to the overflow drainage ditch.
4. Runoff from the Oak Grove, erodes a decomposed granite pathway that connects the northern portion of the Oak Forest Camelias West to the Main Lawn, within Catchment C.
5. Runoff in vicinity of the Ancient Forest, within Catchment C, overflows into a neighbor's tennis court during heavy storm events. O&M staff suggest a conveyance from the end of the Southern Recirculating Stream to the Winery Canyon Channel should be installed.

2.3 Proposed Development

2.3.1 Project Land Uses

The proposed Project includes changes to pathway circulation, gardens, and the built environment as they relate to the existing conditions of the Project. The proposed project would include the development of four new gardens and major improvements to seven existing gardens; new and replaced trails; new or updated buildings and structures; and new or replaced parking lot to create new efficiencies in garden operations and vehicular circulation. A summary of the proposed Project land uses is provided in Table 2-2 and shown in Figure 2-8.

Table 2-2: Proposed Project Land Uses

Land Use	Acres
Buildings	0.9
Paved Surfaces	18.2
Channels	0.4
Developed Pervious Surfaces (Gardens and Landscaping)	46.9
Undeveloped Lands	82.3
Total	148.7

2.3.2 Ecological and Runoff Harvesting Enhancements

The drainage improvements proposed as part of the Project are aimed to enhance ecological performance of the main water features, while optimizing the Lake for runoff capture for non-potable use. These proposed enhancements are shown on Figure 2-9 and are listed below. Figure 2-10 provides schematics of the Lake and Winery Canyon Channel Harvesting systems.

Lake and Stream Improvements

- Dredge lake sediments and improve aeration system.
- Install new liner in Lake and Southern Recirculating Stream to reduce leakage losses.
- Regrade Lake to create wetland shelves, sediment bays, and floating wetlands.
- Install check dams to minimize sedimentation into Lake.

- Install irrigation reuse pump at Lake.
- Operate Lake at a relatively consistent water surface elevation, approximately 2- to 3-feet below the overflow spillway crest, to promote wetland habitat in Lake.

Winery Canyon Channel and Treatment Wetland Improvements

- Harvest runoff water from Winery Canyon Channel to refill Lake and irrigate gardens. This would include a diversion from the Winery Canyon Channel to a new Treatment Wetland, a pump from the Treatment Wetland to the downstream pool of the Southern Recirculating Stream, the existing recirculating pump for the Southern Recirculating Stream, and a new pump from the upstream pool of the Southern Recirculating Stream into the Lake.
- Install bioretention and detention basins for supplemental water storage and irrigation reuse. This includes expansion of the Southern Recirculating Stream's downgradient recirculation pool into a bioretention basin, at Outlet C.
- Install stormwater best management practices (BMPs) to treat stormwater from the parking lot. This would include proposed Parking Lot Bioswales (for the main parking lot) and a Picnic Grove Bioswale (for the auxiliary parking lot).
- Develop a planted berm at the eastern Project boundary with the neighborhood as part of the Main Parking Lot expansion. This would prevent runoff from discharging offsite into neighboring property and direct runoff into the Winery Canyon Channel.

3 REGULATORY SETTING

Applicable Federal, State, and Local regulations are described in the Descanso Gardens Water Quality Technical Report (WQTR) (Geosyntec, 2019a). This chapter provides a summary of regulatory requirements and specific project criteria associated with flood hydrology and hydromodification, including the Federal Emergency Management Agency (FEMA) National Flood Insurance Program, the Los Angeles County Flood Control Requirements, and the Los Angeles County Hydromodification Control Requirements.

3.1 FEMA National Flood Insurance Program

The National Flood Insurance Act of 1968 established the National Flood Insurance Program (NFIP), which allows property owners in participating communities to purchase insurance against flood losses. The National Flood Insurance Act includes development requirements for areas located within a floodplain, establishment of flood-risk zones and estimates of flood-caused losses. The act was reformed through a number of subsequent acts, including the Flood Insurance Protection Act of 1973, the National Flood Insurance Reform Act of 1994, the Flood Insurance Reform act of 2004, and the Biggert-Waters Flood Insurance Reform Act of 2012.

The National Flood Insurance Act and subsequent Reform Acts additionally promulgated guidance on floodplain development and flood insurance rating through the NFIP. The National Flood Insurance Act was one of many acts to contribute to the formation of the Federal Emergency Management Agency (FEMA), created in 1979. Within FEMA, the Federal Insurance and Mitigation Administration (FIMA) manages the NFIP. Communities participating in the NFIP, including Los Angeles County, have designated flood insurance zones determined through flood insurance studies, a Flood Insurance Rate Map (FIRM), and community-specific floodplain management regulations that meet or exceed the minimum NFIP standards and requirements. Los Angeles County has adopted the Floodplain Management Ordinance for this purpose, which is described in subsequent sections.

3.1.1 Relevant Requirements

The location-specific FIRM indicates if the Project is located within a Zone A, defined as the 100-year or base floodplain. There are six types of A Zones, including an “approximate” A Zone, for which the base flood elevations (BFEs) are not determined. Other Zones displayed on the FIRM include: Zone V, coastal areas; Zone B (or Zone X, shaded), areas of moderate flood hazard (between the 100-year and 500-year flood); Zone C (or Zone X, unshaded), areas of minimal flood hazard (above the 500-year flood level); and Zone D, area of undetermined but possible flood hazards. The BFEs are based on the NFIP adopted baseline probability called the base flood or 1% chance flood. This flood, also termed the 100-year flood, has a 1% chance of happening any given year. The BFEs are the computed elevations to which floodwater is expected to rise.

The NFIP identifies specific requirements for projects located within Zone A or within the base floodplain, including identification of the BFEs (if not established), permit requirements, construction requirements, and other guidelines. Additionally, as part of the NFIP, any “proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the

effective BFEs, or the Special Flood Hazard Area” (FEMA, 2015) submits a Certified Letter of Map Revision (CLOMR) for review by FEMA.

3.1.2 Project Criteria

The FEMA Flood Insurance Rate Map (FIRM) for the Project Area is provided on Figure 3-1. Zone A is not mapped within the Project Area and Winery Canyon Channel has been designed and constructed to convey the capital peak flood discharge, 1,045 cfs, without flooding. The following FIRM zones are mapped within the Project Area:

- Zones D: Areas in which flood hazards are undetermined, but possible.
- Zone X (unshaded): Areas determined to be outside the 0.2% annual chance floodplain.
- Zone X (shaded): Areas of 0.2% annual chance flood; areas of 1% chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile: and areas protected by levees from 1% annual chance flood.

The Zone X shaded areas are situated where the steep hillside transitions to flatter terrain and is not associated with any deficiencies in flood conveyance of the Winery Canyon Channel. The Project would not “affect the hydrologic or hydraulic characteristics of a flooding source”. Thus, the Project would not create a condition to warrant the submittal of a CLOMR.

3.2 Los Angeles County Flood Control

Los Angeles County has established levels of flood protection for various conditions. These levels of flood protection are described in the County’s Hydrology Manual. Flood control requirements relevant to the project are summarized below.

3.2.1 Relevant Requirements

Capital Flood Protection

The capital flood represents the runoff produced by a 50-year frequency design storm falling on saturated soils. Effects of fires and erosion are also considered under certain conditions. Storm water conveyance facilities that should meet this criteria include:

1. Natural Watercourses
2. Open channels, closed conduits, bridges and debris basins
3. Floodways
4. Natural depressions or sumps
5. Culverts under major or secondary highways
6. Tributary areas subject to burning.

Urban Flood Protection

All drainage facilities in urban areas not covered by the Capital Flood Protection conditions must meet the Urban Flood level of protection. The Urban Flood is runoff from a 25-year frequency design storm falling on a saturated watershed.

Probable Maximum Flood Protection

The Probable Maximum Flood (PMF) results from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in the region. The Probable Maximum Precipitation (PMP) represents the greatest depth of rainfall theoretically possible for a given duration over a given drainage basin. The PMF occurs when the PMP falls over watersheds that have reached field capacity (saturated) conditions. California's Division of Safety of Dams (DSOD) requires a PMF analysis for dams and debris basins that hold at least 1,000 acre-feet, are 50 feet or higher, would require at least 1,000 people to be evacuated, and have a damage potential of \$25,000,000 or more.

Existing Level of Flood Protection

Replacing or modifying surface drainage systems requires maintaining or increasing the original level of flood protection. The total capacity must equal or exceed the original surface capacity.

3.2.2 Project Criteria

Given the conditions described above, and the current understanding of the Project, the Project will meet the following flood control criteria:

- Capital flood protection (50-year 24-hour storm event, with burn and bulk) will be used to size stormwater conveyance facilities which have tributary undeveloped areas subject to burning (e.g., the steep and moderately sloped hillside).
- Capital flood protection will be used to size stormwater conveyance facilities from the lake (i.e., the lake overflow channel). The PMF will not apply to the lake overflow because its storage volume (approximately 9 acre-feet) and depth (approximately 6 feet) do not exceed the DSOD thresholds.
- Urban flood protection (25-year, 24-hour storm event) will be used to size stormwater conveyances which are tributary to developed areas not subject to burning (e.g., parking lots).
- The level of flood protection in the Winery Canyon Channel, with the Project, must equal or exceed the current conveyance capacity. To demonstrate this, the peak capital flood design flowrate (i.e., 50-year design event) entering the Winery Canyon Channel from the Project will not increase.

The Modified Rational Method will be used to perform hydrologic analyses to demonstrate the flood criteria for the project is met. While peak flowrate matching criteria (i.e., the last criterion) is evaluated as part of this Hydrology Technical Report, the other criteria specific to sizing conveyances are not. Conveyance sizing would be completed as part of design analysis of new drainage conveyances (e.g., swales, ditches, or storm drain pipes).

3.3 Los Angeles County Hydromodification Control

Hydromodification is defined as changes in runoff characteristics and in-stream processes caused by altered land use (specifically urbanization). Land development modifies natural watershed and

stream hydrologic (water) and geomorphic (landform) processes by introducing impervious surfaces and drainage infrastructure that in turn changes runoff. Potential changes may include increases in runoff volumes, frequency of runoff events, and flow duration, as well as increased peak flows. Unless managed, hydromodification can cause channel erosion, channel migration or sedimentation, and can result in biologic impacts to stream systems. Such impacts may be associated with impairment of beneficial uses and degradation of stream conditions.

Requirements for hydromodification management are established by Los Angeles County Department of Public Works and presented in Section 8 of the LID Standards Manual. Hydromodification exemptions and analyses relevant to the project are summarized below.

3.3.1 Relevant Requirements

Exemptions to Hydromodification Requirements

Projects may be exempt from implementation of hydromodification control measures where assessments of downstream channel conditions and proposed discharge hydrology indicate that adverse hydromodification effects to beneficial uses of natural drainage systems are unlikely. Exemptions can be granted for the following types of projects:

1. The replacement, maintenance, or repair of an existing permitted publicly maintained flood control facility, storm drain, or transportation network;
2. Redevelopment of a previously developed site in an urbanized area that does not increase the effective impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions;
3. Projects that have any increased discharge directly or through a storm drain to a sump, lake, area under tidal influence, into a waterway that has an estimated hundred (100)-year peak flow of 25,000 cfs or more, or other receiving water that is not susceptible to hydromodification impacts;
4. Projects that discharge directly or through a storm drain into concrete or otherwise engineered channel (i.e., channelized or armored with rip-rap, shotcrete), which, in turn, discharge into receiving water that is not susceptible to hydromodification impacts.
5. Non-Designated Project disturbing less than 1 acre or creating less than 10,000 square feet of new impervious area; or
6. Single-family homes that incorporate LID BMPs in accordance with the LID Standards Manual.

Frequency Analyses

Projects required to analyze for hydromodification impacts must conduct hydrology and hydraulic frequency analyses for LID, 2-, 5-, 10-, 25-, and 50-year storm events per the LACDPW Hydraulic and Hydrology manuals. The frequency analyses, which analyze changes in flow velocity, flow volume, and depth/width of flow for all natural drainage systems using HEC-RAS, are used to demonstrate compliance with hydromodification requirements and identify drainage impacts on off-site property.

Sediment Analysis

A sediment transport analysis is required for any project tributary to a natural drainage system with a capital flood flow rate greater than 5,000 cubic feet per second (cfs). The sediment transport analyses should be conducted using HEC-RAS, SAMS, or HEC-6 to determine long-term impacts of streambed accretion and degradation of these natural drainage systems.

3.3.2 Project Criteria

Given the requirements described above, and the current understanding of the Project, the Project does not meet the exemption conditions, and will be designed to meet the following hydromodification control criteria:

- A frequency analysis will be performed to demonstrate that the peak flowrate and flow volume entering the Winery Canyon Channel from the Project will not increase for the LID-, 2-, 5-, 10-, 25-, and 50-year storm events. If the peak flowrate does not increase for these six design events, then it is assumed that the flow velocity, depth, and width will not increase in the downstream susceptible channels either. This is an appropriate assumption because the Project would not modify the Flint Canyon Wash, which is the first receiving water downstream of the Project that is considered susceptible to hydromodification impact.
- Although the project discharges to a natural drainage system with a capital flood flow rate greater than 5,000 cfs (i.e., just downstream of the concrete lined Flint Canyon Channel the earthen channel has a capital flow rate of 8,870 cfs), LACDPW staff will allow the Project proponent to justify that a sediment analysis is not necessary if the frequency analyses demonstrates no impact (LACDPW, 2019b). This project-specific determination was made because the Project is small relative to the watershed tributary to the nearest downstream receiving water that is susceptible to hydromodification impact. If engineering judgement determines that a sediment analysis is still needed after frequency analyses, then one should be provided.

The Modified Rational Method will be used to perform hydrologic analyses to demonstrate the frequency analysis criteria for the project is met. If sediment analysis is necessary, the sediment transport analysis would consist of an Erosion Potential (Ep) analysis which would translate the runoff contributions of the project to in-stream sediment transport capacity relative to existing conditions. This method allows for analysis of sediment transport without having to make assumptions on buildout conditions and model hydrologic conditions for the entire watershed tributary to the nearest downstream susceptible natural drainage system. The Ep analysis would use continuous hydrologic simulation, with US EPA's Storm Water Management Model (SWMM) or USGS's Hydrological Simulation Program - Fortran (HSPF) software, to generate long-term flow hydrographs for the pre- and post-project drainages in addition to HEC-RAS. While frequency analysis is included as part of this Hydrology Technical Report, a sediment analysis is not. Sediment analysis, if needed, would be completed prior to implementation of the Project.

4 HYDROLOGIC CONDITIONS OF CONCERN

This chapter provides a characterization of the changes to hydrology that affect downstream stream stability and flood control, also termed hydrologic conditions of concern, as they relate to the proposed Project. Existing flooding and erosion issues identified by the Descanso O&M staff, in section 2.2, are considered on-site hydrologic conditions of concern. Changes from existing to proposed conditions considered in the analysis of off-site hydrologic conditions of concern, include increases in impervious cover (i.e., parking lots, paved pathways, and buildings), modified operations of the Lake, and use of the Treatment Wetland in the Marsh Garden as detention storage at the downgradient limit of Catchment C. Proposed retention and detention volumes associated with other Project stormwater BMPs (i.e., Parking Lot Bioswales, Picnic Grove Bioswale, rainwater harvesting tanks for new buildings, and expansion of the Southern Recirculating Stream's downgradient re-circulation pool into a bioretention basin) will affect hydrology as well, by reducing runoff volumes and peak flowrates that discharge into Winery Canyon Channel. However, sizing of these stormwater BMPs is not provided as part of the Master Plan Study, and thus these features have not been incorporated into this analysis of off-site hydrologic conditions of concern.

4.1 Impervious Cover

Increases in impervious cover associated with the proposed Project, is a key driver for screening hydrologic conditions of concern. Changes in impervious cover, by catchment, are shown in Figure 4-1 and summarized in Table 4-1.

Table 4-1: Comparison of Existing and Proposed Condition Impervious Cover by Catchment

Catchment	Tributary Acres	% Impervious Cover	
		Existing	Proposed
L	68.5	4.7%	5.3%
A	15.3	26.8%	29.5%
B	9.7	58.6%	56.4%
C	47.6	6.9%	8.6%
D	3.9	11.0%	58.3%
E	1.6	6.5%	8.7%
F	2.7	<1.0%	<1.0%
Total	149.3	11.3%	13.5%

4.2 Lake Operations

Currently, the Lake drains down and fills up based on seasonal storms and extended periods of dry weather, leading to variability in the water surface elevation. In the past the Lake has overtopped its spillway during heavy storm events. As part of the Project, the operation of the Lake will be modified to maintain a relatively consistent water surface elevation, approximately 2- to 3-feet below the overflow spillway crest. This active management will allow for a more consistent freeboard storage volume prior to storm events so that storm runoff generated from areas tributary to the Lake (Catchment L) can readily be retained before the spillway overtops.

4.3 Treatment Wetland

As described in Section 2.3.2, the proposed Treatment Wetland in the Marsh Garden would primarily be used to store and treat diverted runoff from the Winery Canyon Channel so that it can be pumped to the Lake, via the Southern Recirculating Stream, and stored there to irrigate the gardens. During higher magnitude storm events, however, the Treatment Wetland would function in reverse and provide retention storage for Catchment C stormwater before overtopping into the adjacent Winery Canyon Channel. The downgradient pool of the Southern Recirculating Stream would be retrofitted with an overflow riser and conveyance to route excess runoff from Catchment C to the Treatment Wetland. As part of the Project, the operation of the Treatment Wetland would maintain a relatively consistent water surface elevation, approximately 1- to 2-feet below the overflow spillway crest.

4.4 Frequency and Peak Flow Matching Analysis

Frequency analyses for the LID, 2-, 5-, 10-, 25-, and 50-year design storms, per the hydromodification control criteria, were used as the basis for evaluating offsite hydrologic conditions of concern for the Project. These frequency analyses include an evaluation of peak flowrate matching for the 50-year design event, per the flood control criteria. Frequency analyses were performed using the factors characterized above as inputs to the following methodology. This process is described in the following steps:

- 1) Catchments and sub-catchments were delineated for the Project Area based on available topographic data and field observations of flow routing. These catchments and sub-catchments are shown on Figure 2-3.
- 2) Hydrologic input parameters for each sub-catchment (i.e., slope, flowpath length, soil class number, percent impervious cover, and storm event rainfall depth) were populated from GIS spatial calculations based on maps of topography, geology, land cover, and precipitation. Impervious cover parameters differed between existing and proposed conditions, whereas the other parameters remained consistent.
- 3) Sub-catchment hydrographs for the LID, 2-, 5-, 10-, 25-, and 50-year design storms were produced using the HydroCalc program for the Los Angeles County Modified Rational Method.
- 4) The sub-catchment hydrographs derived from HydroCalc were routed through the Lake, Treatment Wetland, and drainage conveyances using the EPA-SWMM 5.1 software program. Existing conditions assumed the Lake to be full at the beginning of the simulations, whereas the proposed condition assumed the 1.5-acre Lake to initially have 2.5-feet of freeboard. This accounts for the proposed operations of the Lake. Existing conditions did not model a Treatment Wetland in Catchment C, whereas the proposed condition assumed a 17,000-square foot Treatment Wetland to initially have 1.5-feet of freeboard.
- 5) Hydrographs were produced for Outlets A through F. These hydrographs were combined to represent a hydrograph discharging offsite to the Winery Canyon Channel receiving water from the Project Area.

- 6) Changes in design event peak flowrate and runoff volume were calculated from the existing condition to the proposed condition (i.e., % change = (proposed – existing) / existing).

Results of the frequency analysis calculations are provided below in Table 4-2.

Table 4-2: Frequency Analysis Results for Peak Flowrate and Runoff Volume Discharge into Winery Canyon Channel

Design Event	Precipitation Depth Range (inches)	Peak Flow (cfs)			Runoff Volume (ac-ft)		
		Existing	Proposed	% difference	Existing	Proposed	% difference
LID	1.2	5.7	3.7	-35.8%	2.8	1.5	-46.1%
2-year	2.9-3.1	55.2	42.8	-22.5%	8.4	5.5	-34.5%
5-year	4.4-4.7	125.8	93.2	-25.9%	14.1	9.4	-33.3%
10-year	5.4-5.7	185.9	160.6	-13.6%	18.3	15.1	-17.5%
25-year	6.7-7.0	268.9	247.2	-8.1%	24.3	21.3	-12.4%
50-year	7.6-8	334.4	310.9	-7.0%	29.2	26.3	-9.9%

Results of the frequency and peak flow matching analysis indicates that no offsite hydrologic conditions of concern would occur with the Project, with hydrologic management strategies in place. Hydrologic management strategies to address both on- and off-site hydrologic conditions of concern are described in Chapter 5.

5 HYDROLOGIC MANAGEMENT STRATEGIES

This chapter provides a discussion of the hydrologic management strategies that would be incorporated into the Project to address potential hydrologic conditions of concern and manage hydrologic impacts to less than significant levels. The measures are organized according to non-structural and structural measures.

5.1 Non-Structural Measures

5.1.1 Minimize Impervious Areas / Preserve Open Spaces

Project design to minimize impervious areas reduces the increase in runoff volumes and rates that need to be managed. Undeveloped areas with un-compacted soils provide opportunities for infiltration of impervious area runoff and help to preserve the pre-development water budget (consisting of infiltration, evapotranspiration, percolation, subsurface flows, groundwater recharge, and surface runoff).

The Project would include 90-percent undeveloped lands and developed pervious surfaces (i.e., gardens and landscaping).

5.1.2 Prioritization of Soils for Infiltration

Development within the Project will leave soils with good infiltration rates as areas for flow and volume management and groundwater recharge. If development is to occur on well infiltrating soils, then incorporation of infiltration facilities will help compensate for the loss of infiltration associated with the development.

The Project could potentially locate infiltration facilities (i.e., Parking Lot Bioswales and Picnic Grove Bioswale) on well infiltrating soils associated with the alluvial fan deposits if a detailed geotechnical analysis could establish that these areas are not within a liquefaction hazard area. The Parking Lot Bioswales and Picnic Grove Bioswale are currently mapped in the liquefaction hazard zone.

5.1.3 Lake Operations

Active management of water bodies, such as lakes and ponds, can allow for improved stormwater capture by lowering water levels and allowing for more available freeboard storage prior to storm events. Sophisticated techniques could be implemented to enhance stormwater capture by incorporating forecast information and/or continuous sensor observations into automated algorithms to control the timing and rate of discharge from stormwater facilities.

The Project would modify the operation of the Lake to maintain a relatively consistent water surface elevation, approximately 2- to 3-feet below the overflow spillway crest. This active management would allow for a more consistent freeboard storage volume prior to storm events so that storm runoff generated from areas tributary to the Lake (Catchment L) can readily be detained before the spillway overtops.

5.1.4 Monitoring and Adaptive Management

Adaptive management is a process by which information collected as part of a monitoring program is regularly assessed to determine whether a system is effective in achieving desired outcomes while avoiding unintended impacts. Based on this assessment, corrective actions may be taken to improve the system such as how facilities are designed, constructed, and/or are being operated and maintained. The process also evaluates the monitoring program and modifies it as needed to improve the overall effectiveness of the system.

The Project would include regular visual monitoring of the drainage system and its performance by the Descanso Gardens O&M staff after storm events. Documentation of observations related to flooding, erosion, sedimentation, and stormwater management would be compiled annually in the late spring for the prior wet season, with recommendation of appropriate management actions included. Recommended structural management actions, including maintenance, would be targeted for implementation prior to the following water year, before October 1st.

5.2 Structural Measures

5.2.1 Distributed Volume and Flow Management

A variety of volume/flow management structural measures are available that utilize the following two basic principles:

- Detain runoff and release it in a controlled way that mimics pre-development hydrology.
- Manage excess runoff volumes through one or more of the following pathways: infiltration, evapotranspiration, storage and use, discharge at a rate below a critical low-flowrate, or discharge downstream to a conveyance system and water body which are not susceptible to hydromodification.

Distributed facilities are smaller-scale facilities, typically treating runoff from one or a few lots. These types of facilities include low impact development (LID) BMPs as defined in the WQTR (Geosyntec. 2019a) but may also include hydromodification control detention-type facilities such as underground vaults and pipes. LID BMPs, typically sized to achieve the LID performance standard, may be enlarged to accommodate hydromodification control. Distributed facilities are most feasible where the land use is lower density or isolated from other development.

The Project would implement distributed volume and flow management with the installation of stormwater BMPs, including:

- Parking Lot Bioswales;
- Picnic Grove Bioswale; and
- Rainwater harvesting tanks, or other localized BMPs, for new buildings.

These stormwater facilities would be located in a known liquefaction hazard zone and would be lined to not infiltrate, unless a detailed geotechnical analysis could verify that the hazard area is different than mapped.

The Project would design these distributed volume and flow management facilities with sufficient storage volume, in combination with that provided in regional detention / retention basins, to comply with the County's hydromodification criteria (i.e., frequency analyses), stated in Section 3.3.2, and flood control criteria (i.e., peak flowrate matching), stated in Section 3.2.2.

5.2.2 Regional Detention / Retention Basins

Regional detention/retention basins, or ponds, are large scale stormwater management facilities that are designed to detain or infiltrate runoff from multiple parcels or project areas. These basins are typically shallow with flat, vegetated bottoms. Regional basins can be constructed by either excavating a depression or building a berm to create above ground storage, such that runoff can drain into the basin by gravity. Runoff is stored in the basin as well as in the pore spaces of the surface soils. Pre-treatment such as swales, filter strips, and sedimentation forebays minimize fine sediment loading to the basins, thereby reducing maintenance frequencies.

Regional basins for hydromodification management incorporate outlet structures designed to mimic pre-development hydrology. These basins can also be designed to support flood, hydromodification, and water quality (LID). If underlying soils are not suitable for infiltration, the basin may be designed for flow detention only, with alternative practices to manage increased volumes, such as storage and use, discharge at a rate below the critical rate for adverse impacts, or discharge to a non-susceptible water body, as well as to meet the LID objectives. To the extent possible, regional basins should be designed to receive flows from developed areas only.

The Project would implement regional detention / retention basins with the:

- Use of detention storage in the Lake;
- Installation of the Treatment Wetland in the Marsh Garden; and
- Expansion of the Southern Recirculating Stream's downgradient re-circulation pool into a bioretention basin, at Outlet C.

These regional basins would be lined to not infiltrate because they partially function to harvest runoff for use and, thus, percolation losses are not desired.

The Project would size these regional detention / retention basins, in combination with storage volume provided in distributed volume and flow management facilities, to comply with the County's hydromodification criteria (i.e., frequency analyses), stated in Section 3.3.2, and flood control criteria (i.e., peak flowrate matching), stated in Section 3.2.2.

5.2.3 Drainage Conveyances

The purpose of drainage conveyances is to collect stormwater and carry that runoff to a desired location such that excess flooding and scour erosion is avoided. Drainage conveyances can include traditional grey infrastructure, such as ditches, culverts, and storm drain pipe, or green infrastructure, such as vegetated swales. Drainage conveyances can be helpful for managing flowpaths that are long and steep enough to initiate rill and gully erosion during storm events.

The Project would implement drainage conveyances with the following improvements:

1. Regraded pavement at the southern portion of the California Natives garden, within Catchment L, to avoid observed localized puddling;
2. Catch basins and storm drain pipe along a path adjacent to and southeast of the Boddy Lodge, within Catchment L and A, to manage observed flooding;
3. Regrading in the Rose Garden to convey stormwater to the Lake's overflow drainage ditch, within Catchment A, to avoid observed localized ponding;
4. A vegetated swale or ditch along a decomposed granite pathway that would connect the northern portion of the Oak Forest Camellias West to the Main Lawn, within Catchment C. This drainage conveyance would manage observed localized erosion of the pathway.
5. An overflow riser and storm drain pipe that routes excess runoff from Catchment C, at the downstream end of the Southern Recirculating Stream, to the Treatment Wetland and Winery Canyon Channel during high magnitude storm events. This would avoid observed discharge of stormwater at Outlet C onto a neighboring offsite tennis court.
6. A planted berm and vegetated swale east of the Main Parking Lot expansion, within Catchment D, to prevent stormwater from discharging offsite onto neighboring property along the eastern Project boundary.
7. A ditch or vegetated swale east of the Boddy House, within Catchment E, to prevent stormwater from discharging offsite onto neighboring property along the eastern Project boundary.
8. An evaluation of flood conveyance and erodibility of the Lake's stone-lined spillway and earthen overflow drainage ditch between the Lake and the Winery Canyon Channel, at Outlet A. If these conveyances, including the areas within the Lake near the overflow spillway, are found to be deficient, then improvements would be designed and implemented.

The Project would design drainage conveyances in compliance with the County flood control criteria (i.e., capital flood protection and urban flood protection) stated in Section 3.2.2.

5.2.4 Sediment and Erosion Controls

A sediment control is a practice or device designed to keep eroded soil on a site, so that it limits wash off and water pollution to a nearby receiving water. Sediment control is also important for limiting the deposition of sediment in conveyances or water impoundments which are necessary for flood control. Sediment controls are usually employed together with erosion controls, which are designed to prevent or minimize erosion and thus reduce the need for sediment controls.

The Project would install check dams on natural drainages tributary to the Lake. These check dams would reduce sedimentation into the Lake, thus improving the Lake's water quality and capacity to store runoff for reuse. These check dams would be annually inspected and maintained (e.g., sediment removed), as needed, by the Descanso Gardens O&M staff. Construction sediment and erosion controls are described in the WQTR (Geosyntec, 2019a).

6 IMPACT ASSESSMENT

This chapter evaluates impacts related to Project development with respect to hydrology. This evaluation is organized based on CEQA significance criteria questions, as listed in Section 10 of the Environmental Checklist Form for Initial Study (Los Angeles County Department of Parks and Recreation, 2019). The Section 10 questions not addressed below are addressed in the WQTR (Geosyntec, 2019a).

Question 10.c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of a Federal 100-year flood hazard area or County Capital Flood floodplain; the alteration of the course of a stream or river; or through the addition of impervious surfaces, in a manner which would....:

The Project would alter the existing drainage pattern in minor ways. Overall, the improvements would not shift drainage delineation and flow direction. The minor changes in existing drainage pattern for the Project would include:

- A diversion of runoff from the northern portion of Catchment A, which would drain to the proposed Picnic Grove Bioswale, to a new drainage outlet into the Winery Canyon Channel. This diversion and outlet would reduce overland flow path length and thus reduce the likelihood of on-site rill erosion.
- A planted berm and vegetated swale east of the Main Parking Lot, which would route Catchment D runoff to the Winery Canyon Channel at Outlet B, instead of along the eastern Project boundary where a defined outlet into the Winery Canyon Channel is not currently present;
- A ditch or vegetated swale east of the Boddy House, which would route Catchment E runoff to the downstream pond of the Southern Recirculating Stream and prevent stormwater from discharging offsite onto neighboring property along the eastern Project boundary;
- An overflow weir and conveyance that would route excess runoff from Catchment C, at the downstream end of the Southern Recirculating Stream, to the Winery Canyon Channel via the new Treatment Wetland during high magnitude storm events. This would address the observed discharge of stormwater at Outlet C onto a neighboring offsite tennis court.

The Project would not alter the Federal 100-year flood hazard area. Areas tributary to the Zone X shaded areas of the FEMA FIRM (see Figure 3-1) would have negligible increases in impervious cover associated with paved paths and these changes would not be significant enough to affect flood hydrology and the extent of Zone X shaded areas.

The Project would not alter the County Capital Flood floodplain, because it is not mapped within the Project Area.

The Project would not alter the course of a stream or river. The primary stream or river in the Project Area is the Winery Canyon Channel, which is a reinforced cement concrete (RCC) lined rectangular channel. Winery Canyon Channel is fixed in its alignment and the Project would not change its course.

The Project would add impervious surfaces associated with paved pathways, parking lots, and buildings to increase impervious cover from 15.1 acres to 18.2 acres.

Impact assessments associated with Project alterations of existing drainage pattern and increases in impervious surfaces are provided below for Question 10.c.

(i) *Result in substantial erosion or siltation on- or off-site?*

Project alterations of existing drainage pattern and increases in impervious surfaces would not result in substantial erosion or siltation on-site with the implementation of the following Hydrologic Management Strategies: Drainage Conveyances, Sediment and Erosion Controls, and Monitoring and Adaptive Management.

- Drainage Conveyances, particularly improvements 4 and 8 (listed in Section 5.2.3), would be designed to withstand shear stresses and velocities generated by concentrated flow associated with capital or urban flood protection, per the Project criteria for flood control. This would limit erosion on-site in concentrated flowpaths to less than substantial levels.
- Sediment and Erosion Controls, particularly check dams on natural drainages tributary to the Lake, would be designed and maintained to reduce siltation on-site to less than substantial levels.
- Monitoring and Adaptive Management would be implemented to evaluate whether the drainage system is effective in managing on-site erosion and siltation and to remedy those areas where erosion and siltation is observed.

Project alterations of existing drainage pattern and increases in impervious surfaces would not result in substantial erosion or siltation off-site with the implementation of the following Hydrologic Management Strategies: Lake Operations, Distributed Volume and Flow Management, and Regional Detention / Retention Basins. These three Hydrologic Management Strategies, in combination, would be implemented with sufficient storage volume and attenuation to meet the frequency analysis standards, per the Project criteria for hydromodification control.

(ii) *Substantially increase the rate, amount, or depth of surface runoff in a manner which would result in flooding on- or offsite?*

Project alterations of existing drainage pattern and increases in impervious surfaces would not substantially increase the rate, amount, or depth of surface runoff in a manner which would result in flooding on-site with the implementation of the following Hydrologic Management Strategies: Drainage Conveyances; and Monitoring and Adaptive Management.

- Drainage Conveyances, particularly improvements 1, 2, 3, 5, 6, 7, and 8 (listed in Section 5.2.3), would be designed to convey on-site stormwater flows associated with capital or urban flood protection, per the Project criteria for flood control. This would limit flooding on-site to less than substantial levels.
- Monitoring and Adaptive Management would be implemented to evaluate whether the Project drainage system is effective in managing on-site flooding and to remedy those areas where excess flooding is observed.

Project alterations of existing drainage pattern and increases in impervious surfaces would not substantially increase the rate, amount, or depth of surface runoff in a manner which would result in flooding off-site with the implementation of the following Hydrologic Management Strategies: Lake Operations, Distributed Volume and Flow Management, Regional Detention / Retention Basins, and Drainage Conveyances.

- Lake Operations, Distributed Volume and Flow Management, Regional Detention / Retention Basins, in combination, would be implemented with sufficient storage volume and attenuation to meet the peak flow matching standards, per the Project criteria for flood control.
- Drainage Conveyance improvements 5, 6, and 7 would prevent stormwater from discharging offsite onto neighboring property along the eastern Project boundary.

(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems?

Project alterations of existing drainage pattern and increases in impervious surfaces would not substantially create or contribute runoff water which would exceed the capacity of on-site existing or planned stormwater drainage systems with the implementation of the following Hydrologic Management Strategies: Drainage Conveyances; and Monitoring and Adaptive Management.

- Drainage Conveyances, particularly improvements 1, 2, 3, 5, 6, 7, and 8 (listed in Section 5.2.3), would be designed to convey on-site stormwater flows associated with capital or urban flood protection, per the Project criteria for flood control. This would prevent capacity exceedances of existing or planned stormwater drainage systems on-site to less than substantial levels.
- Monitoring and Adaptive Management would be implemented to evaluate whether the drainage system is effective in managing on-site capacity exceedances of existing or planned stormwater drainage systems on-site and to remedy those areas where capacity exceedance is observed.

Project alterations of existing drainage pattern and increases in impervious surfaces would not substantially create or contribute runoff water which would exceed the capacity of off-site existing stormwater drainage systems with the implementation of the following Hydrologic Management Strategies: Lake Operations, Distributed Volume and Flow Management, and Regional Detention / Retention Basins. These three Hydrologic Management Strategies, in combination, would be implemented with sufficient storage volume and attenuation to meet the peak flow matching standards, per the Project criteria for flood control. The Project would not implement any planned stormwater drainage systems off-site.

(iv) Impede or redirect flood flows which would expose existing housing or other insurable structures in a Federal 100-year flood hazard area or County Capital Flood floodplain to a significant risk of loss or damage involving flooding?

Project alterations of existing drainage pattern and increases in impervious surfaces would not impede or redirect flood flows which would expose existing housing or other insurable structures

in a Federal 100-year flood hazard area to a significant risk of loss or damage involving flooding. This is because areas tributary to the Zone X shaded areas of the FEMA FIRM (see Figure 3-1) would have negligible increases in impervious cover associated with paved paths and would not alter the existing drainage pattern of areas tributary to the Zone X shaded areas. The increases in impervious cover changes would not affect flood hydrology significantly enough to change the extent of Zone X shaded areas.

Project alterations of existing drainage pattern and increases in impervious surfaces would not impede or redirect flood flows which would expose existing housing or other insurable structures in a County Capital Flood floodplain to a significant risk of loss or damage involving flooding. This is because the Project would not alter the County Capital Flood floodplain, which is not mapped within the Project Area.

Question 10.d) Would the project otherwise place structures in Federal 100-year flood hazard or County Capital Flood floodplain areas which would require additional flood proofing and flood insurance requirements?

The Project would not place structures in the Federal 100-year flood hazard areas, including Zone X shaded areas of the FEMA FIRM. County Capital Flood floodplain areas are not present within the Project Area.

Question 10.e) Would the project conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84)?

The Project would not conflict with the hydromodification control requirements of the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84) with the implementation of the following Hydrologic Management Strategies: Lake Operations, Distributed Volume and Flow Management, and Regional Detention / Retention Basins. These three Hydrologic Management Strategies, in combination, would be implemented with sufficient storage volume and attenuation to meet the frequency analysis standards, per the Project criteria for hydromodification control. This criteria is consistent with the Los Angeles County LID Standards Manual (LACDPW, 2014) and the Los Angeles County Low Impact Development (LID) Ordinance (Los Angeles County, 2014).

An impact assessment for the Project related to the stormwater quality requirements of the Los Angeles County LID Ordinance is provided in the WQTR (Geosyntec, 2019a).

Question 10.g) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The Project is not in a tsunami zone.

Flood hazard zones mapped within the Project Area include Zone X shaded areas of the FEMA FIRM. The primary pollutant of concern associated with these areas would be sediment eroded and transported from the ground surface during heavy storm events. The Project Area within the flood hazard zones would not risk release of pollutants due to project inundation with the implementation of the following Hydrologic Management Strategies: Drainage Conveyances; Sediment and Erosion Controls; and Monitoring and Adaptive Management.

- Drainage Conveyances within the flood hazard zones, particularly improvement 8 (i.e., evaluation of the stone-lined spillway and earthen overflow drainage ditch between the Lake and Winery Canyon Channel), would be designed to withstand shear stresses and velocities generated by concentrated flow associated with capital flood protection, per the Project criteria for flood control. This would limit erosion in concentrated flowpaths to less than substantial levels and thus prevent sediment pollution within the flood hazard areas on-site.
- Sediment and Erosion Controls, particularly check dams on natural drainages tributary to the Lake and the flood hazard zones, would be designed and maintained to limit sediment pollution to less than substantial levels.
- Monitoring and Adaptive Management would be implemented to evaluate whether the drainage system, within the flood hazard zones, is effective in managing on-site erosion and siltation and to remedy those areas where sediment pollution is observed.

The Project is not within a mapped seiche zone. However, the Lake could be considered susceptible to a temporary disturbance or oscillation in its water level caused by earthquake or change in atmospheric pressure. While the risk of seiche activity appears to be low, because the Lake is a relatively small water body, Drainage Conveyance improvement 8 (i.e., evaluation of the stone-lined spillway and earthen overflow drainage ditch between the Lake and Winery Canyon Channel) would address overflow conditions associated with a seiche.

7 LIMITATIONS

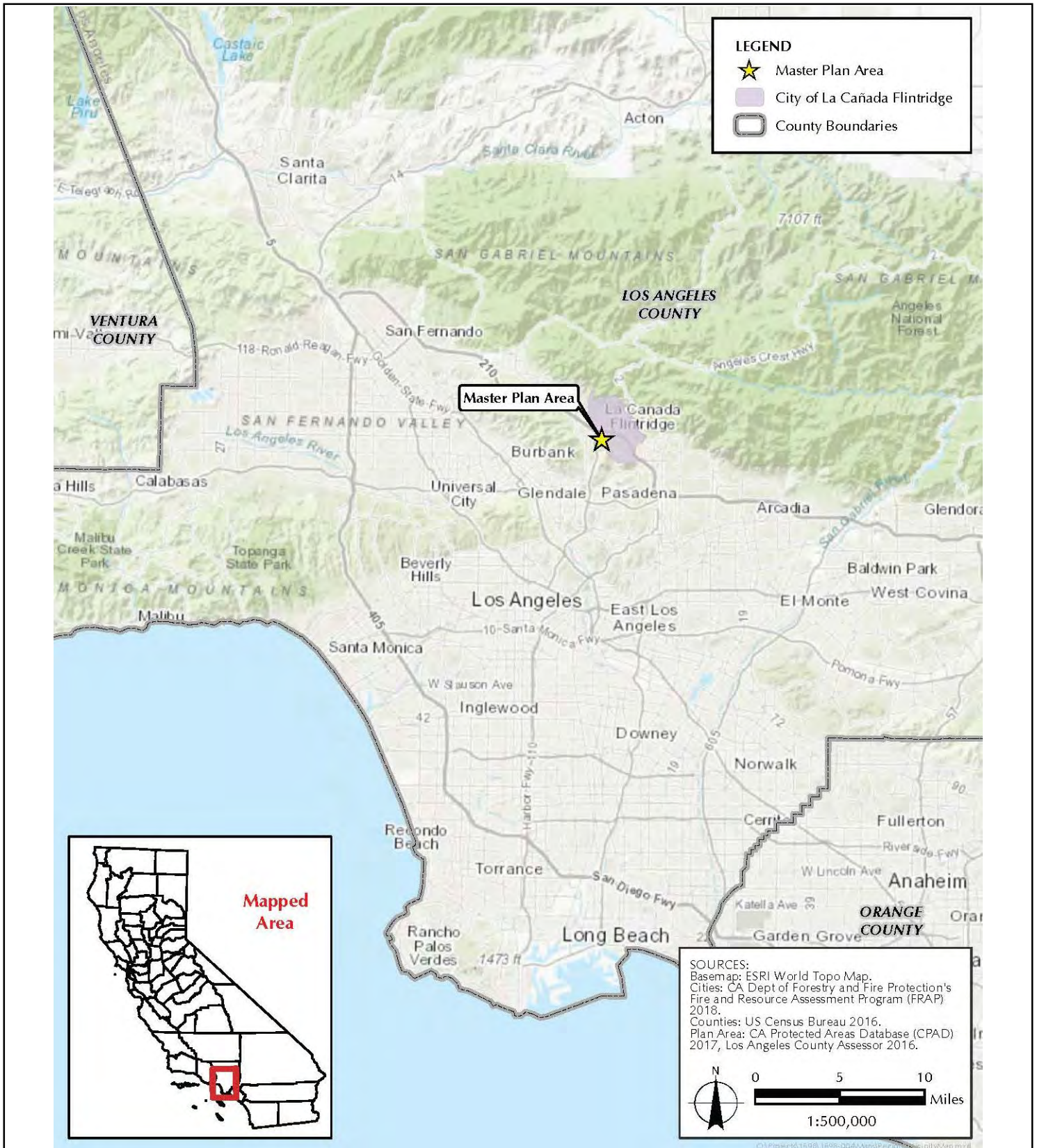
The conclusions, recommendations, and opinions made herein are based on the assumption that hydrologic conditions do not deviate appreciably from those found during the referenced previous investigations by others. This report has been prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in this area. The conclusions contained in this report are based solely on the analysis of the conditions reviewed by Geosyntec personnel. We cannot make any assurances concerning the completeness of the data performed by others. This evaluation is not intended to replace site-specific hydrologic investigation in support of detailed engineering design for the Project.

No warranty, expressed or implied, is made regarding the professional opinions expressed in this report. If actual conditions are found to differ from those described in the report, or if new information regarding the site is obtained, Geosyntec should be notified and additional recommendations, if required, will be provided. Geosyntec is not liable for any use of the information contained in this report by persons other than Descanso Gardens Guild, Inc. or their subconsultants, or the use of information in this report for any purposes other than referenced in this report without the expressed, written consent of Geosyntec.

8 REFERENCES

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- Rios Clementi Hale Studios (RCHS). 2019. Presentation to Descanso Board: “Descanso Gardens Master Plan – Enhancing the Spirit of Descanso for the Next Generation”. August 8.
- Sapphos Environmental, Inc. (SEI). 2019. Descanso Garden Master Plan Project Description. October.

FIGURES



Source: Descanso Gardens Master Plan Project Description (SEI, 2019)

Project Location Map

Descanso Gardens
 Hydrology Technical Report

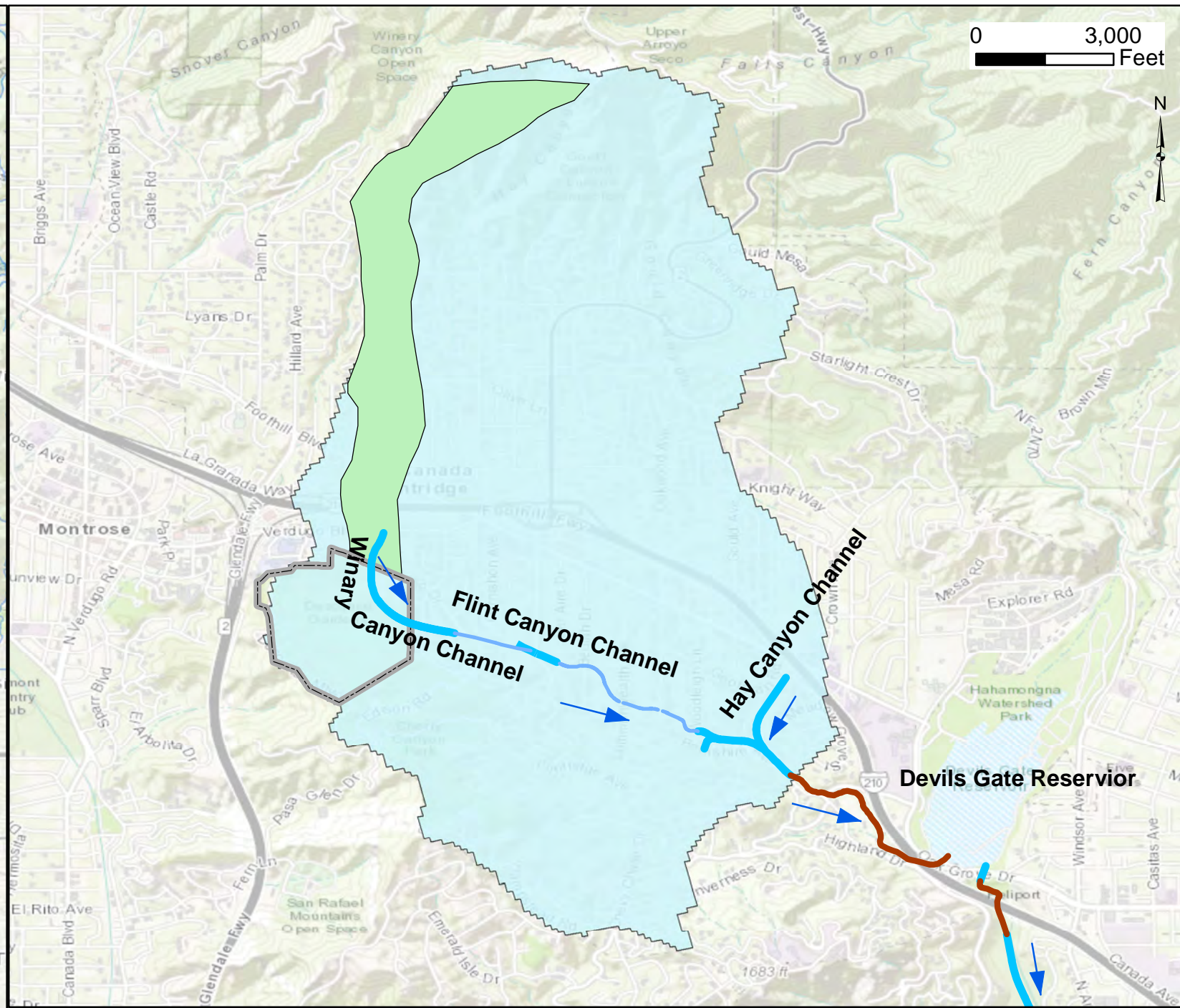
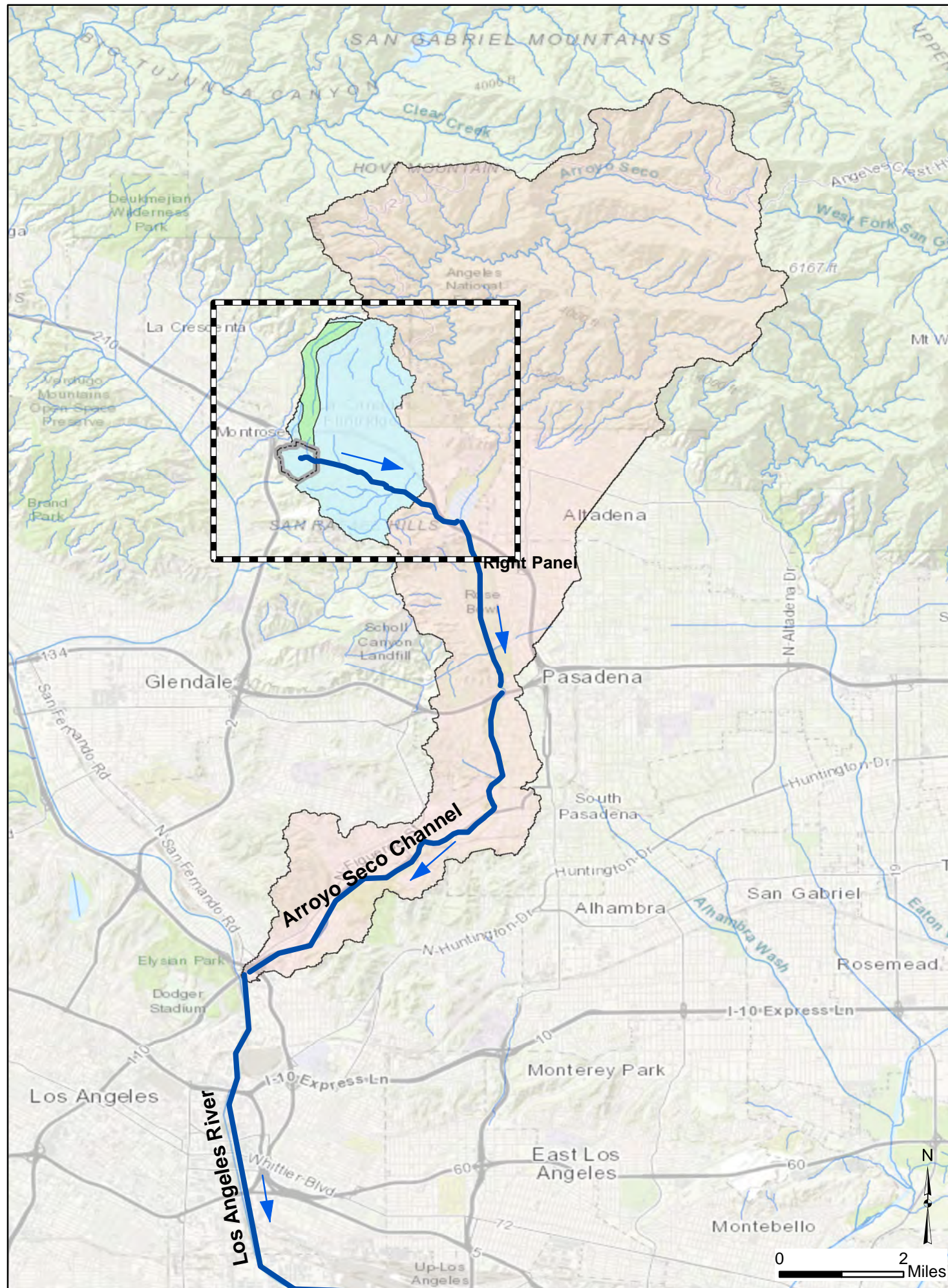


Figure

2-1

HG1704

October 2019



Legend

- Receiving Water
- Master Plan
- Winery Canyon Watershed
- Flint Canyon Watershed (tributary to first segment susceptible to hydromodification impacts)
- Arroyo Seco Watershed
- Earthen-Lined Channel
- Reinforced Concrete(RCC)
- Reinforced Concrete Box (RCB)

Receiving Water Map

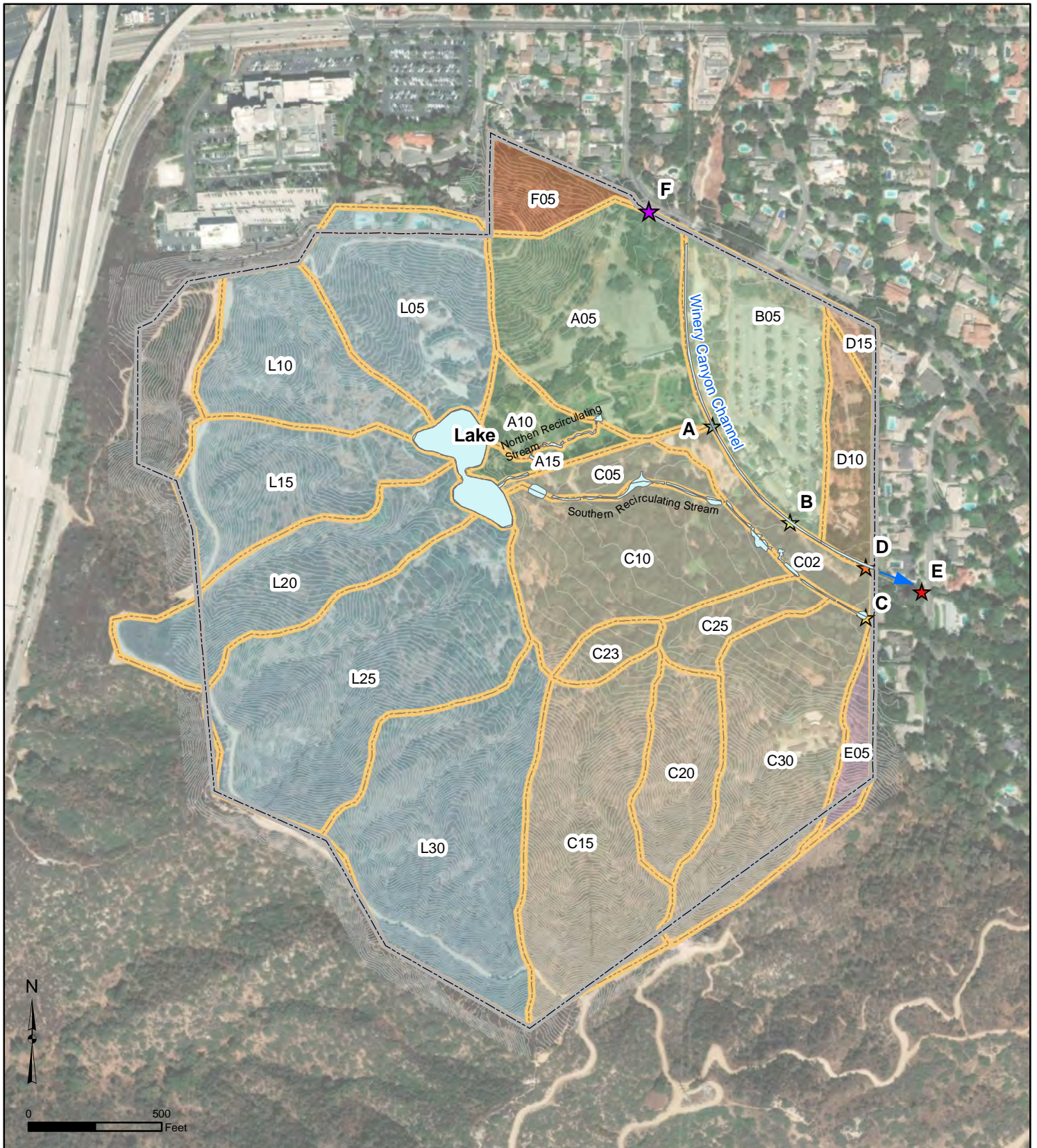
Descanso Gardens
Hydrology Technical Report



Figure
2-2

HG1704

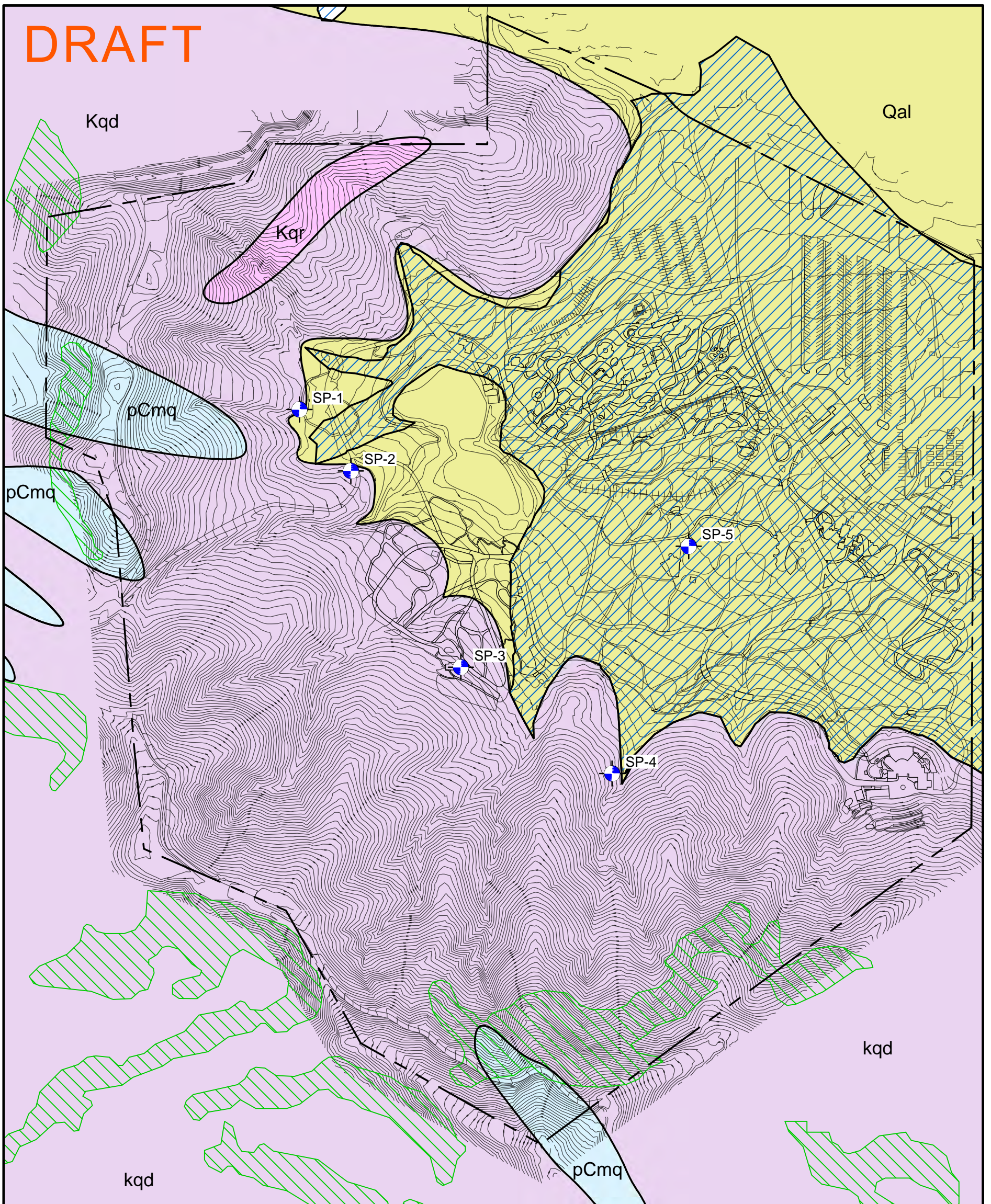
October 2019



Outlets	Catchments	Water Features
★ A	■ A	Master Plan Area
★ B	■ B	Drainage Areas
★ C	■ C	Topographic Contour (5ft)
★ D	■ D	
★ E	■ E	
★ F	■ F	
★ Lake	■ Lake	

Catchment Map Descanso Gardens Hydrology Technical Report		Figure 2-3
HG1704	October 2019	

DRAFT

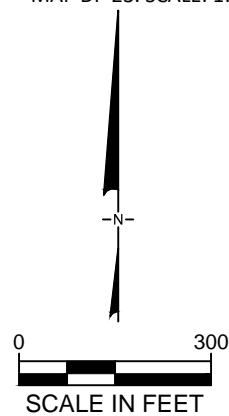


LEGEND

	PROPERTY LINE
	SOIL PROFILE LOCATION
	LIQUEFACTION HAZARD ZONE ¹
	LANDSLIDE HAZARD ZONE ¹
	QUATERNARY ALLUVIUM - PLEISTOCENE YELLOW TO YELLOWISH-PALE-BROWN UNCONSOLIDATED FINE TO MEDIUM SAND AND GRAVEL CONTAINING ABUNDANT COBBLES AND BOULDERS AND HIGHLY WEATHERED DIORITE CLASTS; INCLUDES POORLY DEVELOPED AND ANTHROPOGENIC SOILS ²
	CRETACEOUS LEUCOCRATIC GRANITIC ROCKS - GRAY-WHITE, MEDIUM- TO FINE-GRAINED MASSIVE GRANITIC ROCK OF QUARTZ MONZONITE TO GRANODIORITE COMPOSITION; QUARTZ, PLAGIOCLASE FELDSPAR, POTASSIUM FELDSPAR, MINOR BIOTITE; INTRUSIVE INTO QUARTZ DIORITE ³
	CRETACEOUS QUARTZ DIORITE - GRAY, MEDIUM-GRAINED MASSIVE QUARTZ DIORITE TO DIORITE; PLAGIOCLASE FELDSPAR; HORNBLLENDE; BIOTITE; QUARTZ INCLUDES POORLY TO MODERATELY DEVELOPED SOILS ³
	PRECAMBRIAN TO PALEOZOIC METAMORPHIC QUARTZITE - LIGHT GRAY ³

NOTES:

1. SOURCE: CALIFORNIA GEOLOGICAL SURVEY (1999). "OFFICIAL MAPS OF SEISMIC HAZARD ZONES: GIS FILES OF OFFICIAL MAPS OF SEISMIC HAZARD ZONES - PASADENA QUADRANGLE." DEPARTMENT OF CONSERVATION, CALIFORNIA GEOLOGICAL SURVEY. [HTTP://MAPS.CONSERVATION.CA.GOV/CGS/INFORMATIONWAREHOUSE/](http://maps.conservation.ca.gov/cgs/informationwarehouse/). ACCESSED 8 MARCH 2019.
2. GENERALIZED DESCRIPTION OF QUATERNARY ALLUVIUM BASED ON: USGS (1987). "RECENT REVERSE FAULTING IN THE TRANSVERSE RANGES, CALIFORNIA." US GEOLOGICAL SURVEY PROFESSIONAL PAPER 1339.
3. GEOLOGIC MAPPING AND GENERALIZED BEDROCK LITHOLOGIC DESCRIPTIONS BASED ON: DIBBLEE, TW, AND EHRENSPECK, HE, ED. (1989). "GEOLOGIC MAP OF THE PASADENA QUADRANGLE, LOS ANGELES COUNTY, CALIFORNIA." DIBBLEE GEOLOGICAL FOUNDATION MAP DF-23. SCALE: 1:24,000.



SITE GEOLOGY AND HAZARD ZONES

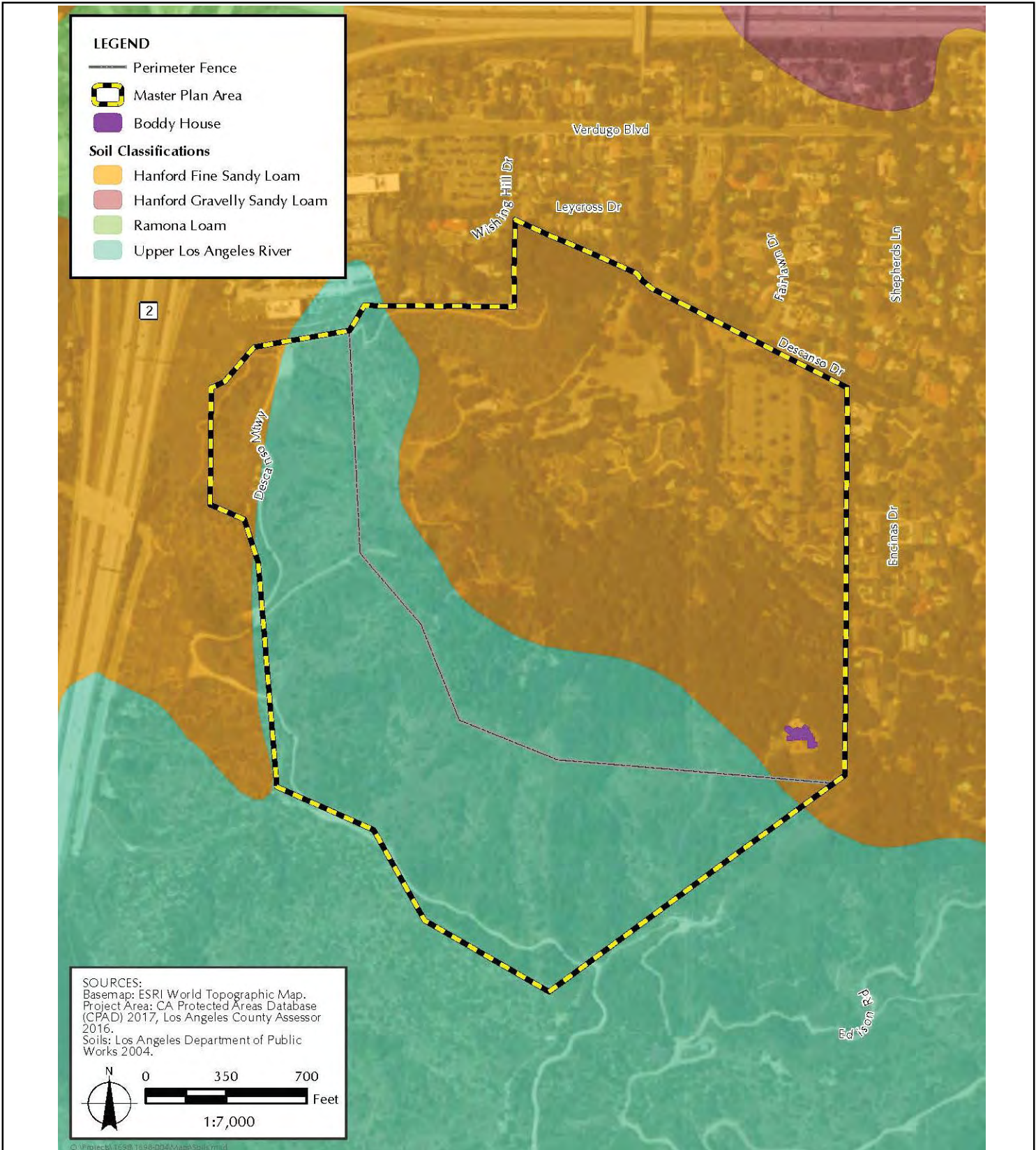
Descanso Gardens
Hydrology Technical Report

Geosyntec
consultants

HG1704

October 2019

Figure
2-4



Source: Descanso Gardens Master Plan Project Description (SEI, 2019)

Project Location Map

Descanso Gardens
 Hydrology Technical Report



Figure

2-5

HG1704

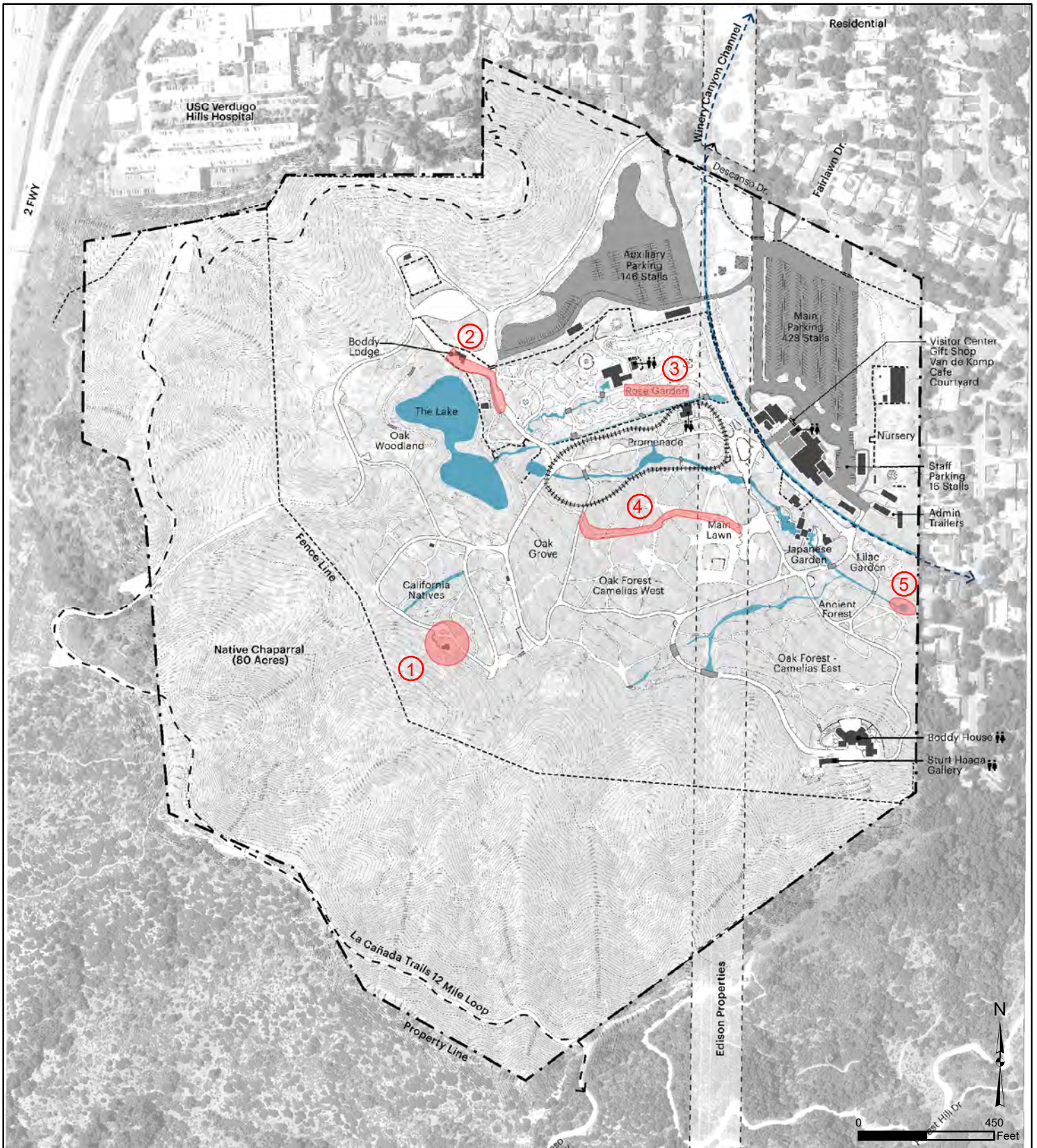
October 2019



Garden names	
1. Rose Garden	9. Ancient Forest
2. Promenade	10. Hope's Garden
3. Center Circle	11. Camellia Forest – East
4. Former Nature's Table	12. Camellia Forest - West
5. Magnolia Lawn	13. Oak Grove
6. Main Lawn	14. California Garden
7. Japanese Garden	15. Oak Woodland
8. Lilac Garden	16. Lake & Surroundings
	17. Harvest Garden

Source: Descanso Garden Master Plan Project Description (SEI 2019)

Existing Land Cover Map	
Descanso Gardens Hydrology Technical Report	
Geosyntec consultants	
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Figure 2-6	



- ① Localized puddling on asphalt pavement at the southern portion of the California Natives garden.
- ② Significant localized runoff occurs during heavy storm events on a path adjacent to and southeast of the Boddy Lodge.
- ③ Localized ponding occurs at a low point in the Rose Garden.

- ④ Runoff from the Oak Grove, erodes a decomposed granite pathway that connects the northern portion of the Oak Forest Camelias West to the Main Lawn.
- ⑤ Runoff in vicinity of the Ancient Forest overflows into a neighbor's tennis court during heavy storm events.

Observed Flooding and Erosion Map

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Hydrology Technical Report

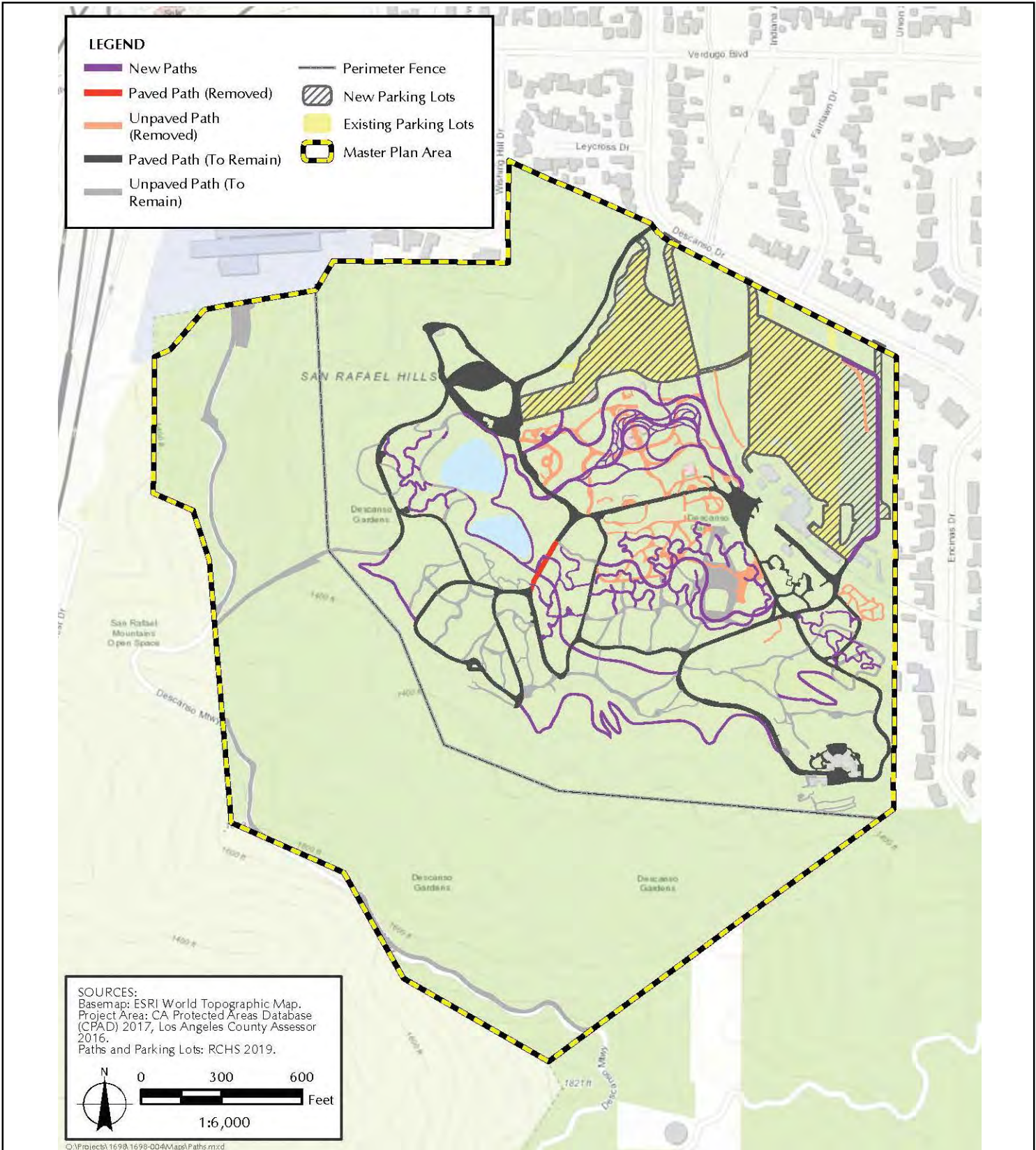
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Figure

2-7



Source: Descanso Garden Master Plan Project Description (SEI, 2019)

Proposed Land Use Map

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Hydrology Technical Report

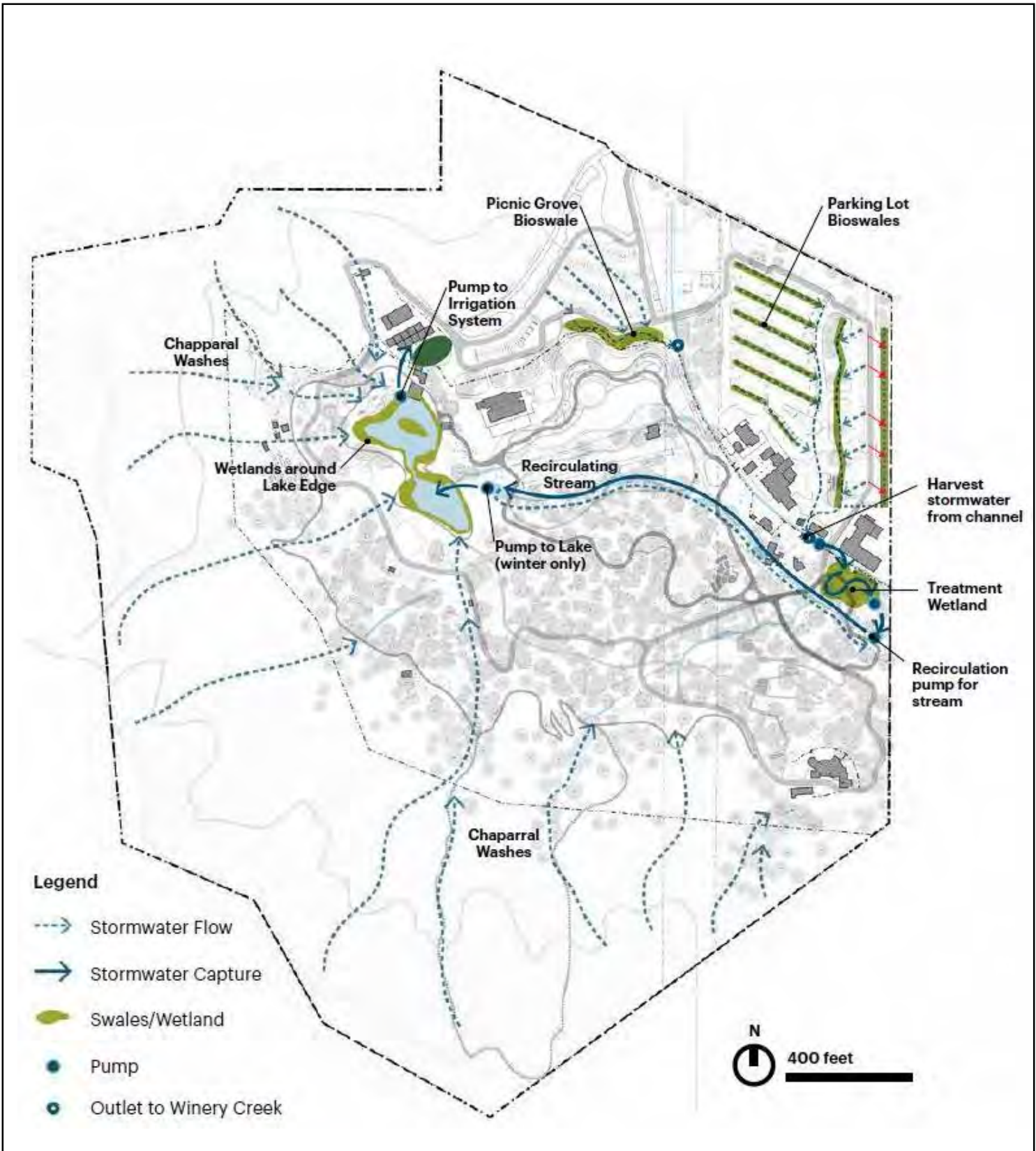


Figure

2-8

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Source: Descanso Gardens Master Plan (RCHS, 2019)

Ecological and Runoff Harvesting Enhancement Map

Descanso Gardens
Hydrology Technical Report

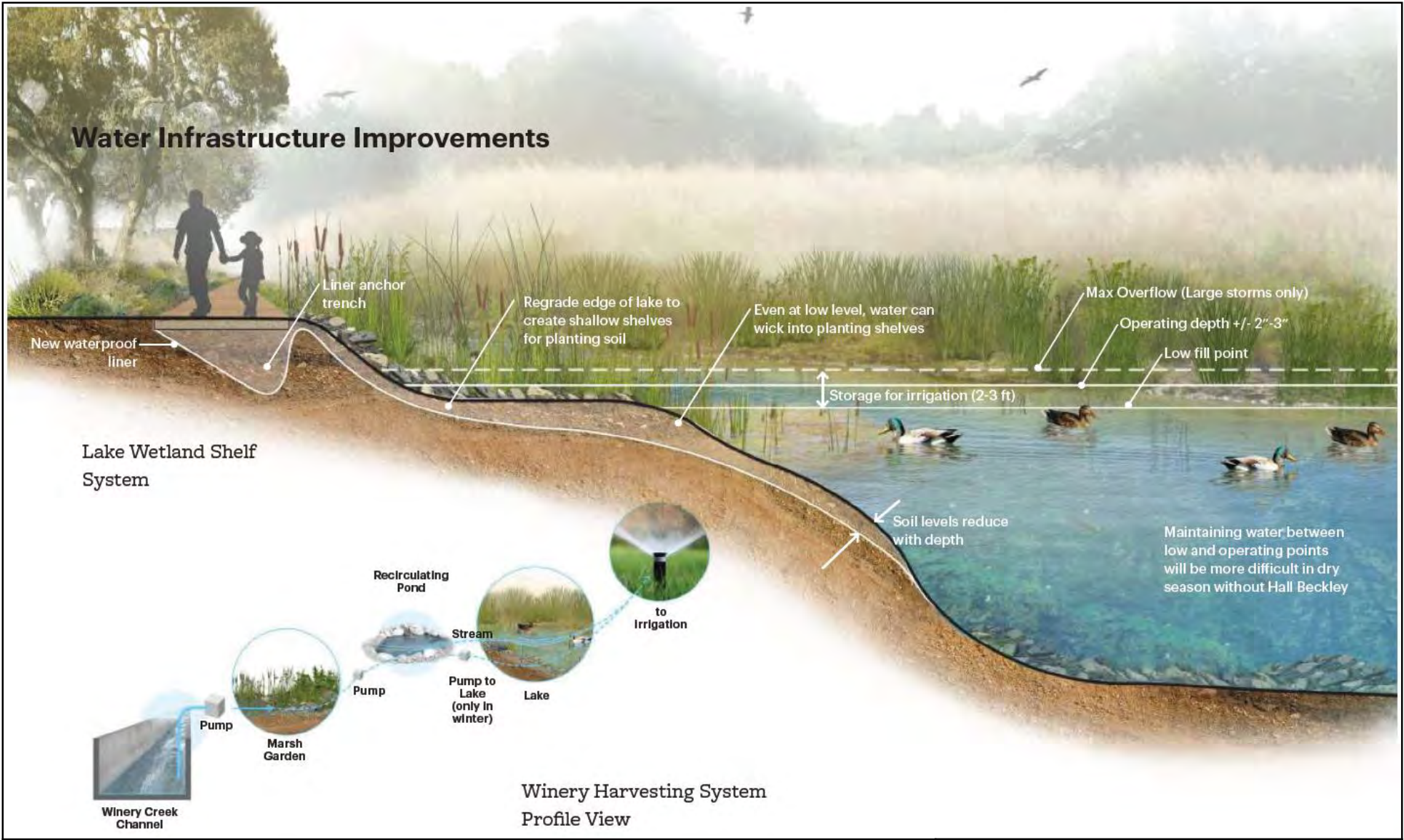
Geosyntec
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Figure

2-9

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Source: Descanso Gardens Master Plan (RCHS, 2019)

Lake and Winery Canyon Channel Harvesting System Schematic

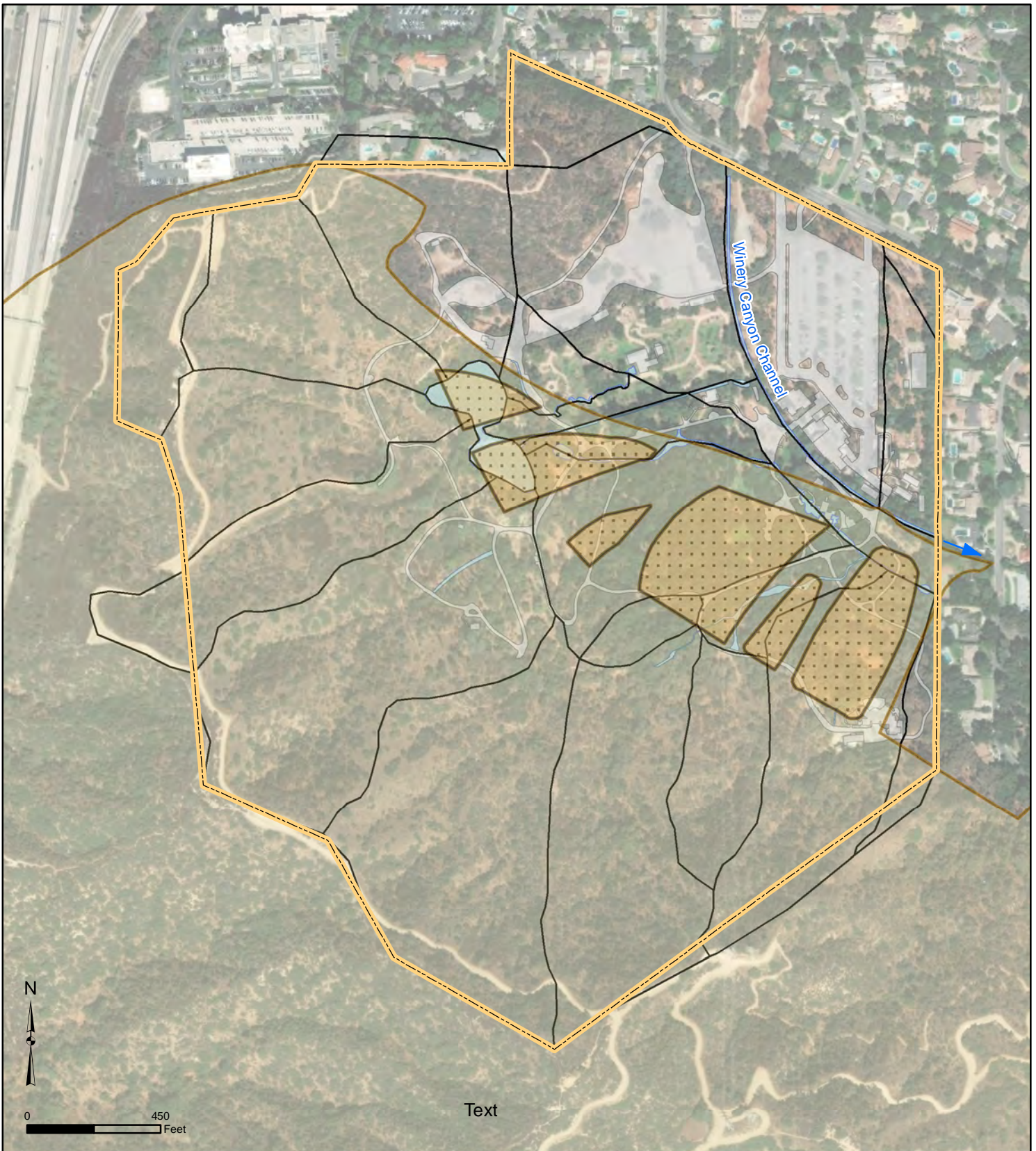
Descanso Gardens
Hydrology Technical Report



**Figure
2-10**

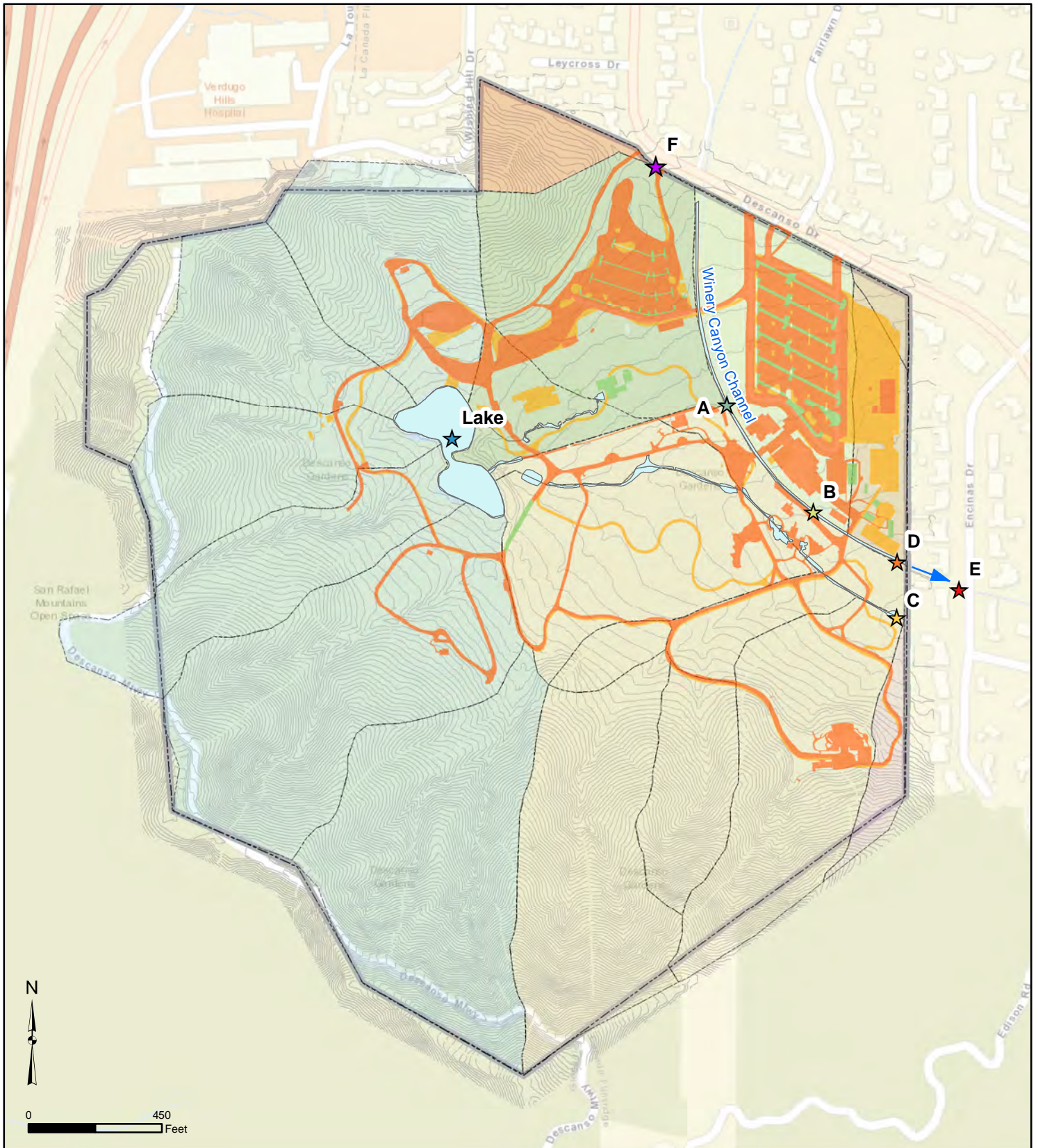
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	Master Plan Area		Drainage Areas	<i>Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.</i>
	Pavement and Structure			
	Waterbody and Drainage			
	<i>Areas in which flood hazards are undetermined, but possible</i>		X	
	<i>Areas determined to be outside the 0.2% annual change floodplain</i>			

FEMA Flood Insurance Rate Map	
Descanso Gardens Hydrology Technical Report	
Geosyntec consultants	
HG1704	October 2019
Figure 3-1	



Legend

- Existing Impervious Surfaces to be Removed
- Proposed New Impervious Surfaces
- Existing Impervious Surfaces to Remain
- Waterbody
- Master Plan Area
- Sub-Catchment
- Topographic Contour (5ft)

Impervious Surfaces Map

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Hydrology Technical Report

Geosyntec
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Figure

4-1

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Appendix 7

CalEEMod Data

Descanso 1A - South Coast Air Basin, Annual

Descanso 1A
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.00	Acre	7.82	340,639.00	0
Arena	1.00	Acre	0.60	26,136.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -
 Land Use - calculated
 Construction Phase - estimated

Descanso 1A - South Coast Air Basin, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	2/16/2021	2/16/2022
tblConstructionPhase	PhaseEndDate	12/22/2020	12/23/2021
tblConstructionPhase	PhaseEndDate	12/24/2019	12/24/2020
tblConstructionPhase	PhaseEndDate	2/4/2020	2/4/2021
tblConstructionPhase	PhaseEndDate	1/19/2021	1/19/2022
tblConstructionPhase	PhaseEndDate	1/7/2020	1/7/2021
tblConstructionPhase	PhaseStartDate	1/20/2021	1/20/2022
tblConstructionPhase	PhaseStartDate	2/5/2020	2/5/2021
tblConstructionPhase	PhaseStartDate	11/27/2019	11/27/2020
tblConstructionPhase	PhaseStartDate	1/8/2020	1/8/2021
tblConstructionPhase	PhaseStartDate	12/23/2020	12/23/2021
tblConstructionPhase	PhaseStartDate	12/25/2019	12/25/2020
tblLandUse	LandUseSquareFeet	43,560.00	340,639.00
tblLandUse	LandUseSquareFeet	43,560.00	26,136.00
tblLandUse	LotAcreage	1.00	7.82
tblLandUse	LotAcreage	1.00	0.60

2.0 Emissions Summary

Descanso 1A - South Coast Air Basin, Annual

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					
2020	0.0442	0.4387	0.2787	5.0000e-004	0.0473	0.0221	0.0694	0.0254	0.0205	0.0459	0.0000	44.2841	44.2841	0.0124	0.0000	44.5930
2021	0.3537	3.1251	2.9652	7.1900e-003	0.3512	0.1322	0.4834	0.1234	0.1239	0.2473	0.0000	647.1310	647.1310	0.0931	0.0000	649.4582
2022	0.1860	0.0875	0.1260	2.2000e-004	4.4700e-003	4.5400e-003	9.0100e-003	1.1900e-003	4.2400e-003	5.4300e-003	0.0000	19.3299	19.3299	4.4700e-003	0.0000	19.4417
Maximum	0.3537	3.1251	2.9652	7.1900e-003	0.3512	0.1322	0.4834	0.1234	0.1239	0.2473	0.0000	647.1310	647.1310	0.0931	0.0000	649.4582

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					
2020	0.0442	0.4387	0.2787	5.0000e-004	0.0473	0.0221	0.0694	0.0254	0.0205	0.0459	0.0000	44.2841	44.2841	0.0124	0.0000	44.5930
2021	0.3537	3.1251	2.9652	7.1900e-003	0.3512	0.1322	0.4834	0.1234	0.1239	0.2473	0.0000	647.1307	647.1307	0.0931	0.0000	649.4578
2022	0.1860	0.0875	0.1260	2.2000e-004	4.4700e-003	4.5400e-003	9.0100e-003	1.1900e-003	4.2400e-003	5.4300e-003	0.0000	19.3299	19.3299	4.4700e-003	0.0000	19.4417
Maximum	0.3537	3.1251	2.9652	7.1900e-003	0.3512	0.1322	0.4834	0.1234	0.1239	0.2473	0.0000	647.1307	647.1307	0.0931	0.0000	649.4578

Descanso 1A - South Coast Air Basin, Annual

	ROG	NOx	CO	SO2	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	11-27-2020	2-26-2021	1.0732	1.0732
6	2-27-2021	5-26-2021	0.8376	0.8376
7	5-27-2021	8-26-2021	0.8646	0.8646
8	8-27-2021	11-26-2021	0.8666	0.8666
9	11-27-2021	2-26-2022	0.5814	0.5814
		Highest	1.0732	1.0732

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	0.1333	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	155.6667	155.6667	5.8700e-003	1.5800e-003	156.2833
Mobile	5.8200e-003	0.0300	0.0666	2.4000e-004	0.0195	1.9000e-004	0.0197	5.2300e-003	1.8000e-004	5.4100e-003	0.0000	21.8976	21.8976	1.1100e-003	0.0000	21.9255
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.1417	0.0532	0.0861	3.8000e-004	0.0195	1.9500e-003	0.0215	5.2300e-003	1.9400e-003	7.1700e-003	0.4453	183.4535	183.8988	0.0522	2.6700e-003	185.9966

Descanso 1A - South Coast Air Basin, Annual

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	0.1333	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	155.6667	155.6667	5.8700e-003	1.5800e-003	156.2833
Mobile	5.8200e-003	0.0300	0.0666	2.4000e-004	0.0195	1.9000e-004	0.0197	5.2300e-003	1.8000e-004	5.4100e-003	0.0000	21.8976	21.8976	1.1100e-003	0.0000	21.9255
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.1417	0.0532	0.0861	3.8000e-004	0.0195	1.9500e-003	0.0215	5.2300e-003	1.9400e-003	7.1700e-003	0.4453	183.4535	183.8988	0.0522	2.6700e-003	185.9966

	ROG	NOx	CO	SO2	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

Descanso 1A - South Coast Air Basin, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/27/2020	12/24/2020	5	20	
2	Site Preparation	Site Preparation	12/25/2020	1/7/2021	5	10	
3	Grading	Grading	1/8/2021	2/4/2021	5	20	
4	Building Construction	Building Construction	2/5/2021	12/23/2021	5	230	
5	Paving	Paving	12/23/2021	1/19/2022	5	20	
6	Architectural Coating	Architectural Coating	1/20/2022	2/16/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 7.82

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 39,204; Non-Residential Outdoor: 13,068; Striped Parking Area: 20,438 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 1A - South Coast Air Basin, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Descanso 1A - South Coast Air Basin, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	154.00	60.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386

Descanso 1A - South Coast Air Basin, Annual

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	5.1000e-004	5.6900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4829	1.4829	4.0000e-005	0.0000	1.4840
Total	6.7000e-004	5.1000e-004	5.6900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4829	1.4829	4.0000e-005	0.0000	1.4840

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385

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3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	5.1000e-004	5.6900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4829	1.4829	4.0000e-005	0.0000	1.4840
Total	6.7000e-004	5.1000e-004	5.6900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4829	1.4829	4.0000e-005	0.0000	1.4840

3.3 Site Preparation - 2020

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253
Total	0.0102	0.1060	0.0538	1.0000e-004	0.0452	5.4900e-003	0.0507	0.0248	5.0500e-003	0.0299	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253

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3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.5000e-004	1.7100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4449	0.4449	1.0000e-005	0.0000	0.4452
Total	2.0000e-004	1.5000e-004	1.7100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4449	0.4449	1.0000e-005	0.0000	0.4452

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252
Total	0.0102	0.1060	0.0538	1.0000e-004	0.0452	5.4900e-003	0.0507	0.0248	5.0500e-003	0.0299	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252

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3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.5000e-004	1.7100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4449	0.4449	1.0000e-005	0.0000	0.4452
Total	2.0000e-004	1.5000e-004	1.7100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4449	0.4449	1.0000e-005	0.0000	0.4452

3.3 Site Preparation - 2021

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	9.7200e-003	0.1012	0.0529	1.0000e-004	0.0452	5.1100e-003	0.0503	0.0248	4.7000e-003	0.0295	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265

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3.3 Site Preparation - 2021

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	1.9000e-004	1.4000e-004	1.5700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4305	0.4305	1.0000e-005	0.0000	0.4308
Total	1.9000e-004	1.4000e-004	1.5700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4305	0.4305	1.0000e-005	0.0000	0.4308

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	9.7200e-003	0.1012	0.0529	1.0000e-004	0.0452	5.1100e-003	0.0503	0.0248	4.7000e-003	0.0295	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265

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3.3 Site Preparation - 2021

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	1.9000e-004	1.4000e-004	1.5700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4305	0.4305	1.0000e-005	0.0000	0.4308
Total	1.9000e-004	1.4000e-004	1.5700e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4305	0.4305	1.0000e-005	0.0000	0.4308

3.4 Grading - 2021

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					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	0.0229	0.2474	0.1586	3.0000e-004	0.0655	0.0116	0.0771	0.0337	0.0107	0.0443	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644

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3.4 Grading - 2021

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	6.2000e-004	4.6000e-004	5.2300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4350	1.4350	4.0000e-005	0.0000	1.4359
Total	6.2000e-004	4.6000e-004	5.2300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4350	1.4350	4.0000e-005	0.0000	1.4359

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					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	0.0229	0.2474	0.1586	3.0000e-004	0.0655	0.0116	0.0771	0.0337	0.0107	0.0443	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643

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3.4 Grading - 2021

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	6.2000e-004	4.6000e-004	5.2300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4350	1.4350	4.0000e-005	0.0000	1.4359
Total	6.2000e-004	4.6000e-004	5.2300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4350	1.4350	4.0000e-005	0.0000	1.4359

3.5 Building Construction - 2021

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	0.2186	2.0047	1.9062	3.1000e-003		0.1102	0.1102		0.1037	0.1037	0.0000	266.3829	266.3829	0.0643	0.0000	267.9895
Total	0.2186	2.0047	1.9062	3.1000e-003		0.1102	0.1102		0.1037	0.1037	0.0000	266.3829	266.3829	0.0643	0.0000	267.9895

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3.5 Building Construction - 2021

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	0.0198	0.6712	0.1696	1.7300e-003	0.0435	1.3700e-003	0.0449	0.0126	1.3100e-003	0.0139	0.0000	167.5365	167.5365	0.0108	0.0000	167.8065
Worker	0.0736	0.0546	0.6181	1.8700e-003	0.1943	1.4700e-003	0.1958	0.0516	1.3500e-003	0.0530	0.0000	169.4231	169.4231	4.5600e-003	0.0000	169.5371
Total	0.0934	0.7258	0.7877	3.6000e-003	0.2378	2.8400e-003	0.2406	0.0642	2.6600e-003	0.0668	0.0000	336.9596	336.9596	0.0154	0.0000	337.3436

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	0.2186	2.0047	1.9062	3.1000e-003		0.1102	0.1102		0.1037	0.1037	0.0000	266.3826	266.3826	0.0643	0.0000	267.9892
Total	0.2186	2.0047	1.9062	3.1000e-003		0.1102	0.1102		0.1037	0.1037	0.0000	266.3826	266.3826	0.0643	0.0000	267.9892

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3.5 Building Construction - 2021**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	0.0198	0.6712	0.1696	1.7300e-003	0.0435	1.3700e-003	0.0449	0.0126	1.3100e-003	0.0139	0.0000	167.5365	167.5365	0.0108	0.0000	167.8065
Worker	0.0736	0.0546	0.6181	1.8700e-003	0.1943	1.4700e-003	0.1958	0.0516	1.3500e-003	0.0530	0.0000	169.4231	169.4231	4.5600e-003	0.0000	169.5371
Total	0.0934	0.7258	0.7877	3.6000e-003	0.2378	2.8400e-003	0.2406	0.0642	2.6600e-003	0.0668	0.0000	336.9596	336.9596	0.0154	0.0000	337.3436

3.6 Paving - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3900e-003	0.0452	0.0513	8.0000e-005		2.3700e-003	2.3700e-003		2.1800e-003	2.1800e-003	0.0000	7.0082	7.0082	2.2700e-003	0.0000	7.0649
Paving	3.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.9800e-003	0.0452	0.0513	8.0000e-005		2.3700e-003	2.3700e-003		2.1800e-003	2.1800e-003	0.0000	7.0082	7.0082	2.2700e-003	0.0000	7.0649

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3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.8300e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5022	0.5022	1.0000e-005	0.0000	0.5026
Total	2.2000e-004	1.6000e-004	1.8300e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5022	0.5022	1.0000e-005	0.0000	0.5026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3900e-003	0.0452	0.0513	8.0000e-005		2.3700e-003	2.3700e-003		2.1800e-003	2.1800e-003	0.0000	7.0082	7.0082	2.2700e-003	0.0000	7.0649
Paving	3.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.9800e-003	0.0452	0.0513	8.0000e-005		2.3700e-003	2.3700e-003		2.1800e-003	2.1800e-003	0.0000	7.0082	7.0082	2.2700e-003	0.0000	7.0649

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3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.8300e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5022	0.5022	1.0000e-005	0.0000	0.5026
Total	2.2000e-004	1.6000e-004	1.8300e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5022	0.5022	1.0000e-005	0.0000	0.5026

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.1700e-003	0.0723	0.0948	1.5000e-004		3.6900e-003	3.6900e-003		3.4000e-003	3.4000e-003	0.0000	13.0179	13.0179	4.2100e-003	0.0000	13.1232
Paving	6.6600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0138	0.0723	0.0948	1.5000e-004		3.6900e-003	3.6900e-003		3.4000e-003	3.4000e-003	0.0000	13.0179	13.0179	4.2100e-003	0.0000	13.1232

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3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	3.8000e-004	2.7000e-004	3.1400e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8993	0.8993	2.0000e-005	0.0000	0.8999
Total	3.8000e-004	2.7000e-004	3.1400e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8993	0.8993	2.0000e-005	0.0000	0.8999

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	7.1700e-003	0.0723	0.0948	1.5000e-004		3.6900e-003	3.6900e-003		3.4000e-003	3.4000e-003	0.0000	13.0179	13.0179	4.2100e-003	0.0000	13.1232
Paving	6.6600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0138	0.0723	0.0948	1.5000e-004		3.6900e-003	3.6900e-003		3.4000e-003	3.4000e-003	0.0000	13.0179	13.0179	4.2100e-003	0.0000	13.1232

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3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	3.8000e-004	2.7000e-004	3.1400e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8993	0.8993	2.0000e-005	0.0000	0.8999
Total	3.8000e-004	2.7000e-004	3.1400e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8993	0.8993	2.0000e-005	0.0000	0.8999

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1685					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.1706	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.2100e-003	8.6000e-004	9.9900e-003	3.0000e-005	3.4000e-003	2.0000e-005	3.4300e-003	9.0000e-004	2.0000e-005	9.3000e-004	0.0000	2.8594	2.8594	7.0000e-005	0.0000	2.8612
Total	1.2100e-003	8.6000e-004	9.9900e-003	3.0000e-005	3.4000e-003	2.0000e-005	3.4300e-003	9.0000e-004	2.0000e-005	9.3000e-004	0.0000	2.8594	2.8594	7.0000e-005	0.0000	2.8612

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	0.1685					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.1706	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.2100e-003	8.6000e-004	9.9900e-003	3.0000e-005	3.4000e-003	2.0000e-005	3.4300e-003	9.0000e-004	2.0000e-005	9.3000e-004	0.0000	2.8594	2.8594	7.0000e-005	0.0000	2.8612
Total	1.2100e-003	8.6000e-004	9.9900e-003	3.0000e-005	3.4000e-003	2.0000e-005	3.4300e-003	9.0000e-004	2.0000e-005	9.3000e-004	0.0000	2.8594	2.8594	7.0000e-005	0.0000	2.8612

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 1A - South Coast Air Basin, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	5.8200e-003	0.0300	0.0666	2.4000e-004	0.0195	1.9000e-004	0.0197	5.2300e-003	1.8000e-004	5.4100e-003	0.0000	21.8976	21.8976	1.1100e-003	0.0000	21.9255
Unmitigated	5.8200e-003	0.0300	0.0666	2.4000e-004	0.0195	1.9000e-004	0.0197	5.2300e-003	1.8000e-004	5.4100e-003	0.0000	21.8976	21.8976	1.1100e-003	0.0000	21.9255

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Parking Lot	0.00	0.00	0.00		
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Parking Lot	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

Descanso 1A - South Coast Air Basin, Annual

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	130.4223	130.4223	5.3800e-003	1.1100e-003	130.8889
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	130.4223	130.4223	5.3800e-003	1.1100e-003	130.8889
NaturalGas Mitigated	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.2444	25.2444	4.8000e-004	4.6000e-004	25.3944
NaturalGas Unmitigated	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.2444	25.2444	4.8000e-004	4.6000e-004	25.3944

Descanso 1A - South Coast Air Basin, Annual

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	473062	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.2444	25.2444	4.8000e-004	4.6000e-004	25.3944
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.2444	25.2444	4.8000e-004	4.6000e-004	25.3944

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					
Arena	473062	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.2444	25.2444	4.8000e-004	4.6000e-004	25.3944
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.2444	25.2444	4.8000e-004	4.6000e-004	25.3944

Descanso 1A - South Coast Air Basin, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	290110	92.4351	3.8200e-003	7.9000e-004	92.7658
Parking Lot	119224	37.9872	1.5700e-003	3.2000e-004	38.1231
Total		130.4223	5.3900e-003	1.1100e-003	130.8889

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	290110	92.4351	3.8200e-003	7.9000e-004	92.7658
Parking Lot	119224	37.9872	1.5700e-003	3.2000e-004	38.1231
Total		130.4223	5.3900e-003	1.1100e-003	130.8889

6.0 Area Detail

6.1 Mitigation Measures Area

Descanso 1A - South Coast Air Basin, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.1333	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Unmitigated	0.1333	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0169					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	0.1333	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0169					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	0.1333	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

Descanso 1A - South Coast Air Basin, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.3161	0.0441	1.0900e-003	7.7425
Unmitigated	6.3161	0.0441	1.0900e-003	7.7425

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		6.3161	0.0441	1.0900e-003	7.7425

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		6.3161	0.0441	1.0900e-003	7.7425

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0183	1.0800e-003	0.0000	0.0453
Unmitigated	0.0183	1.0800e-003	0.0000	0.0453

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0183	1.0800e-003	0.0000	0.0453

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0183	1.0800e-003	0.0000	0.0453

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 1A - South Coast Air Basin, Summer

Descanso 1A
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.00	Acre	7.82	340,639.00	0
Arena	1.00	Acre	0.60	26,136.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - estimated

Descanso 1A - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	2/16/2021	2/16/2022
tblConstructionPhase	PhaseEndDate	12/22/2020	12/23/2021
tblConstructionPhase	PhaseEndDate	12/24/2019	12/24/2020
tblConstructionPhase	PhaseEndDate	2/4/2020	2/4/2021
tblConstructionPhase	PhaseEndDate	1/19/2021	1/19/2022
tblConstructionPhase	PhaseEndDate	1/7/2020	1/7/2021
tblConstructionPhase	PhaseStartDate	1/20/2021	1/20/2022
tblConstructionPhase	PhaseStartDate	2/5/2020	2/5/2021
tblConstructionPhase	PhaseStartDate	11/27/2019	11/27/2020
tblConstructionPhase	PhaseStartDate	1/8/2020	1/8/2021
tblConstructionPhase	PhaseStartDate	12/23/2020	12/23/2021
tblConstructionPhase	PhaseStartDate	12/25/2019	12/25/2020
tblLandUse	LandUseSquareFeet	43,560.00	340,639.00
tblLandUse	LandUseSquareFeet	43,560.00	26,136.00
tblLandUse	LotAcreage	1.00	7.82
tblLandUse	LotAcreage	1.00	0.60

2.0 Emissions Summary

Descanso 1A - South Coast Air Basin, Summer

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					
2020	4.1572	42.4719	22.3646	0.0405	18.2675	2.1990	20.4664	9.9840	2.0230	12.0071	0.0000	3,919.2804	3,919.2804	1.1978	0.0000	3,945.8527
2021	5.0570	40.5462	38.9691	0.0837	18.2675	2.0460	20.3134	9.9840	1.8823	11.8663	0.0000	8,255.6954	8,255.6954	1.4807	0.0000	8,292.7139
2022	17.1768	11.1619	15.1013	0.0244	0.3465	0.5691	0.7368	0.0919	0.5236	0.5681	0.0000	2,367.7498	2,367.7498	0.7181	0.0000	2,385.7010
Maximum	17.1768	42.4719	38.9691	0.0837	18.2675	2.1990	20.4664	9.9840	2.0230	12.0071	0.0000	8,255.6954	8,255.6954	1.4807	0.0000	8,292.7139

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					
2020	4.1572	42.4719	22.3646	0.0405	18.2675	2.1990	20.4664	9.9840	2.0230	12.0071	0.0000	3,919.2804	3,919.2804	1.1978	0.0000	3,945.8527
2021	5.0570	40.5462	38.9691	0.0837	18.2675	2.0460	20.3134	9.9840	1.8823	11.8663	0.0000	8,255.6954	8,255.6954	1.4807	0.0000	8,292.7139
2022	17.1768	11.1619	15.1013	0.0244	0.3465	0.5691	0.7368	0.0919	0.5236	0.5681	0.0000	2,367.7498	2,367.7498	0.7181	0.0000	2,385.7010
Maximum	17.1768	42.4719	38.9691	0.0837	18.2675	2.1990	20.4664	9.9840	2.0230	12.0071	0.0000	8,255.6954	8,255.6954	1.4807	0.0000	8,292.7139

Descanso 1A - South Coast Air Basin, Summer

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	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
Mobile	0.0482	0.2235	0.5290	1.9000e-003	0.1529	1.4800e-003	0.1544	0.0409	1.3800e-003	0.0423		193.0471	193.0471	9.4500e-003		193.2833
Total	0.7927	0.3506	0.6359	2.6600e-003	0.1529	0.0111	0.1641	0.0409	0.0110	0.0520		345.5251	345.5251	0.0124	2.8000e-003	346.6674

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	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
Mobile	0.0482	0.2235	0.5290	1.9000e-003	0.1529	1.4800e-003	0.1544	0.0409	1.3800e-003	0.0423		193.0471	193.0471	9.4500e-003		193.2833
Total	0.7927	0.3506	0.6359	2.6600e-003	0.1529	0.0111	0.1641	0.0409	0.0110	0.0520		345.5251	345.5251	0.0124	2.8000e-003	346.6674

Descanso 1A - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/27/2020	12/24/2020	5	20	
2	Site Preparation	Site Preparation	12/25/2020	1/7/2021	5	10	
3	Grading	Grading	1/8/2021	2/4/2021	5	20	
4	Building Construction	Building Construction	2/5/2021	12/23/2021	5	230	
5	Paving	Paving	12/23/2021	1/19/2022	5	20	
6	Architectural Coating	Architectural Coating	1/20/2022	2/16/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 7.82

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 39,204; Non-Residential Outdoor: 13,068; Striped Parking Area: 20,438 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 1A - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Descanso 1A - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	154.00	60.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536

Descanso 1A - South Coast Air Basin, Summer

3.2 Demolition - 2020

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
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
Worker	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991
Total	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

Descanso 1A - South Coast Air Basin, Summer

3.2 Demolition - 2020

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
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
Worker	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991
Total	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991

3.3 Site Preparation - 2020

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

Descanso 1A - South Coast Air Basin, Summer

3.3 Site Preparation - 2020

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
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
Worker	0.0807	0.0546	0.7336	2.0700e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		205.8905	205.8905	5.9300e-003		206.0389
Total	0.0807	0.0546	0.7336	2.0700e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		205.8905	205.8905	5.9300e-003		206.0389

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975

Descanso 1A - South Coast Air Basin, Summer

3.3 Site Preparation - 2020

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
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
Worker	0.0807	0.0546	0.7336	2.0700e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		205.8905	205.8905	5.9300e-003		206.0389
Total	0.0807	0.0546	0.7336	2.0700e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		205.8905	205.8905	5.9300e-003		206.0389

3.3 Site Preparation - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116		3,685.6569	3,685.6569	1.1920		3,715.4573

Descanso 1A - South Coast Air Basin, Summer

3.3 Site Preparation - 2021

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
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
Worker	0.0753	0.0491	0.6758	2.0000e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		199.2417	199.2417	5.3700e-003		199.3759
Total	0.0753	0.0491	0.6758	2.0000e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		199.2417	199.2417	5.3700e-003		199.3759

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573

Descanso 1A - South Coast Air Basin, Summer

3.3 Site Preparation - 2021

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
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
Worker	0.0753	0.0491	0.6758	2.0000e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		199.2417	199.2417	5.3700e-003		199.3759
Total	0.0753	0.0491	0.6758	2.0000e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		199.2417	199.2417	5.3700e-003		199.3759

3.4 Grading - 2021

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	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	2.2903	24.7367	15.8575	0.0296	6.5523	1.1599	7.7123	3.3675	1.0671	4.4346		2,871.9285	2,871.9285	0.9288		2,895.1495

Descanso 1A - South Coast Air Basin, Summer

3.4 Grading - 2021

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
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
Worker	0.0628	0.0410	0.5632	1.6700e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		166.0347	166.0347	4.4800e-003		166.1466
Total	0.0628	0.0410	0.5632	1.6700e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		166.0347	166.0347	4.4800e-003		166.1466

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	2.2903	24.7367	15.8575	0.0296	6.5523	1.1599	7.7123	3.3675	1.0671	4.4346	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495

Descanso 1A - South Coast Air Basin, Summer

3.4 Grading - 2021

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
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
Worker	0.0628	0.0410	0.5632	1.6700e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		166.0347	166.0347	4.4800e-003		166.1466
Total	0.0628	0.0410	0.5632	1.6700e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		166.0347	166.0347	4.4800e-003		166.1466

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

Descanso 1A - South Coast Air Basin, Summer

3.5 Building Construction - 2021

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
Vendor	0.1688	5.7460	1.3952	0.0152	0.3839	0.0117	0.3957	0.1105	0.0112	0.1217		1,624.4625	1,624.4625	0.1005		1,626.9738
Worker	0.6445	0.4204	5.7822	0.0171	1.7214	0.0127	1.7341	0.4565	0.0117	0.4683		1,704.6234	1,704.6234	0.0459		1,705.7720
Total	0.8133	6.1664	7.1774	0.0323	2.1053	0.0245	2.1298	0.5670	0.0230	0.5900		3,329.0858	3,329.0858	0.1464		3,332.7458

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

Descanso 1A - South Coast Air Basin, Summer

3.5 Building Construction - 2021

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
Vendor	0.1688	5.7460	1.3952	0.0152	0.3839	0.0117	0.3957	0.1105	0.0112	0.1217		1,624.4625	1,624.4625	0.1005		1,626.9738
Worker	0.6445	0.4204	5.7822	0.0171	1.7214	0.0127	1.7341	0.4565	0.0117	0.4683		1,704.6234	1,704.6234	0.0459		1,705.7720
Total	0.8133	6.1664	7.1774	0.0323	2.1053	0.0245	2.1298	0.5670	0.0230	0.5900		3,329.0858	3,329.0858	0.1464		3,332.7458

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	1.0244					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.2800	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573

Descanso 1A - South Coast Air Basin, Summer

3.6 Paving - 2021

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
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
Worker	0.0628	0.0410	0.5632	1.6700e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		166.0347	166.0347	4.4800e-003		166.1466
Total	0.0628	0.0410	0.5632	1.6700e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		166.0347	166.0347	4.4800e-003		166.1466

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	1.0244					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.2800	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573

Descanso 1A - South Coast Air Basin, Summer

3.6 Paving - 2021

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
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
Worker	0.0628	0.0410	0.5632	1.6700e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		166.0347	166.0347	4.4800e-003		166.1466
Total	0.0628	0.0410	0.5632	1.6700e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		166.0347	166.0347	4.4800e-003		166.1466

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.0244					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.1272	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

Descanso 1A - South Coast Air Basin, Summer

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906
Total	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.0244					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.1272	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104

Descanso 1A - South Coast Air Basin, Summer

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906
Total	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.8505					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	17.0551	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

Descanso 1A - South Coast Air Basin, Summer

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.1217	0.0765	1.0764	3.3200e-003	0.3465	2.4900e-003	0.3490	0.0919	2.2900e-003	0.0942		330.8516	330.8516	8.3600e-003		331.0606
Total	0.1217	0.0765	1.0764	3.3200e-003	0.3465	2.4900e-003	0.3490	0.0919	2.2900e-003	0.0942		330.8516	330.8516	8.3600e-003		331.0606

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	16.8505					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	17.0551	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

Descanso 1A - South Coast Air Basin, Summer

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.1217	0.0765	1.0764	3.3200e-003	0.3465	2.4900e-003	0.3490	0.0919	2.2900e-003	0.0942		330.8516	330.8516	8.3600e-003		331.0606
Total	0.1217	0.0765	1.0764	3.3200e-003	0.3465	2.4900e-003	0.3490	0.0919	2.2900e-003	0.0942		330.8516	330.8516	8.3600e-003		331.0606

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 1A - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0482	0.2235	0.5290	1.9000e-003	0.1529	1.4800e-003	0.1544	0.0409	1.3800e-003	0.0423		193.0471	193.0471	9.4500e-003		193.2833
Unmitigated	0.0482	0.2235	0.5290	1.9000e-003	0.1529	1.4800e-003	0.1544	0.0409	1.3800e-003	0.0423		193.0471	193.0471	9.4500e-003		193.2833

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Parking Lot	0.00	0.00	0.00		
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Parking Lot	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

Descanso 1A - South Coast Air Basin, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
NaturalGas Unmitigated	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837

Descanso 1A - South Coast Air Basin, Summer

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					
Arena	1296.06	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837

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					
Arena	1.29606	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837

6.0 Area Detail

6.1 Mitigation Measures Area

Descanso 1A - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Unmitigated	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

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	0.0923					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

Descanso 1A - South Coast Air Basin, Summer

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	0.0923					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Descanso 1A - South Coast Air Basin, Summer

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 1A - South Coast Air Basin, Winter

Descanso 1A
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.00	Acre	7.82	340,639.00	0
Arena	1.00	Acre	0.60	26,136.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -
 Land Use - calculated
 Construction Phase - estimated

Descanso 1A - South Coast Air Basin, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	2/16/2021	2/16/2022
tblConstructionPhase	PhaseEndDate	12/22/2020	12/23/2021
tblConstructionPhase	PhaseEndDate	12/24/2019	12/24/2020
tblConstructionPhase	PhaseEndDate	2/4/2020	2/4/2021
tblConstructionPhase	PhaseEndDate	1/19/2021	1/19/2022
tblConstructionPhase	PhaseEndDate	1/7/2020	1/7/2021
tblConstructionPhase	PhaseStartDate	1/20/2021	1/20/2022
tblConstructionPhase	PhaseStartDate	2/5/2020	2/5/2021
tblConstructionPhase	PhaseStartDate	11/27/2019	11/27/2020
tblConstructionPhase	PhaseStartDate	1/8/2020	1/8/2021
tblConstructionPhase	PhaseStartDate	12/23/2020	12/23/2021
tblConstructionPhase	PhaseStartDate	12/25/2019	12/25/2020
tblLandUse	LandUseSquareFeet	43,560.00	340,639.00
tblLandUse	LandUseSquareFeet	43,560.00	26,136.00
tblLandUse	LotAcreage	1.00	7.82
tblLandUse	LotAcreage	1.00	0.60

2.0 Emissions Summary

Descanso 1A - South Coast Air Basin, Winter

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					
2020	4.1653	42.4773	22.3076	0.0404	18.2675	2.1990	20.4664	9.9840	2.0230	12.0071	0.0000	3,908.6326	3,908.6326	1.1974	0.0000	3,935.1971
2021	5.1376	40.5511	38.5231	0.0821	18.2675	2.0460	20.3134	9.9840	1.8823	11.8663	0.0000	8,095.2929	8,095.2929	1.4844	0.0000	8,132.4033
2022	17.1895	11.1655	15.0511	0.0243	0.3465	0.5691	0.7368	0.0919	0.5236	0.5681	0.0000	2,357.8071	2,357.8071	0.7178	0.0000	2,375.7518
Maximum	17.1895	42.4773	38.5231	0.0821	18.2675	2.1990	20.4664	9.9840	2.0230	12.0071	0.0000	8,095.2929	8,095.2929	1.4844	0.0000	8,132.4033

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					
2020	4.1653	42.4773	22.3076	0.0404	18.2675	2.1990	20.4664	9.9840	2.0230	12.0071	0.0000	3,908.6326	3,908.6326	1.1974	0.0000	3,935.1971
2021	5.1376	40.5511	38.5231	0.0821	18.2675	2.0460	20.3134	9.9840	1.8823	11.8663	0.0000	8,095.2929	8,095.2929	1.4844	0.0000	8,132.4033
2022	17.1895	11.1655	15.0511	0.0243	0.3465	0.5691	0.7368	0.0919	0.5236	0.5681	0.0000	2,357.8071	2,357.8071	0.7178	0.0000	2,375.7518
Maximum	17.1895	42.4773	38.5231	0.0821	18.2675	2.1990	20.4664	9.9840	2.0230	12.0071	0.0000	8,095.2929	8,095.2929	1.4844	0.0000	8,132.4033

Descanso 1A - South Coast Air Basin, Winter

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	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
Mobile	0.0462	0.2264	0.5072	1.8000e-003	0.1529	1.4900e-003	0.1544	0.0409	1.3900e-003	0.0423		182.9938	182.9938	9.5400e-003		183.2322
Total	0.7907	0.3534	0.6141	2.5600e-003	0.1529	0.0112	0.1641	0.0409	0.0111	0.0520		335.4718	335.4718	0.0125	2.8000e-003	336.6163

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	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
Mobile	0.0462	0.2264	0.5072	1.8000e-003	0.1529	1.4900e-003	0.1544	0.0409	1.3900e-003	0.0423		182.9938	182.9938	9.5400e-003		183.2322
Total	0.7907	0.3534	0.6141	2.5600e-003	0.1529	0.0112	0.1641	0.0409	0.0111	0.0520		335.4718	335.4718	0.0125	2.8000e-003	336.6163

Descanso 1A - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/27/2020	12/24/2020	5	20	
2	Site Preparation	Site Preparation	12/25/2020	1/7/2021	5	10	
3	Grading	Grading	1/8/2021	2/4/2021	5	20	
4	Building Construction	Building Construction	2/5/2021	12/23/2021	5	230	
5	Paving	Paving	12/23/2021	1/19/2022	5	20	
6	Architectural Coating	Architectural Coating	1/20/2022	2/16/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 7.82

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 39,204; Non-Residential Outdoor: 13,068; Striped Parking Area: 20,438 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 1A - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Descanso 1A - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	154.00	60.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536

Descanso 1A - South Coast Air Basin, Winter

3.2 Demolition - 2020

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
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
Worker	0.0740	0.0500	0.5544	1.6200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		160.9277	160.9277	4.6300e-003		161.0435
Total	0.0740	0.0500	0.5544	1.6200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		160.9277	160.9277	4.6300e-003		161.0435

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

Descanso 1A - South Coast Air Basin, Winter

3.2 Demolition - 2020

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
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
Worker	0.0740	0.0500	0.5544	1.6200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		160.9277	160.9277	4.6300e-003		161.0435
Total	0.0740	0.0500	0.5544	1.6200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		160.9277	160.9277	4.6300e-003		161.0435

3.3 Site Preparation - 2020

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

Descanso 1A - South Coast Air Basin, Winter

3.3 Site Preparation - 2020

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
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
Worker	0.0888	0.0600	0.6653	1.9400e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		193.1132	193.1132	5.5600e-003		193.2522
Total	0.0888	0.0600	0.6653	1.9400e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		193.1132	193.1132	5.5600e-003		193.2522

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975

Descanso 1A - South Coast Air Basin, Winter

3.3 Site Preparation - 2020

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
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
Worker	0.0888	0.0600	0.6653	1.9400e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		193.1132	193.1132	5.5600e-003		193.2522
Total	0.0888	0.0600	0.6653	1.9400e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		193.1132	193.1132	5.5600e-003		193.2522

3.3 Site Preparation - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116		3,685.6569	3,685.6569	1.1920		3,715.4573

Descanso 1A - South Coast Air Basin, Winter

3.3 Site Preparation - 2021

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
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
Worker	0.0830	0.0540	0.6118	1.8800e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		186.8672	186.8672	5.0300e-003		186.9929
Total	0.0830	0.0540	0.6118	1.8800e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		186.8672	186.8672	5.0300e-003		186.9929

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573

Descanso 1A - South Coast Air Basin, Winter

3.3 Site Preparation - 2021

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
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
Worker	0.0830	0.0540	0.6118	1.8800e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		186.8672	186.8672	5.0300e-003		186.9929
Total	0.0830	0.0540	0.6118	1.8800e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		186.8672	186.8672	5.0300e-003		186.9929

3.4 Grading - 2021

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	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895,1495
Total	2.2903	24.7367	15.8575	0.0296	6.5523	1.1599	7.7123	3.3675	1.0671	4.4346		2,871.9285	2,871.9285	0.9288		2,895,1495

Descanso 1A - South Coast Air Basin, Winter

3.4 Grading - 2021

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
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
Worker	0.0692	0.0450	0.5098	1.5600e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		155.7227	155.7227	4.1900e-003		155.8274
Total	0.0692	0.0450	0.5098	1.5600e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		155.7227	155.7227	4.1900e-003		155.8274

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	2.2903	24.7367	15.8575	0.0296	6.5523	1.1599	7.7123	3.3675	1.0671	4.4346	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495

Descanso 1A - South Coast Air Basin, Winter

3.4 Grading - 2021

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
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
Worker	0.0692	0.0450	0.5098	1.5600e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		155.7227	155.7227	4.1900e-003		155.8274
Total	0.0692	0.0450	0.5098	1.5600e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		155.7227	155.7227	4.1900e-003		155.8274

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

Descanso 1A - South Coast Air Basin, Winter

3.5 Building Construction - 2021

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
Vendor	0.1774	5.7325	1.5509	0.0148	0.3839	0.0121	0.3960	0.1105	0.0116	0.1221		1,580.2427	1,580.2427	0.1074		1,582.9266
Worker	0.7102	0.4617	5.2340	0.0160	1.7214	0.0127	1.7341	0.4565	0.0117	0.4683		1,598.7528	1,598.7528	0.0430		1,599.8278
Total	0.8876	6.1942	6.7849	0.0308	2.1053	0.0248	2.1301	0.5670	0.0233	0.5904		3,178.9955	3,178.9955	0.1504		3,182.7543

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

Descanso 1A - South Coast Air Basin, Winter

3.5 Building Construction - 2021

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
Vendor	0.1774	5.7325	1.5509	0.0148	0.3839	0.0121	0.3960	0.1105	0.0116	0.1221		1,580.2427	1,580.2427	0.1074		1,582.9266
Worker	0.7102	0.4617	5.2340	0.0160	1.7214	0.0127	1.7341	0.4565	0.0117	0.4683		1,598.7528	1,598.7528	0.0430		1,599.8278
Total	0.8876	6.1942	6.7849	0.0308	2.1053	0.0248	2.1301	0.5670	0.0233	0.5904		3,178.9955	3,178.9955	0.1504		3,182.7543

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	1.0244					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.2800	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573

Descanso 1A - South Coast Air Basin, Winter

3.6 Paving - 2021

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
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
Worker	0.0692	0.0450	0.5098	1.5600e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		155.7227	155.7227	4.1900e-003		155.8274
Total	0.0692	0.0450	0.5098	1.5600e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		155.7227	155.7227	4.1900e-003		155.8274

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	1.0244					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.2800	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573

Descanso 1A - South Coast Air Basin, Winter

3.6 Paving - 2021

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
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
Worker	0.0692	0.0450	0.5098	1.5600e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		155.7227	155.7227	4.1900e-003		155.8274
Total	0.0692	0.0450	0.5098	1.5600e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		155.7227	155.7227	4.1900e-003		155.8274

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.0244					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.1272	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

Descanso 1A - South Coast Air Basin, Winter

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003		150.2414
Total	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003		150.2414

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.0244					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.1272	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104

Descanso 1A - South Coast Air Basin, Winter

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003		150.2414
Total	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003		150.2414

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.8505					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	17.0551	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

Descanso 1A - South Coast Air Basin, Winter

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.1345	0.0839	0.9726	3.1100e-003	0.3465	2.4900e-003	0.3490	0.0919	2.2900e-003	0.0942		310.3034	310.3034	7.8200e-003		310.4989
Total	0.1345	0.0839	0.9726	3.1100e-003	0.3465	2.4900e-003	0.3490	0.0919	2.2900e-003	0.0942		310.3034	310.3034	7.8200e-003		310.4989

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	16.8505					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	17.0551	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

Descanso 1A - South Coast Air Basin, Winter

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.1345	0.0839	0.9726	3.1100e-003	0.3465	2.4900e-003	0.3490	0.0919	2.2900e-003	0.0942		310.3034	310.3034	7.8200e-003		310.4989
Total	0.1345	0.0839	0.9726	3.1100e-003	0.3465	2.4900e-003	0.3490	0.0919	2.2900e-003	0.0942		310.3034	310.3034	7.8200e-003		310.4989

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 1A - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0462	0.2264	0.5072	1.8000e-003	0.1529	1.4900e-003	0.1544	0.0409	1.3900e-003	0.0423		182.9938	182.9938	9.5400e-003		183.2322
Unmitigated	0.0462	0.2264	0.5072	1.8000e-003	0.1529	1.4900e-003	0.1544	0.0409	1.3900e-003	0.0423		182.9938	182.9938	9.5400e-003		183.2322

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Parking Lot	0.00	0.00	0.00		
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Parking Lot	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

Descanso 1A - South Coast Air Basin, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
NaturalGas Unmitigated	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837

Descanso 1A - South Coast Air Basin, Winter

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					
Arena	1296.06	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837

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					
Arena	1.29606	0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0140	0.1271	0.1067	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003		152.4776	152.4776	2.9200e-003	2.8000e-003	153.3837

6.0 Area Detail

6.1 Mitigation Measures Area

Descanso 1A - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Unmitigated	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

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	0.0923					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

Descanso 1A - South Coast Air Basin, Winter

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	0.0923					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	0.7305	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Descanso 1A - South Coast Air Basin, Winter

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso Phase 1B - South Coast Air Basin, Annual

Descanso Phase 1B
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	4.03	175,546.80	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - est

Construction Phase - est

Off-road Equipment - est

Off-road Equipment - est

Off-road Equipment -

Off-road Equipment -

Descanso Phase 1B - South Coast Air Basin, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	50.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	300.00
tblConstructionPhase	NumDays	5.00	120.00
tblConstructionPhase	PhaseEndDate	3/1/2021	1/12/2024
tblConstructionPhase	PhaseEndDate	2/21/2020	9/8/2022
tblConstructionPhase	PhaseEndDate	2/3/2021	11/2/2023
tblConstructionPhase	PhaseEndDate	2/11/2020	8/11/2022
tblConstructionPhase	PhaseStartDate	2/4/2021	11/4/2023
tblConstructionPhase	PhaseStartDate	2/12/2020	8/12/2022
tblConstructionPhase	PhaseStartDate	1/9/2021	9/9/2022
tblConstructionPhase	PhaseStartDate	2/5/2020	2/25/2022
tblGrading	AcresOfGrading	10.00	4.00
tblLandUse	LandUseSquareFeet	43,560.00	175,546.80
tblLandUse	LotAcreage	1.00	4.03
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00

2.0 Emissions Summary

Descanso Phase 1B - South Coast Air Basin, Annual

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2622	2.5623	1.9263	3.7000e-003	1.2509	0.1251	1.3761	0.6558	0.1152	0.7710	0.0000	325.8532	325.8532	0.0933	0.0000	328.1868
2023	0.8009	1.1845	1.8774	3.2600e-003	0.2496	0.0588	0.3084	0.0632	0.0543	0.1175	0.0000	286.8074	286.8074	0.0679	0.0000	288.5055
2024	0.1639	6.2700e-003	0.0111	2.0000e-005	8.2000e-004	3.1000e-004	1.1300e-003	2.2000e-004	3.1000e-004	5.3000e-004	0.0000	1.9206	1.9206	9.0000e-005	0.0000	1.9228
Maximum	0.8009	2.5623	1.9263	3.7000e-003	1.2509	0.1251	1.3761	0.6558	0.1152	0.7710	0.0000	325.8532	325.8532	0.0933	0.0000	328.1868

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2622	2.5623	1.9263	3.7000e-003	1.2509	0.1251	1.3761	0.6558	0.1152	0.7710	0.0000	325.8529	325.8529	0.0933	0.0000	328.1864
2023	0.8009	1.1845	1.8774	3.2600e-003	0.2496	0.0588	0.3084	0.0632	0.0543	0.1175	0.0000	286.8072	286.8072	0.0679	0.0000	288.5052
2024	0.1639	6.2700e-003	0.0111	2.0000e-005	8.2000e-004	3.1000e-004	1.1300e-003	2.2000e-004	3.1000e-004	5.3000e-004	0.0000	1.9206	1.9206	9.0000e-005	0.0000	1.9228
Maximum	0.8009	2.5623	1.9263	3.7000e-003	1.2509	0.1251	1.3761	0.6558	0.1152	0.7710	0.0000	325.8529	325.8529	0.0933	0.0000	328.1864

Descanso Phase 1B - South Coast Air Basin, Annual

	ROG	NOx	CO	SO2	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
9	1-8-2022	4-7-2022	0.5181	0.5181
10	4-8-2022	7-7-2022	1.1222	1.1222
11	7-8-2022	10-7-2022	0.7943	0.7943
12	10-8-2022	1-7-2023	0.4229	0.4229
13	1-8-2023	4-7-2023	0.3831	0.3831
14	4-8-2023	7-7-2023	0.3860	0.3860
15	7-8-2023	10-7-2023	0.3903	0.3903
16	10-8-2023	1-7-2024	0.9030	0.9030
17	1-8-2024	4-7-2024	0.0608	0.0608
		Highest	1.1222	1.1222

Descanso Phase 1B - South Coast Air Basin, Annual

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	0.7157	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0171	0.1558	0.1308	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	790.4140	790.4140	0.0289	8.4100e-003	793.6427
Mobile	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.7376	0.1787	0.1852	1.1500e-003	0.0195	0.0120	0.0315	5.2300e-003	0.0120	0.0172	0.4453	816.3601	816.8055	0.0750	9.5000e-003	821.5106

Descanso Phase 1B - South Coast Air Basin, Annual

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	0.7157	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0171	0.1558	0.1308	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	790.4140	790.4140	0.0289	8.4100e-003	793.6427
Mobile	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.7376	0.1787	0.1852	1.1500e-003	0.0195	0.0120	0.0315	5.2300e-003	0.0120	0.0172	0.4453	816.3601	816.8055	0.0750	9.5000e-003	821.5106

	ROG	NOx	CO	SO2	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

Descanso Phase 1B - South Coast Air Basin, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/25/2022	8/11/2022	5	120	
2	Grading	Grading	8/12/2022	9/8/2022	5	20	
3	Paving	Paving	9/9/2022	11/2/2023	5	300	
4	Architectural Coating	Architectural Coating	11/4/2023	1/12/2024	5	50	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 263,320; Non-Residential Outdoor: 87,773; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso Phase 1B - South Coast Air Basin, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Paving Equipment	1	6.00	132	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Descanso Phase 1B - South Coast Air Basin, Annual

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0840	0.0000	1.0840	0.5958	0.0000	0.5958	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1803	1.8845	1.0476	2.1000e-003		0.0914	0.0914		0.0840	0.0840	0.0000	184.2396	184.2396	0.0596	0.0000	185.7293
Total	0.1803	1.8845	1.0476	2.1000e-003	1.0840	0.0914	1.1753	0.5958	0.0840	0.6799	0.0000	184.2396	184.2396	0.0596	0.0000	185.7293

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	4.2200e-003	3.0100e-003	0.0348	1.1000e-004	0.0119	9.0000e-005	0.0119	3.1500e-003	8.0000e-005	3.2300e-003	0.0000	9.9618	9.9618	2.5000e-004	0.0000	9.9681
Total	4.2200e-003	3.0100e-003	0.0348	1.1000e-004	0.0119	9.0000e-005	0.0119	3.1500e-003	8.0000e-005	3.2300e-003	0.0000	9.9618	9.9618	2.5000e-004	0.0000	9.9681

Descanso Phase 1B - South Coast Air Basin, Annual

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0840	0.0000	1.0840	0.5958	0.0000	0.5958	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1803	1.8845	1.0476	2.1000e-003		0.0914	0.0914		0.0840	0.0840	0.0000	184.2394	184.2394	0.0596	0.0000	185.7290
Total	0.1803	1.8845	1.0476	2.1000e-003	1.0840	0.0914	1.1753	0.5958	0.0840	0.6799	0.0000	184.2394	184.2394	0.0596	0.0000	185.7290

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	4.2200e-003	3.0100e-003	0.0348	1.1000e-004	0.0119	9.0000e-005	0.0119	3.1500e-003	8.0000e-005	3.2300e-003	0.0000	9.9618	9.9618	2.5000e-004	0.0000	9.9681
Total	4.2200e-003	3.0100e-003	0.0348	1.1000e-004	0.0119	9.0000e-005	0.0119	3.1500e-003	8.0000e-005	3.2300e-003	0.0000	9.9618	9.9618	2.5000e-004	0.0000	9.9681

Descanso Phase 1B - South Coast Air Basin, Annual

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0623	0.0000	0.0623	0.0333	0.0000	0.0333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0548	26.0548	8.4300e-003	0.0000	26.2654
Total	0.0195	0.2086	0.1527	3.0000e-004	0.0623	9.4100e-003	0.0718	0.0333	8.6600e-003	0.0420	0.0000	26.0548	26.0548	8.4300e-003	0.0000	26.2654

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	5.9000e-004	4.2000e-004	4.8300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3836	1.3836	3.0000e-005	0.0000	1.3845
Total	5.9000e-004	4.2000e-004	4.8300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3836	1.3836	3.0000e-005	0.0000	1.3845

Descanso Phase 1B - South Coast Air Basin, Annual

3.3 Grading - 2022

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					0.0623	0.0000	0.0623	0.0333	0.0000	0.0333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0547	26.0547	8.4300e-003	0.0000	26.2654
Total	0.0195	0.2086	0.1527	3.0000e-004	0.0623	9.4100e-003	0.0718	0.0333	8.6600e-003	0.0420	0.0000	26.0547	26.0547	8.4300e-003	0.0000	26.2654

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	5.9000e-004	4.2000e-004	4.8300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3836	1.3836	3.0000e-005	0.0000	1.3845
Total	5.9000e-004	4.2000e-004	4.8300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3836	1.3836	3.0000e-005	0.0000	1.3845

Descanso Phase 1B - South Coast Air Basin, Annual

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0457	0.4574	0.5884	8.7000e-004		0.0240	0.0240		0.0222	0.0222	0.0000	76.1960	76.1960	0.0243	0.0000	76.8044
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0457	0.4574	0.5884	8.7000e-004		0.0240	0.0240		0.0222	0.0222	0.0000	76.1960	76.1960	0.0243	0.0000	76.8044

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0119	8.4600e-003	0.0979	3.1000e-004	0.0911	2.4000e-004	0.0914	0.0230	2.2000e-004	0.0233	0.0000	28.0175	28.0175	7.1000e-004	0.0000	28.0352
Total	0.0119	8.4600e-003	0.0979	3.1000e-004	0.0911	2.4000e-004	0.0914	0.0230	2.2000e-004	0.0233	0.0000	28.0175	28.0175	7.1000e-004	0.0000	28.0352

Descanso Phase 1B - South Coast Air Basin, Annual

3.4 Paving - 2022

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	0.0457	0.4574	0.5884	8.7000e-004		0.0240	0.0240		0.0222	0.0222	0.0000	76.1959	76.1959	0.0243	0.0000	76.8043
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0457	0.4574	0.5884	8.7000e-004		0.0240	0.0240		0.0222	0.0222	0.0000	76.1959	76.1959	0.0243	0.0000	76.8043

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0119	8.4600e-003	0.0979	3.1000e-004	0.0911	2.4000e-004	0.0914	0.0230	2.2000e-004	0.0233	0.0000	28.0175	28.0175	7.1000e-004	0.0000	28.0352
Total	0.0119	8.4600e-003	0.0979	3.1000e-004	0.0911	2.4000e-004	0.0914	0.0230	2.2000e-004	0.0233	0.0000	28.0175	28.0175	7.1000e-004	0.0000	28.0352

Descanso Phase 1B - South Coast Air Basin, Annual

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1148	1.1370	1.5882	2.3600e-003		0.0567	0.0567		0.0523	0.0523	0.0000	206.1084	206.1084	0.0658	0.0000	207.7542
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1148	1.1370	1.5882	2.3600e-003		0.0567	0.0567		0.0523	0.0523	0.0000	206.1084	206.1084	0.0658	0.0000	207.7542

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0302	0.0207	0.2440	8.1000e-004	0.2463	6.4000e-004	0.2470	0.0623	5.9000e-004	0.0629	0.0000	72.9285	72.9285	1.7200e-003	0.0000	72.9715
Total	0.0302	0.0207	0.2440	8.1000e-004	0.2463	6.4000e-004	0.2470	0.0623	5.9000e-004	0.0629	0.0000	72.9285	72.9285	1.7200e-003	0.0000	72.9715

Descanso Phase 1B - South Coast Air Basin, Annual

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1148	1.1370	1.5882	2.3600e-003		0.0567	0.0567		0.0523	0.0523	0.0000	206.1082	206.1082	0.0658	0.0000	207.7540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1148	1.1370	1.5882	2.3600e-003		0.0567	0.0567		0.0523	0.0523	0.0000	206.1082	206.1082	0.0658	0.0000	207.7540

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0302	0.0207	0.2440	8.1000e-004	0.2463	6.4000e-004	0.2470	0.0623	5.9000e-004	0.0629	0.0000	72.9285	72.9285	1.7200e-003	0.0000	72.9715
Total	0.0302	0.0207	0.2440	8.1000e-004	0.2463	6.4000e-004	0.2470	0.0623	5.9000e-004	0.0629	0.0000	72.9285	72.9285	1.7200e-003	0.0000	72.9715

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3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6509					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8300e-003	0.0261	0.0362	6.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	5.1065	5.1065	3.1000e-004	0.0000	5.1142
Total	0.6548	0.0261	0.0362	6.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	5.1065	5.1065	3.1000e-004	0.0000	5.1142

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-003	7.6000e-004	8.9100e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.6641	2.6641	6.0000e-005	0.0000	2.6656
Total	1.1000e-003	7.6000e-004	8.9100e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.6641	2.6641	6.0000e-005	0.0000	2.6656

Descanso Phase 1B - South Coast Air Basin, Annual

3.5 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Archit. Coating	0.6509						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	3.8300e-003	0.0261	0.0362	6.0000e-005			1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	5.1065	5.1065	3.1000e-004	0.0000	5.1141
Total	0.6548	0.0261	0.0362	6.0000e-005			1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	5.1065	5.1065	3.1000e-004	0.0000	5.1141

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-003	7.6000e-004	8.9100e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.6641	2.6641	6.0000e-005	0.0000	2.6656
Total	1.1000e-003	7.6000e-004	8.9100e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.6641	2.6641	6.0000e-005	0.0000	2.6656

Descanso Phase 1B - South Coast Air Basin, Annual

3.5 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	0.1627					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	0.1636	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0800e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6440	0.6440	1.0000e-005	0.0000	0.6444
Total	2.6000e-004	1.7000e-004	2.0800e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6440	0.6440	1.0000e-005	0.0000	0.6444

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3.5 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1627					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	0.1636	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0800e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6440	0.6440	1.0000e-005	0.0000	0.6444
Total	2.6000e-004	1.7000e-004	2.0800e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6440	0.6440	1.0000e-005	0.0000	0.6444

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801
Unmitigated	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.553907	0.042339	0.204535	0.114490	0.014186	0.005810	0.021866	0.032691	0.002129	0.001663	0.004844	0.000713	0.000827

Descanso Phase 1B - South Coast Air Basin, Annual

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	620.8560	620.8560	0.0256	5.3000e-003	623.0771
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	620.8560	620.8560	0.0256	5.3000e-003	623.0771
NaturalGas Mitigated	0.0171	0.1558	0.1308	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	169.5580	169.5580	3.2500e-003	3.1100e-003	170.5656
NaturalGas Unmitigated	0.0171	0.1558	0.1308	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	169.5580	169.5580	3.2500e-003	3.1100e-003	170.5656

Descanso Phase 1B - South Coast Air Basin, Annual

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	3.1774e+006	0.0171	0.1558	0.1308	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	169.5580	169.5580	3.2500e-003	3.1100e-003	170.5656
Total		0.0171	0.1558	0.1308	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	169.5580	169.5580	3.2500e-003	3.1100e-003	170.5656

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					
Arena	3.1774e+006	0.0171	0.1558	0.1308	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	169.5580	169.5580	3.2500e-003	3.1100e-003	170.5656
Total		0.0171	0.1558	0.1308	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	169.5580	169.5580	3.2500e-003	3.1100e-003	170.5656

Descanso Phase 1B - South Coast Air Basin, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	1.94857e+006	620.8560	0.0256	5.3000e-003	623.0771
Total		620.8560	0.0256	5.3000e-003	623.0771

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	1.94857e+006	620.8560	0.0256	5.3000e-003	623.0771
Total		620.8560	0.0256	5.3000e-003	623.0771

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7157	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.7157	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0814					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6343					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.7157	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Descanso Phase 1B - South Coast Air Basin, Annual

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0814					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6343					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.7157	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

Descanso Phase 1B - South Coast Air Basin, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.3161	0.0441	1.0900e-003	7.7425
Unmitigated	6.3161	0.0441	1.0900e-003	7.7425

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

Descanso Phase 1B - South Coast Air Basin, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0183	1.0800e-003	0.0000	0.0453
Unmitigated	0.0183	1.0800e-003	0.0000	0.0453

Descanso Phase 1B - South Coast Air Basin, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Descanso Phase 1B - South Coast Air Basin, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso Phase 1B - South Coast Air Basin, Summer

Descanso Phase 1B
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	4.03	175,546.80	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - est
- Construction Phase - est
- Off-road Equipment - est
- Off-road Equipment - est
- Off-road Equipment -
- Off-road Equipment -

Descanso Phase 1B - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	50.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	300.00
tblConstructionPhase	NumDays	5.00	120.00
tblConstructionPhase	PhaseEndDate	3/1/2021	1/12/2024
tblConstructionPhase	PhaseEndDate	2/21/2020	9/8/2022
tblConstructionPhase	PhaseEndDate	2/3/2021	11/2/2023
tblConstructionPhase	PhaseEndDate	2/11/2020	8/11/2022
tblConstructionPhase	PhaseStartDate	2/4/2021	11/4/2023
tblConstructionPhase	PhaseStartDate	2/12/2020	8/12/2022
tblConstructionPhase	PhaseStartDate	1/9/2021	9/9/2022
tblConstructionPhase	PhaseStartDate	2/5/2020	2/25/2022
tblGrading	AcresOfGrading	10.00	4.00
tblLandUse	LandUseSquareFeet	43,560.00	175,546.80
tblLandUse	LotAcreage	1.00	4.03
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00

2.0 Emissions Summary

Descanso Phase 1B - South Coast Air Basin, Summer

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					
2022	3.0761	31.4523	18.0848	0.0369	18.2675	1.5239	19.7914	9.9840	1.4020	11.3860	0.0000	3,576.9303	3,576.9303	1.0996	0.0000	3,604.4197
2023	32.7934	10.5507	16.9091	0.0293	2.2960	0.5240	2.8199	0.5801	0.4829	1.0630	0.0000	2,845.4783	2,845.4783	0.6810	0.0000	2,862.5027
2024	32.7795	1.2493	2.2592	4.4600e-003	0.1677	0.0621	0.2297	0.0445	0.0620	0.1065	0.0000	430.4963	430.4963	0.0192	0.0000	430.9761
Maximum	32.7934	31.4523	18.0848	0.0369	18.2675	1.5239	19.7914	9.9840	1.4020	11.3860	0.0000	3,576.9303	3,576.9303	1.0996	0.0000	3,604.4197

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					
2022	3.0761	31.4523	18.0848	0.0369	18.2675	1.5239	19.7914	9.9840	1.4020	11.3860	0.0000	3,576.9303	3,576.9303	1.0996	0.0000	3,604.4196
2023	32.7934	10.5507	16.9091	0.0293	2.2960	0.5240	2.8199	0.5801	0.4829	1.0630	0.0000	2,845.4783	2,845.4783	0.6810	0.0000	2,862.5027
2024	32.7795	1.2493	2.2592	4.4600e-003	0.1677	0.0621	0.2297	0.0445	0.0620	0.1065	0.0000	430.4963	430.4963	0.0192	0.0000	430.9761
Maximum	32.7934	31.4523	18.0848	0.0369	18.2675	1.5239	19.7914	9.9840	1.4020	11.3860	0.0000	3,576.9303	3,576.9303	1.0996	0.0000	3,604.4196

Descanso Phase 1B - South Coast Air Basin, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
Mobile	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938
Total	4.0553	1.0251	1.1502	6.8500e-003	0.1529	0.0661	0.2190	0.0409	0.0660	0.1069		1,200.8395	1,200.8395	0.0275	0.0188	1,207.1209

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
Mobile	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938
Total	4.0553	1.0251	1.1502	6.8500e-003	0.1529	0.0661	0.2190	0.0409	0.0660	0.1069		1,200.8395	1,200.8395	0.0275	0.0188	1,207.1209

Descanso Phase 1B - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	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	2/25/2022	8/11/2022	5	120	
2	Grading	Grading	8/12/2022	9/8/2022	5	20	
3	Paving	Paving	9/9/2022	11/2/2023	5	300	
4	Architectural Coating	Architectural Coating	11/4/2023	1/12/2024	5	50	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 263,320; Non-Residential Outdoor: 87,773; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso Phase 1B - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Paving Equipment	1	6.00	132	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Descanso Phase 1B - South Coast Air Basin, Summer

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.0054	31.4079	17.4598	0.0349		1.5225	1.5225		1.4007	1.4007		3,384.8229	3,384.8229	1.0947		3,412.1909
Total	3.0054	31.4079	17.4598	0.0349	18.0663	1.5225	19.5887	9.9307	1.4007	11.3313		3,384.8229	3,384.8229	1.0947		3,412.1909

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
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
Worker	0.0707	0.0444	0.6250	1.9300e-003	0.2012	1.4500e-003	0.2026	0.0534	1.3300e-003	0.0547		192.1074	192.1074	4.8500e-003		192.2287
Total	0.0707	0.0444	0.6250	1.9300e-003	0.2012	1.4500e-003	0.2026	0.0534	1.3300e-003	0.0547		192.1074	192.1074	4.8500e-003		192.2287

Descanso Phase 1B - South Coast Air Basin, Summer

3.2 Site Preparation - 2022

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.0054	31.4079	17.4598	0.0349		1.5225	1.5225		1.4007	1.4007	0.0000	3,384.8229	3,384.8229	1.0947		3,412.1909
Total	3.0054	31.4079	17.4598	0.0349	18.0663	1.5225	19.5887	9.9307	1.4007	11.3313	0.0000	3,384.8229	3,384.8229	1.0947		3,412.1909

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
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
Worker	0.0707	0.0444	0.6250	1.9300e-003	0.2012	1.4500e-003	0.2026	0.0534	1.3300e-003	0.0547		192.1074	192.1074	4.8500e-003		192.2287
Total	0.0707	0.0444	0.6250	1.9300e-003	0.2012	1.4500e-003	0.2026	0.0534	1.3300e-003	0.0547		192.1074	192.1074	4.8500e-003		192.2287

Descanso Phase 1B - South Coast Air Basin, Summer

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	6.2342	0.9409	7.1750	3.3331	0.8656	4.1987		2,872.0464	2,872.0464	0.9289		2,895.2684

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
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
Worker	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906
Total	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906

Descanso Phase 1B - South Coast Air Basin, Summer

3.3 Grading - 2022

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					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	1.9486	20.8551	15.2727	0.0297	6.2342	0.9409	7.1750	3.3331	0.8656	4.1987	0.0000	2,872.046 4	2,872.046 4	0.9289		2,895.268 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
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
Worker	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906
Total	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906

Descanso Phase 1B - South Coast Air Basin, Summer

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1282	11.2940	14.5291	0.0216		0.5936	0.5936		0.5470	0.5470		2,073.8690	2,073.8690	0.6624		2,090.4293
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1282	11.2940	14.5291	0.0216		0.5936	0.5936		0.5470	0.5470		2,073.8690	2,073.8690	0.6624		2,090.4293

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
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
Worker	0.2945	0.1850	2.6041	8.0300e-003	2.2960	6.0300e-003	2.3020	0.5801	5.5500e-003	0.5857		800.4474	800.4474	0.0202		800.9531
Total	0.2945	0.1850	2.6041	8.0300e-003	2.2960	6.0300e-003	2.3020	0.5801	5.5500e-003	0.5857		800.4474	800.4474	0.0202		800.9531

Descanso Phase 1B - South Coast Air Basin, Summer

3.4 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1282	11.2940	14.5291	0.0216		0.5936	0.5936		0.5470	0.5470	0.0000	2,073.8690	2,073.8690	0.6624		2,090.4293
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1282	11.2940	14.5291	0.0216		0.5936	0.5936		0.5470	0.5470	0.0000	2,073.8690	2,073.8690	0.6624		2,090.4293

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
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
Worker	0.2945	0.1850	2.6041	8.0300e-003	2.2960	6.0300e-003	2.3020	0.5801	5.5500e-003	0.5857		800.4474	800.4474	0.0202		800.9531
Total	0.2945	0.1850	2.6041	8.0300e-003	2.2960	6.0300e-003	2.3020	0.5801	5.5500e-003	0.5857		800.4474	800.4474	0.0202		800.9531

Descanso Phase 1B - South Coast Air Basin, Summer

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0487	10.3833	14.5043	0.0216		0.5181	0.5181		0.4775	0.4775		2,074.8459	2,074.8459	0.6627		2,091.4140
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0487	10.3833	14.5043	0.0216		0.5181	0.5181		0.4775	0.4775		2,074.8459	2,074.8459	0.6627		2,091.4140

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
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
Worker	0.2769	0.1674	2.4048	7.7300e-003	2.2960	5.8700e-003	2.3018	0.5801	5.4000e-003	0.5855		770.6325	770.6325	0.0183		771.0886
Total	0.2769	0.1674	2.4048	7.7300e-003	2.2960	5.8700e-003	2.3018	0.5801	5.4000e-003	0.5855		770.6325	770.6325	0.0183		771.0886

Descanso Phase 1B - South Coast Air Basin, Summer

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0487	10.3833	14.5043	0.0216		0.5181	0.5181		0.4775	0.4775	0.0000	2,074.8459	2,074.8459	0.6627		2,091.4140
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0487	10.3833	14.5043	0.0216		0.5181	0.5181		0.4775	0.4775	0.0000	2,074.8459	2,074.8459	0.6627		2,091.4140

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
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
Worker	0.2769	0.1674	2.4048	7.7300e-003	2.2960	5.8700e-003	2.3018	0.5801	5.4000e-003	0.5855		770.6325	770.6325	0.0183		771.0886
Total	0.2769	0.1674	2.4048	7.7300e-003	2.2960	5.8700e-003	2.3018	0.5801	5.4000e-003	0.5855		770.6325	770.6325	0.0183		771.0886

Descanso Phase 1B - South Coast Air Basin, Summer

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.5463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	32.7380	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0554	0.0335	0.4810	1.5500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		154.1265	154.1265	3.6500e-003		154.2177
Total	0.0554	0.0335	0.4810	1.5500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		154.1265	154.1265	3.6500e-003		154.2177

Descanso Phase 1B - South Coast Air Basin, Summer

3.5 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.5463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	32.7380	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0554	0.0335	0.4810	1.5500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		154.1265	154.1265	3.6500e-003		154.2177
Total	0.0554	0.0335	0.4810	1.5500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		154.1265	154.1265	3.6500e-003		154.2177

Descanso Phase 1B - South Coast Air Basin, Summer

3.5 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	32.5463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	32.7271	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0524	0.0305	0.4491	1.4900e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		149.0483	149.0483	3.3400e-003		149.1319
Total	0.0524	0.0305	0.4491	1.4900e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		149.0483	149.0483	3.3400e-003		149.1319

Descanso Phase 1B - South Coast Air Basin, Summer

3.5 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	32.5463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	32.7271	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0524	0.0305	0.4491	1.4900e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		149.0483	149.0483	3.3400e-003		149.1319
Total	0.0524	0.0305	0.4491	1.4900e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		149.0483	149.0483	3.3400e-003		149.1319

4.0 Operational Detail - Mobile

Descanso Phase 1B - South Coast Air Basin, Summer

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	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938
Unmitigated	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.553907	0.042339	0.204535	0.114490	0.014186	0.005810	0.021866	0.032691	0.002129	0.001663	0.004844	0.000713	0.000827

Descanso Phase 1B - South Coast Air Basin, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
NaturalGas Unmitigated	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268

Descanso Phase 1B - South Coast Air Basin, Summer

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					
Arena	8705.2	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
Total		0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268

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					
Arena	8.7052	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
Total		0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268

6.0 Area Detail

6.1 Mitigation Measures Area

Descanso Phase 1B - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.4458					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso Phase 1B - South Coast Air Basin, Summer

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	0.4458					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Descanso Phase 1B - South Coast Air Basin, Summer

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso Phase 1B - South Coast Air Basin, Winter

Descanso Phase 1B
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	4.03	175,546.80	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - est

Construction Phase - est

Off-road Equipment - est

Off-road Equipment - est

Off-road Equipment -

Off-road Equipment -

Descanso Phase 1B - South Coast Air Basin, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	50.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	300.00
tblConstructionPhase	NumDays	5.00	120.00
tblConstructionPhase	PhaseEndDate	3/1/2021	1/12/2024
tblConstructionPhase	PhaseEndDate	2/21/2020	9/8/2022
tblConstructionPhase	PhaseEndDate	2/3/2021	11/2/2023
tblConstructionPhase	PhaseEndDate	2/11/2020	8/11/2022
tblConstructionPhase	PhaseStartDate	2/4/2021	11/4/2023
tblConstructionPhase	PhaseStartDate	2/12/2020	8/12/2022
tblConstructionPhase	PhaseStartDate	1/9/2021	9/9/2022
tblConstructionPhase	PhaseStartDate	2/5/2020	2/25/2022
tblGrading	AcresOfGrading	10.00	4.00
tblLandUse	LandUseSquareFeet	43,560.00	175,546.80
tblLandUse	LotAcreage	1.00	4.03
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00

2.0 Emissions Summary

Descanso Phase 1B - South Coast Air Basin, Winter

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					
2022	3.0835	31.4566	18.0246	0.0367	18.2675	1.5239	19.7914	9.9840	1.4020	11.3860	0.0000	3,564.999 1	3,564.999 1	1.0993	0.0000	3,592.480 6
2023	32.7993	10.5670	16.6731	0.0288	2.2960	0.5240	2.8199	0.5801	0.4829	1.0630	0.0000	2,797.615 3	2,797.615 3	0.6798	0.0000	2,814.609 6
2024	32.7853	1.2523	2.2145	4.3700e-003	0.1677	0.0621	0.2297	0.0445	0.0620	0.1065	0.0000	421.2244	421.2244	0.0190	0.0000	421.6986
Maximum	32.7993	31.4566	18.0246	0.0367	18.2675	1.5239	19.7914	9.9840	1.4020	11.3860	0.0000	3,564.999 1	3,564.999 1	1.0993	0.0000	3,592.480 6

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					
2022	3.0835	31.4566	18.0246	0.0367	18.2675	1.5239	19.7914	9.9840	1.4020	11.3860	0.0000	3,564.999 1	3,564.999 1	1.0993	0.0000	3,592.480 6
2023	32.7993	10.5670	16.6731	0.0288	2.2960	0.5240	2.8199	0.5801	0.4829	1.0630	0.0000	2,797.615 3	2,797.615 3	0.6798	0.0000	2,814.609 6
2024	32.7853	1.2523	2.2145	4.3700e-003	0.1677	0.0621	0.2297	0.0445	0.0620	0.1065	0.0000	421.2244	421.2244	0.0190	0.0000	421.6986
Maximum	32.7993	31.4566	18.0246	0.0367	18.2675	1.5239	19.7914	9.9840	1.4020	11.3860	0.0000	3,564.999 1	3,564.999 1	1.0993	0.0000	3,592.480 6

Descanso Phase 1B - South Coast Air Basin, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
Mobile	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133
Total	4.0534	1.0269	1.1307	6.7600e-003	0.1529	0.0661	0.2190	0.0409	0.0660	0.1069		1,191.7573	1,191.7573	0.0275	0.0188	1,198.0404

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
Mobile	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133
Total	4.0534	1.0269	1.1307	6.7600e-003	0.1529	0.0661	0.2190	0.0409	0.0660	0.1069		1,191.7573	1,191.7573	0.0275	0.0188	1,198.0404

Descanso Phase 1B - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	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	2/25/2022	8/11/2022	5	120	
2	Grading	Grading	8/12/2022	9/8/2022	5	20	
3	Paving	Paving	9/9/2022	11/2/2023	5	300	
4	Architectural Coating	Architectural Coating	11/4/2023	1/12/2024	5	50	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 263,320; Non-Residential Outdoor: 87,773; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso Phase 1B - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Paving Equipment	1	6.00	132	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Descanso Phase 1B - South Coast Air Basin, Winter

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.0054	31.4079	17.4598	0.0349		1.5225	1.5225		1.4007	1.4007		3,384.8229	3,384.8229	1.0947		3,412.1909
Total	3.0054	31.4079	17.4598	0.0349	18.0663	1.5225	19.5887	9.9307	1.4007	11.3313		3,384.8229	3,384.8229	1.0947		3,412.1909

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
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
Worker	0.0781	0.0487	0.5647	1.8100e-003	0.2012	1.4500e-003	0.2026	0.0534	1.3300e-003	0.0547		180.1762	180.1762	4.5400e-003		180.2897
Total	0.0781	0.0487	0.5647	1.8100e-003	0.2012	1.4500e-003	0.2026	0.0534	1.3300e-003	0.0547		180.1762	180.1762	4.5400e-003		180.2897

Descanso Phase 1B - South Coast Air Basin, Winter

3.2 Site Preparation - 2022

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.0054	31.4079	17.4598	0.0349		1.5225	1.5225		1.4007	1.4007	0.0000	3,384.8229	3,384.8229	1.0947		3,412.1909
Total	3.0054	31.4079	17.4598	0.0349	18.0663	1.5225	19.5887	9.9307	1.4007	11.3313	0.0000	3,384.8229	3,384.8229	1.0947		3,412.1909

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
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
Worker	0.0781	0.0487	0.5647	1.8100e-003	0.2012	1.4500e-003	0.2026	0.0534	1.3300e-003	0.0547		180.1762	180.1762	4.5400e-003		180.2897
Total	0.0781	0.0487	0.5647	1.8100e-003	0.2012	1.4500e-003	0.2026	0.0534	1.3300e-003	0.0547		180.1762	180.1762	4.5400e-003		180.2897

Descanso Phase 1B - South Coast Air Basin, Winter

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	6.2342	0.9409	7.1750	3.3331	0.8656	4.1987		2,872.0464	2,872.0464	0.9289		2,895.2684

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
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
Worker	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003		150.2414
Total	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003		150.2414

Descanso Phase 1B - South Coast Air Basin, Winter

3.3 Grading - 2022

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					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000				0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289			2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	6.2342	0.9409	7.1750	3.3331	0.8656	4.1987	0.0000	2,872.0464	2,872.0464	0.9289			2,895.2684

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
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
Worker	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003			150.2414
Total	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003			150.2414

Descanso Phase 1B - South Coast Air Basin, Winter

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1282	11.2940	14.5291	0.0216		0.5936	0.5936		0.5470	0.5470		2,073.8690	2,073.8690	0.6624		2,090.4293
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1282	11.2940	14.5291	0.0216		0.5936	0.5936		0.5470	0.5470		2,073.8690	2,073.8690	0.6624		2,090.4293

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
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
Worker	0.3253	0.2031	2.3530	7.5300e-003	2.2960	6.0300e-003	2.3020	0.5801	5.5500e-003	0.5857		750.7341	750.7341	0.0189		751.2070
Total	0.3253	0.2031	2.3530	7.5300e-003	2.2960	6.0300e-003	2.3020	0.5801	5.5500e-003	0.5857		750.7341	750.7341	0.0189		751.2070

Descanso Phase 1B - South Coast Air Basin, Winter

3.4 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1282	11.2940	14.5291	0.0216		0.5936	0.5936		0.5470	0.5470	0.0000	2,073.8690	2,073.8690	0.6624		2,090.4293
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1282	11.2940	14.5291	0.0216		0.5936	0.5936		0.5470	0.5470	0.0000	2,073.8690	2,073.8690	0.6624		2,090.4293

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
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
Worker	0.3253	0.2031	2.3530	7.5300e-003	2.2960	6.0300e-003	2.3020	0.5801	5.5500e-003	0.5857		750.7341	750.7341	0.0189		751.2070
Total	0.3253	0.2031	2.3530	7.5300e-003	2.2960	6.0300e-003	2.3020	0.5801	5.5500e-003	0.5857		750.7341	750.7341	0.0189		751.2070

Descanso Phase 1B - South Coast Air Basin, Winter

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0487	10.3833	14.5043	0.0216		0.5181	0.5181		0.4775	0.4775		2,074.8459	2,074.8459	0.6627		2,091.4140
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0487	10.3833	14.5043	0.0216		0.5181	0.5181		0.4775	0.4775		2,074.8459	2,074.8459	0.6627		2,091.4140

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
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
Worker	0.3068	0.1837	2.1688	7.2500e-003	2.2960	5.8700e-003	2.3018	0.5801	5.4000e-003	0.5855		722.7694	722.7694	0.0170		723.1955
Total	0.3068	0.1837	2.1688	7.2500e-003	2.2960	5.8700e-003	2.3018	0.5801	5.4000e-003	0.5855		722.7694	722.7694	0.0170		723.1955

Descanso Phase 1B - South Coast Air Basin, Winter

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0487	10.3833	14.5043	0.0216		0.5181	0.5181		0.4775	0.4775	0.0000	2,074.8459	2,074.8459	0.6627		2,091.4140
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0487	10.3833	14.5043	0.0216		0.5181	0.5181		0.4775	0.4775	0.0000	2,074.8459	2,074.8459	0.6627		2,091.4140

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
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
Worker	0.3068	0.1837	2.1688	7.2500e-003	2.2960	5.8700e-003	2.3018	0.5801	5.4000e-003	0.5855		722.7694	722.7694	0.0170		723.1955
Total	0.3068	0.1837	2.1688	7.2500e-003	2.2960	5.8700e-003	2.3018	0.5801	5.4000e-003	0.5855		722.7694	722.7694	0.0170		723.1955

Descanso Phase 1B - South Coast Air Basin, Winter

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.5463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	32.7380	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0614	0.0367	0.4338	1.4500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		144.5539	144.5539	3.4100e-003		144.6391
Total	0.0614	0.0367	0.4338	1.4500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		144.5539	144.5539	3.4100e-003		144.6391

Descanso Phase 1B - South Coast Air Basin, Winter

3.5 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.5463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	32.7380	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0614	0.0367	0.4338	1.4500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		144.5539	144.5539	3.4100e-003		144.6391
Total	0.0614	0.0367	0.4338	1.4500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		144.5539	144.5539	3.4100e-003		144.6391

Descanso Phase 1B - South Coast Air Basin, Winter

3.5 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	32.5463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	32.7271	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0583	0.0335	0.4043	1.4000e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		139.7764	139.7764	3.1200e-003		139.8544
Total	0.0583	0.0335	0.4043	1.4000e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		139.7764	139.7764	3.1200e-003		139.8544

Descanso Phase 1B - South Coast Air Basin, Winter

3.5 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	32.5463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	32.7271	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0583	0.0335	0.4043	1.4000e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		139.7764	139.7764	3.1200e-003		139.8544
Total	0.0583	0.0335	0.4043	1.4000e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		139.7764	139.7764	3.1200e-003		139.8544

4.0 Operational Detail - Mobile

Descanso Phase 1B - South Coast Air Basin, Winter

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	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133
Unmitigated	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.553907	0.042339	0.204535	0.114490	0.014186	0.005810	0.021866	0.032691	0.002129	0.001663	0.004844	0.000713	0.000827

Descanso Phase 1B - South Coast Air Basin, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
NaturalGas Unmitigated	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268

Descanso Phase 1B - South Coast Air Basin, Winter

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					
Arena	8705.2	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
Total		0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268

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					
Arena	8.7052	0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268
Total		0.0939	0.8535	0.7169	5.1200e-003		0.0649	0.0649		0.0649	0.0649		1,024.1409	1,024.1409	0.0196	0.0188	1,030.2268

6.0 Area Detail

6.1 Mitigation Measures Area

Descanso Phase 1B - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.4458					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso Phase 1B - South Coast Air Basin, Winter

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	0.4458					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	3.9217	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Descanso Phase 1B - South Coast Air Basin, Winter

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 1C - South Coast Air Basin, Annual

Descanso 1C
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	1.30	55,726.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	200.00	40.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	4.00	20.00
tblConstructionPhase	NumDays	10.00	150.00
tblConstructionPhase	NumDays	2.00	250.00
tblConstructionPhase	PhaseEndDate	11/4/2020	7/28/2025
tblConstructionPhase	PhaseEndDate	10/7/2020	10/8/2024
tblConstructionPhase	PhaseEndDate	12/24/2019	11/26/2019
tblConstructionPhase	PhaseEndDate	1/1/2020	8/13/2024
tblConstructionPhase	PhaseEndDate	10/21/2020	5/5/2025
tblConstructionPhase	PhaseEndDate	12/26/2019	7/16/2024
tblConstructionPhase	PhaseStartDate	10/22/2020	5/6/2025
tblConstructionPhase	PhaseStartDate	1/2/2020	8/14/2024
tblConstructionPhase	PhaseStartDate	12/27/2019	7/17/2024
tblConstructionPhase	PhaseStartDate	10/8/2020	10/8/2024
tblConstructionPhase	PhaseStartDate	12/25/2019	8/2/2023
tblGrading	AcresOfGrading	7.50	1.50
tblGrading	AcresOfGrading	125.00	1.00
tblLandUse	LandUseSquareFeet	43,560.00	55,726.00
tblLandUse	LotAcreage	1.00	1.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	13.00

Descanso 1C - South Coast Air Basin, Annual

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0628	0.6720	0.3715	9.7000e-004	0.2898	0.0274	0.3173	0.1577	0.0252	0.1830	0.0000	85.4530	85.4530	0.0265	0.0000	86.1152
2024	0.1406	1.3539	1.0912	2.4000e-003	0.4383	0.0560	0.4942	0.2353	0.0519	0.2872	0.0000	209.0149	209.0149	0.0567	0.0000	210.4315
2025	0.2913	0.2729	0.4644	7.6000e-004	7.9900e-003	0.0126	0.0206	2.1200e-003	0.0117	0.0139	0.0000	66.0613	66.0613	0.0172	0.0000	66.4901
Maximum	0.2913	1.3539	1.0912	2.4000e-003	0.4383	0.0560	0.4942	0.2353	0.0519	0.2872	0.0000	209.0149	209.0149	0.0567	0.0000	210.4315

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2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0628	0.6720	0.3715	9.7000e-004	0.2898	0.0274	0.3173	0.1577	0.0252	0.1830	0.0000	85.4529	85.4529	0.0265	0.0000	86.1151
2024	0.1406	1.3539	1.0912	2.4000e-003	0.4383	0.0560	0.4942	0.2353	0.0519	0.2872	0.0000	209.0147	209.0147	0.0567	0.0000	210.4313
2025	0.2913	0.2729	0.4644	7.6000e-004	7.9900e-003	0.0126	0.0206	2.1200e-003	0.0117	0.0139	0.0000	66.0612	66.0612	0.0172	0.0000	66.4901
Maximum	0.2913	1.3539	1.0912	2.4000e-003	0.4383	0.0560	0.4942	0.2353	0.0519	0.2872	0.0000	209.0147	209.0147	0.0567	0.0000	210.4313

	ROG	NOx	CO	SO2	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
15	5-27-2023	8-26-2023	0.1215	0.1215
16	8-27-2023	11-26-2023	0.4472	0.4472
17	11-27-2023	2-26-2024	0.4347	0.4347
18	2-27-2024	5-26-2024	0.4176	0.4176
19	5-27-2024	8-26-2024	0.4050	0.4050
20	8-27-2024	11-26-2024	0.3205	0.3205
21	11-27-2024	2-26-2025	0.2036	0.2036
22	2-27-2025	5-26-2025	0.2196	0.2196

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23	5-27-2025	8-26-2025	0.2239	0.2239
		Highest	0.4472	0.4472

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	0.2272	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	5.4400e-003	0.0494	0.0415	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	250.9109	250.9109	9.1700e-003	2.6700e-003	251.9359
Mobile	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.2374	0.0724	0.0959	5.2000e-004	0.0195	3.9200e-003	0.0234	5.2300e-003	3.9100e-003	9.1400e-003	0.4453	276.8571	277.3024	0.0553	3.7600e-003	279.8037

Descanso 1C - South Coast Air Basin, Annual

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	0.2272	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	5.4400e-003	0.0494	0.0415	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	250.9109	250.9109	9.1700e-003	2.6700e-003	251.9359
Mobile	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.2374	0.0724	0.0959	5.2000e-004	0.0195	3.9200e-003	0.0234	5.2300e-003	3.9100e-003	9.1400e-003	0.4453	276.8571	277.3024	0.0553	3.7600e-003	279.8037

	ROG	NOx	CO	SO2	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/27/2019	11/26/2019	5	0	
2	Site Preparation	Site Preparation	8/2/2023	7/16/2024	5	250	
3	Grading	Grading	7/17/2024	8/13/2024	5	20	
4	Building Construction	Building Construction	8/14/2024	10/8/2024	5	40	
5	Paving	Paving	10/8/2024	5/5/2025	5	150	
6	Architectural Coating	Architectural Coating	5/6/2025	7/28/2025	5	60	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 83,589; Non-Residential Outdoor: 27,863; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

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3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2851	0.0000	0.2851	0.1565	0.0000	0.1565	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0612	0.6710	0.3587	9.3000e-004		0.0274	0.0274		0.0252	0.0252	0.0000	81.6168	81.6168	0.0264	0.0000	82.2767
Total	0.0612	0.6710	0.3587	9.3000e-004	0.2851	0.0274	0.3125	0.1565	0.0252	0.1817	0.0000	81.6168	81.6168	0.0264	0.0000	82.2767

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3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.5900e-003	1.0900e-003	0.0128	4.0000e-005	4.7400e-003	3.0000e-005	4.7700e-003	1.2600e-003	3.0000e-005	1.2900e-003	0.0000	3.8362	3.8362	9.0000e-005	0.0000	3.8385
Total	1.5900e-003	1.0900e-003	0.0128	4.0000e-005	4.7400e-003	3.0000e-005	4.7700e-003	1.2600e-003	3.0000e-005	1.2900e-003	0.0000	3.8362	3.8362	9.0000e-005	0.0000	3.8385

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					0.2851	0.0000	0.2851	0.1565	0.0000	0.1565	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0612	0.6710	0.3587	9.3000e-004		0.0274	0.0274		0.0252	0.0252	0.0000	81.6167	81.6167	0.0264	0.0000	82.2766
Total	0.0612	0.6710	0.3587	9.3000e-004	0.2851	0.0274	0.3125	0.1565	0.0252	0.1817	0.0000	81.6167	81.6167	0.0264	0.0000	82.2766

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3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.5900e-003	1.0900e-003	0.0128	4.0000e-005	4.7400e-003	3.0000e-005	4.7700e-003	1.2600e-003	3.0000e-005	1.2900e-003	0.0000	3.8362	3.8362	9.0000e-005	0.0000	3.8385
Total	1.5900e-003	1.0900e-003	0.0128	4.0000e-005	4.7400e-003	3.0000e-005	4.7700e-003	1.2600e-003	3.0000e-005	1.2900e-003	0.0000	3.8362	3.8362	9.0000e-005	0.0000	3.8385

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3747	0.0000	0.3747	0.2057	0.0000	0.2057	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0786	0.8407	0.4709	1.2200e-003		0.0342	0.0342		0.0315	0.0315	0.0000	107.2997	107.2997	0.0347	0.0000	108.1673
Total	0.0786	0.8407	0.4709	1.2200e-003	0.3747	0.0342	0.4089	0.2057	0.0315	0.2372	0.0000	107.2997	107.2997	0.0347	0.0000	108.1673

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3.3 Site Preparation - 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	1.9800e-003	1.3000e-003	0.0157	5.0000e-005	6.2300e-003	4.0000e-005	6.2800e-003	1.6500e-003	4.0000e-005	1.7000e-003	0.0000	4.8773	4.8773	1.1000e-004	0.0000	4.8801
Total	1.9800e-003	1.3000e-003	0.0157	5.0000e-005	6.2300e-003	4.0000e-005	6.2800e-003	1.6500e-003	4.0000e-005	1.7000e-003	0.0000	4.8773	4.8773	1.1000e-004	0.0000	4.8801

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					0.3747	0.0000	0.3747	0.2057	0.0000	0.2057	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0786	0.8407	0.4709	1.2200e-003		0.0342	0.0342		0.0315	0.0315	0.0000	107.2996	107.2996	0.0347	0.0000	108.1671
Total	0.0786	0.8407	0.4709	1.2200e-003	0.3747	0.0342	0.4089	0.2057	0.0315	0.2372	0.0000	107.2996	107.2996	0.0347	0.0000	108.1671

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3.3 Site Preparation - 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	1.9800e-003	1.3000e-003	0.0157	5.0000e-005	6.2300e-003	4.0000e-005	6.2800e-003	1.6500e-003	4.0000e-005	1.7000e-003	0.0000	4.8773	4.8773	1.1000e-004	0.0000	4.8801
Total	1.9800e-003	1.3000e-003	0.0157	5.0000e-005	6.2300e-003	4.0000e-005	6.2800e-003	1.6500e-003	4.0000e-005	1.7000e-003	0.0000	4.8773	4.8773	1.1000e-004	0.0000	4.8801

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0460	0.0000	0.0460	0.0249	0.0000	0.0249	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1300e-003	0.0973	0.0555	1.4000e-004		4.0000e-003	4.0000e-003		3.6800e-003	3.6800e-003	0.0000	12.3800	12.3800	4.0000e-003	0.0000	12.4801
Total	9.1300e-003	0.0973	0.0555	1.4000e-004	0.0460	4.0000e-003	0.0500	0.0249	3.6800e-003	0.0286	0.0000	12.3800	12.3800	4.0000e-003	0.0000	12.4801

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3.4 Grading - 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	2.8000e-004	1.8000e-004	2.2200e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.6870	0.6870	2.0000e-005	0.0000	0.6873
Total	2.8000e-004	1.8000e-004	2.2200e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.6870	0.6870	2.0000e-005	0.0000	0.6873

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					0.0460	0.0000	0.0460	0.0249	0.0000	0.0249	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1300e-003	0.0973	0.0555	1.4000e-004		4.0000e-003	4.0000e-003		3.6800e-003	3.6800e-003	0.0000	12.3800	12.3800	4.0000e-003	0.0000	12.4801
Total	9.1300e-003	0.0973	0.0555	1.4000e-004	0.0460	4.0000e-003	0.0500	0.0249	3.6800e-003	0.0286	0.0000	12.3800	12.3800	4.0000e-003	0.0000	12.4801

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3.4 Grading - 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	2.8000e-004	1.8000e-004	2.2200e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.6870	0.6870	2.0000e-005	0.0000	0.6873
Total	2.8000e-004	1.8000e-004	2.2200e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.6870	0.6870	2.0000e-005	0.0000	0.6873

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	0.0284	0.2213	0.2503	4.4000e-004		9.0100e-003	9.0100e-003		8.7000e-003	8.7000e-003	0.0000	36.3223	36.3223	6.0500e-003	0.0000	36.4735
Total	0.0284	0.2213	0.2503	4.4000e-004		9.0100e-003	9.0100e-003		8.7000e-003	8.7000e-003	0.0000	36.3223	36.3223	6.0500e-003	0.0000	36.4735

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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	3.5000e-004	0.0124	3.6500e-003	4.0000e-005	1.1300e-003	1.0000e-005	1.1500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	4.1831	4.1831	2.4000e-004	0.0000	4.1890
Worker	1.6000e-003	1.0600e-003	0.0127	4.0000e-005	5.0500e-003	4.0000e-005	5.0800e-003	1.3400e-003	3.0000e-005	1.3700e-003	0.0000	3.9500	3.9500	9.0000e-005	0.0000	3.9522
Total	1.9500e-003	0.0135	0.0164	8.0000e-005	6.1800e-003	5.0000e-005	6.2300e-003	1.6700e-003	4.0000e-005	1.7100e-003	0.0000	8.1331	8.1331	3.3000e-004	0.0000	8.1412

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	0.0284	0.2213	0.2503	4.4000e-004		9.0100e-003	9.0100e-003		8.7000e-003	8.7000e-003	0.0000	36.3222	36.3222	6.0500e-003	0.0000	36.4734
Total	0.0284	0.2213	0.2503	4.4000e-004		9.0100e-003	9.0100e-003		8.7000e-003	8.7000e-003	0.0000	36.3222	36.3222	6.0500e-003	0.0000	36.4734

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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	3.5000e-004	0.0124	3.6500e-003	4.0000e-005	1.1300e-003	1.0000e-005	1.1500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	4.1831	4.1831	2.4000e-004	0.0000	4.1890
Worker	1.6000e-003	1.0600e-003	0.0127	4.0000e-005	5.0500e-003	4.0000e-005	5.0800e-003	1.3400e-003	3.0000e-005	1.3700e-003	0.0000	3.9500	3.9500	9.0000e-005	0.0000	3.9522
Total	1.9500e-003	0.0135	0.0164	8.0000e-005	6.1800e-003	5.0000e-005	6.2300e-003	1.6700e-003	4.0000e-005	1.7100e-003	0.0000	8.1331	8.1331	3.3000e-004	0.0000	8.1412

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	0.0189	0.1788	0.2692	4.1000e-004		8.5700e-003	8.5700e-003		7.9100e-003	7.9100e-003	0.0000	35.9109	35.9109	0.0114	0.0000	36.1955
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0189	0.1788	0.2692	4.1000e-004		8.5700e-003	8.5700e-003		7.9100e-003	7.9100e-003	0.0000	35.9109	35.9109	0.0114	0.0000	36.1955

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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	1.3800e-003	9.1000e-004	0.0110	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.4047	3.4047	8.0000e-005	0.0000	3.4066
Total	1.3800e-003	9.1000e-004	0.0110	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.4047	3.4047	8.0000e-005	0.0000	3.4066

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	0.0189	0.1788	0.2692	4.1000e-004		8.5700e-003	8.5700e-003		7.9100e-003	7.9100e-003	0.0000	35.9109	35.9109	0.0114	0.0000	36.1955
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0189	0.1788	0.2692	4.1000e-004		8.5700e-003	8.5700e-003		7.9100e-003	7.9100e-003	0.0000	35.9109	35.9109	0.0114	0.0000	36.1955

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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	1.3800e-003	9.1000e-004	0.0110	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.4047	3.4047	8.0000e-005	0.0000	3.4066
Total	1.3800e-003	9.1000e-004	0.0110	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.4047	3.4047	8.0000e-005	0.0000	3.4066

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0255	0.2370	0.3914	6.0000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	52.3922	52.3922	0.0166	0.0000	52.8074
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0255	0.2370	0.3914	6.0000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	52.3922	52.3922	0.0166	0.0000	52.8074

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3.6 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	1.9200e-003	1.2200e-003	0.0149	5.0000e-005	6.3500e-003	4.0000e-005	6.3900e-003	1.6900e-003	4.0000e-005	1.7300e-003	0.0000	4.7720	4.7720	1.0000e-004	0.0000	4.7745
Total	1.9200e-003	1.2200e-003	0.0149	5.0000e-005	6.3500e-003	4.0000e-005	6.3900e-003	1.6900e-003	4.0000e-005	1.7300e-003	0.0000	4.7720	4.7720	1.0000e-004	0.0000	4.7745

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	0.0255	0.2370	0.3914	6.0000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	52.3922	52.3922	0.0166	0.0000	52.8074
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0255	0.2370	0.3914	6.0000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	52.3922	52.3922	0.0166	0.0000	52.8074

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3.6 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	1.9200e-003	1.2200e-003	0.0149	5.0000e-005	6.3500e-003	4.0000e-005	6.3900e-003	1.6900e-003	4.0000e-005	1.7300e-003	0.0000	4.7720	4.7720	1.0000e-004	0.0000	4.7745
Total	1.9200e-003	1.2200e-003	0.0149	5.0000e-005	6.3500e-003	4.0000e-005	6.3900e-003	1.6900e-003	4.0000e-005	1.7300e-003	0.0000	4.7720	4.7720	1.0000e-004	0.0000	4.7745

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2583					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1300e-003	0.0344	0.0543	9.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	7.6598	7.6598	4.2000e-004	0.0000	7.6702
Total	0.2634	0.0344	0.0543	9.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	7.6598	7.6598	4.2000e-004	0.0000	7.6702

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3.7 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.2000e-004	3.8600e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2373	1.2373	3.0000e-005	0.0000	1.2380
Total	5.0000e-004	3.2000e-004	3.8600e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2373	1.2373	3.0000e-005	0.0000	1.2380

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	0.2583					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1300e-003	0.0344	0.0543	9.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	7.6598	7.6598	4.2000e-004	0.0000	7.6702
Total	0.2634	0.0344	0.0543	9.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	7.6598	7.6598	4.2000e-004	0.0000	7.6702

Descanso 1C - South Coast Air Basin, Annual

3.7 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.2000e-004	3.8600e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2373	1.2373	3.0000e-005	0.0000	1.2380
Total	5.0000e-004	3.2000e-004	3.8600e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2373	1.2373	3.0000e-005	0.0000	1.2380

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 1C - South Coast Air Basin, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801
Unmitigated	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.553907	0.042339	0.204535	0.114490	0.014186	0.005810	0.021866	0.032691	0.002129	0.001663	0.004844	0.000713	0.000827

5.0 Energy Detail

Historical Energy Use: N

Descanso 1C - South Coast Air Basin, Annual

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	197.0860	197.0860	8.1400e-003	1.6800e-003	197.7911
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	197.0860	197.0860	8.1400e-003	1.6800e-003	197.7911
NaturalGas Mitigated	5.4400e-003	0.0494	0.0415	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	53.8249	53.8249	1.0300e-003	9.9000e-004	54.1448
NaturalGas Unmitigated	5.4400e-003	0.0494	0.0415	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	53.8249	53.8249	1.0300e-003	9.9000e-004	54.1448

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	1.00864e+006	5.4400e-003	0.0494	0.0415	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	53.8249	53.8249	1.0300e-003	9.9000e-004	54.1448
Total		5.4400e-003	0.0494	0.0415	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	53.8249	53.8249	1.0300e-003	9.9000e-004	54.1448

Descanso 1C - South Coast Air Basin, Annual

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					
Arena	1.00864e+006	5.4400e-003	0.0494	0.0415	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	53.8249	53.8249	1.0300e-003	9.9000e-004	54.1448
Total		5.4400e-003	0.0494	0.0415	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	53.8249	53.8249	1.0300e-003	9.9000e-004	54.1448

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	618559	197.0860	8.1400e-003	1.6800e-003	197.7911
Total		197.0860	8.1400e-003	1.6800e-003	197.7911

Descanso 1C - South Coast Air Basin, Annual

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	618559	197.0860	8.1400e-003	1.6800e-003	197.7911
Total		197.0860	8.1400e-003	1.6800e-003	197.7911

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2272	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.2272	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Descanso 1C - South Coast Air Basin, Annual

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0258					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2014					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.2272	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0258					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2014					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.2272	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

Descanso 1C - South Coast Air Basin, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.3161	0.0441	1.0900e-003	7.7425
Unmitigated	6.3161	0.0441	1.0900e-003	7.7425

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

Descanso 1C - South Coast Air Basin, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0183	1.0800e-003	0.0000	0.0453
Unmitigated	0.0183	1.0800e-003	0.0000	0.0453

Descanso 1C - South Coast Air Basin, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

9.0 Operational Offroad

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

Descanso 1C - South Coast Air Basin, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 1C - South Coast Air Basin, Summer

Descanso 1C
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	1.30	55,726.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Descanso 1C - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	200.00	40.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	4.00	20.00
tblConstructionPhase	NumDays	10.00	150.00
tblConstructionPhase	NumDays	2.00	250.00
tblConstructionPhase	PhaseEndDate	11/4/2020	7/28/2025
tblConstructionPhase	PhaseEndDate	10/7/2020	10/8/2024
tblConstructionPhase	PhaseEndDate	12/24/2019	11/26/2019
tblConstructionPhase	PhaseEndDate	1/1/2020	8/13/2024
tblConstructionPhase	PhaseEndDate	10/21/2020	5/5/2025
tblConstructionPhase	PhaseEndDate	12/26/2019	7/16/2024
tblConstructionPhase	PhaseStartDate	10/22/2020	5/6/2025
tblConstructionPhase	PhaseStartDate	1/2/2020	8/14/2024
tblConstructionPhase	PhaseStartDate	12/27/2019	7/17/2024
tblConstructionPhase	PhaseStartDate	10/8/2020	10/8/2024
tblConstructionPhase	PhaseStartDate	12/25/2019	8/2/2023
tblGrading	AcresOfGrading	7.50	1.50
tblGrading	AcresOfGrading	125.00	1.00
tblLandUse	LandUseSquareFeet	43,560.00	55,726.00
tblLandUse	LotAcreage	1.00	1.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	13.00

Descanso 1C - South Coast Air Basin, Summer

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	1.1400e-003	0.0000	0.0000	1.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	1.1634	12.4428	6.8985	0.0180	5.3630	0.5080	5.8710	2.9206	0.4674	3.3880	0.0000	1,748.258 1	1,748.258 1	0.5408	0.0000	1,761.777 6
2024	2.1810	17.6133	22.5940	0.0414	5.3630	0.7351	5.8459	2.9206	0.6974	3.3649	0.0000	3,890.680 8	3,890.680 8	0.7655	0.0000	3,909.819 1
2025	8.7971	5.3501	9.1569	0.0148	0.1453	0.2475	0.3928	0.0385	0.2285	0.2671	0.0000	1,421.902 1	1,421.902 1	0.4141	0.0000	1,432.253 6
Maximum	8.7971	17.6133	22.5940	0.0414	5.3630	0.7351	5.8710	2.9206	0.6974	3.3880	0.0000	3,890.680 8	3,890.680 8	0.7655	0.0000	3,909.819 1

Descanso 1C - South Coast Air Basin, Summer

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	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
Mobile	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938
Total	1.3144	0.4425	0.6608	3.3600e-003	0.1529	0.0218	0.1747	0.0409	0.0217	0.0626		501.8044	501.8044	0.0141	5.9600e-003	503.9317

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	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
Mobile	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938
Total	1.3144	0.4425	0.6608	3.3600e-003	0.1529	0.0218	0.1747	0.0409	0.0217	0.0626		501.8044	501.8044	0.0141	5.9600e-003	503.9317

Descanso 1C - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/27/2019	11/26/2019	5	0	
2	Site Preparation	Site Preparation	8/2/2023	7/16/2024	5	250	
3	Grading	Grading	7/17/2024	8/13/2024	5	20	
4	Building Construction	Building Construction	8/14/2024	10/8/2024	5	40	
5	Paving	Paving	10/8/2024	5/5/2025	5	150	
6	Architectural Coating	Architectural Coating	5/6/2025	7/28/2025	5	60	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 83,589; Non-Residential Outdoor: 27,863; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 1C - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Descanso 1C - South Coast Air Basin, Summer

3.2 Demolition - 2019

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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.2736	0.0000	5.2736	2.8969	0.0000	2.8969			0.0000			0.0000
Off-Road	1.1339	12.4250	6.6420	0.0172		0.5074	0.5074		0.4668	0.4668		1,666.0573	1,666.0573	0.5388		1,679.5282
Total	1.1339	12.4250	6.6420	0.0172	5.2736	0.5074	5.7810	2.8969	0.4668	3.3637		1,666.0573	1,666.0573	0.5388		1,679.5282

Descanso 1C - South Coast Air Basin, Summer

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0295	0.0179	0.2565	8.2000e-004	0.0894	6.3000e-004	0.0901	0.0237	5.8000e-004	0.0243		82.2008	82.2008	1.9500e-003		82.2495
Total	0.0295	0.0179	0.2565	8.2000e-004	0.0894	6.3000e-004	0.0901	0.0237	5.8000e-004	0.0243		82.2008	82.2008	1.9500e-003		82.2495

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					5.2736	0.0000	5.2736	2.8969	0.0000	2.8969			0.0000			0.0000
Off-Road	1.1339	12.4250	6.6420	0.0172		0.5074	0.5074		0.4668	0.4668	0.0000	1,666.0573	1,666.0573	0.5388		1,679.5282
Total	1.1339	12.4250	6.6420	0.0172	5.2736	0.5074	5.7810	2.8969	0.4668	3.3637	0.0000	1,666.0573	1,666.0573	0.5388		1,679.5282

Descanso 1C - South Coast Air Basin, Summer

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0295	0.0179	0.2565	8.2000e-004	0.0894	6.3000e-004	0.0901	0.0237	5.8000e-004	0.0243		82.2008	82.2008	1.9500e-003		82.2495
Total	0.0295	0.0179	0.2565	8.2000e-004	0.0894	6.3000e-004	0.0901	0.0237	5.8000e-004	0.0243		82.2008	82.2008	1.9500e-003		82.2495

3.3 Site Preparation - 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					
Fugitive Dust					5.2736	0.0000	5.2736	2.8969	0.0000	2.8969			0.0000			0.0000
Off-Road	1.1067	11.8407	6.6317	0.0172		0.4823	0.4823		0.4437	0.4437		1,665.8826	1,665.8826	0.5388		1,679.3521
Total	1.1067	11.8407	6.6317	0.0172	5.2736	0.4823	5.7558	2.8969	0.4437	3.3406		1,665.8826	1,665.8826	0.5388		1,679.3521

Descanso 1C - South Coast Air Basin, Summer

3.3 Site Preparation - 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	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
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
Worker	0.0280	0.0163	0.2395	8.0000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		79.4924	79.4924	1.7800e-003		79.5370
Total	0.0280	0.0163	0.2395	8.0000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		79.4924	79.4924	1.7800e-003		79.5370

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					5.2736	0.0000	5.2736	2.8969	0.0000	2.8969			0.0000			0.0000
Off-Road	1.1067	11.8407	6.6317	0.0172		0.4823	0.4823		0.4437	0.4437	0.0000	1,665.8826	1,665.8826	0.5388		1,679.3521
Total	1.1067	11.8407	6.6317	0.0172	5.2736	0.4823	5.7558	2.8969	0.4437	3.3406	0.0000	1,665.8826	1,665.8826	0.5388		1,679.3521

Descanso 1C - South Coast Air Basin, Summer

3.3 Site Preparation - 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	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
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
Worker	0.0280	0.0163	0.2395	8.0000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		79.4924	79.4924	1.7800e-003		79.5370
Total	0.0280	0.0163	0.2395	8.0000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		79.4924	79.4924	1.7800e-003		79.5370

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5961	0.0000	4.5961	2.4913	0.0000	2.4913			0.0000			0.0000
Off-Road	0.9132	9.7297	5.5468	0.0141		0.4001	0.4001		0.3681	0.3681		1,364.6623	1,364.6623	0.4414		1,375.6962
Total	0.9132	9.7297	5.5468	0.0141	4.5961	0.4001	4.9962	2.4913	0.3681	2.8594		1,364.6623	1,364.6623	0.4414		1,375.6962

Descanso 1C - South Coast Air Basin, Summer

3.4 Grading - 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	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
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
Worker	0.0280	0.0163	0.2395	8.0000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		79.4924	79.4924	1.7800e-003		79.5370
Total	0.0280	0.0163	0.2395	8.0000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		79.4924	79.4924	1.7800e-003		79.5370

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					4.5961	0.0000	4.5961	2.4913	0.0000	2.4913			0.0000			0.0000
Off-Road	0.9132	9.7297	5.5468	0.0141		0.4001	0.4001		0.3681	0.3681	0.0000	1,364.6623	1,364.6623	0.4414		1,375.6962
Total	0.9132	9.7297	5.5468	0.0141	4.5961	0.4001	4.9962	2.4913	0.3681	2.8594	0.0000	1,364.6623	1,364.6623	0.4414		1,375.6962

Descanso 1C - South Coast Air Basin, Summer

3.4 Grading - 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	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
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
Worker	0.0280	0.0163	0.2395	8.0000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		79.4924	79.4924	1.7800e-003		79.5370
Total	0.0280	0.0163	0.2395	8.0000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		79.4924	79.4924	1.7800e-003		79.5370

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563
Total	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563

Descanso 1C - South Coast Air Basin, Summer

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	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
Vendor	0.0172	0.6155	0.1738	2.1700e-003	0.0576	7.0000e-004	0.0583	0.0166	6.7000e-004	0.0173		233.1748	233.1748	0.0127		233.4916
Worker	0.0804	0.0468	0.6886	2.2900e-003	0.2571	1.7800e-003	0.2589	0.0682	1.6300e-003	0.0698		228.5407	228.5407	5.1300e-003		228.6689
Total	0.0976	0.6623	0.8624	4.4600e-003	0.3147	2.4800e-003	0.3172	0.0848	2.3000e-003	0.0871		461.7154	461.7154	0.0178		462.1605

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.9214	2,001.9214	0.3334		2,010.2563
Total	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.9214	2,001.9214	0.3334		2,010.2563

Descanso 1C - South Coast Air Basin, Summer

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	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
Vendor	0.0172	0.6155	0.1738	2.1700e-003	0.0576	7.0000e-004	0.0583	0.0166	6.7000e-004	0.0173		233.1748	233.1748	0.0127		233.4916
Worker	0.0804	0.0468	0.6886	2.2900e-003	0.2571	1.7800e-003	0.2589	0.0682	1.6300e-003	0.0698		228.5407	228.5407	5.1300e-003		228.6689
Total	0.0976	0.6623	0.8624	4.4600e-003	0.3147	2.4800e-003	0.3172	0.0848	2.3000e-003	0.0871		461.7154	461.7154	0.0178		462.1605

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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594		1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594		1,297.8688	1,297.8688	0.4114		1,308.1547

Descanso 1C - South Coast Air Basin, Summer

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	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
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
Worker	0.0454	0.0264	0.3892	1.3000e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		129.1752	129.1752	2.9000e-003		129.2476
Total	0.0454	0.0264	0.3892	1.3000e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		129.1752	129.1752	2.9000e-003		129.2476

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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594	0.0000	1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594	0.0000	1,297.8688	1,297.8688	0.4114		1,308.1547

Descanso 1C - South Coast Air Basin, Summer

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	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
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
Worker	0.0454	0.0264	0.3892	1.3000e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		129.1752	129.1752	2.9000e-003		129.2476
Total	0.0454	0.0264	0.3892	1.3000e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		129.1752	129.1752	2.9000e-003		129.2476

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276		1,297.8096	1,297.8096	0.4114		1,308.0951
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276		1,297.8096	1,297.8096	0.4114		1,308.0951

Descanso 1C - South Coast Air Basin, Summer

3.6 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0432	0.0242	0.3618	1.2400e-003	0.1453	9.8000e-004	0.1463	0.0385	9.1000e-004	0.0394		124.0925	124.0925	2.6400e-003		124.1586
Total	0.0432	0.0242	0.3618	1.2400e-003	0.1453	9.8000e-004	0.1463	0.0385	9.1000e-004	0.0394		124.0925	124.0925	2.6400e-003		124.1586

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	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276	0.0000	1,297.8096	1,297.8096	0.4114		1,308.0951
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276	0.0000	1,297.8096	1,297.8096	0.4114		1,308.0951

Descanso 1C - South Coast Air Basin, Summer

3.6 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0432	0.0242	0.3618	1.2400e-003	0.1453	9.8000e-004	0.1463	0.0385	9.1000e-004	0.0394		124.0925	124.0925	2.6400e-003		124.1586
Total	0.0432	0.0242	0.3618	1.2400e-003	0.1453	9.8000e-004	0.1463	0.0385	9.1000e-004	0.0394		124.0925	124.0925	2.6400e-003		124.1586

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.6097					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	8.7805	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Descanso 1C - South Coast Air Basin, Summer

3.7 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0166	9.3000e-003	0.1391	4.8000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		47.7279	47.7279	1.0200e-003		47.7533
Total	0.0166	9.3000e-003	0.1391	4.8000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		47.7279	47.7279	1.0200e-003		47.7533

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	8.6097					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	8.7805	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Descanso 1C - South Coast Air Basin, Summer

3.7 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0166	9.3000e-003	0.1391	4.8000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		47.7279	47.7279	1.0200e-003		47.7533
Total	0.0166	9.3000e-003	0.1391	4.8000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		47.7279	47.7279	1.0200e-003		47.7533

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 1C - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938
Unmitigated	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.553907	0.042339	0.204535	0.114490	0.014186	0.005810	0.021866	0.032691	0.002129	0.001663	0.004844	0.000713	0.000827

5.0 Energy Detail

Historical Energy Use: N

Descanso 1C - South Coast Air Basin, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
NaturalGas Unmitigated	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377

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					
Arena	2763.4	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
Total		0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377

Descanso 1C - South Coast Air Basin, Summer

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					
Arena	2.7634	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
Total		0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 1C - South Coast Air Basin, Summer

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	0.1415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1034					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.1415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1034					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 1C - South Coast Air Basin, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 1C - South Coast Air Basin, Winter

Descanso 1C
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	1.30	55,726.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Descanso 1C - South Coast Air Basin, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	200.00	40.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	4.00	20.00
tblConstructionPhase	NumDays	10.00	150.00
tblConstructionPhase	NumDays	2.00	250.00
tblConstructionPhase	PhaseEndDate	11/4/2020	7/28/2025
tblConstructionPhase	PhaseEndDate	10/7/2020	10/8/2024
tblConstructionPhase	PhaseEndDate	12/24/2019	11/26/2019
tblConstructionPhase	PhaseEndDate	1/1/2020	8/13/2024
tblConstructionPhase	PhaseEndDate	10/21/2020	5/5/2025
tblConstructionPhase	PhaseEndDate	12/26/2019	7/16/2024
tblConstructionPhase	PhaseStartDate	10/22/2020	5/6/2025
tblConstructionPhase	PhaseStartDate	1/2/2020	8/14/2024
tblConstructionPhase	PhaseStartDate	12/27/2019	7/17/2024
tblConstructionPhase	PhaseStartDate	10/8/2020	10/8/2024
tblConstructionPhase	PhaseStartDate	12/25/2019	8/2/2023
tblGrading	AcresOfGrading	7.50	1.50
tblGrading	AcresOfGrading	125.00	1.00
tblLandUse	LandUseSquareFeet	43,560.00	55,726.00
tblLandUse	LotAcreage	1.00	1.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	13.00

Descanso 1C - South Coast Air Basin, Winter

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	1.1400e-003	0.0000	0.0000	1.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	1.1666	12.4446	6.8733	0.0180	5.3630	0.5080	5.8710	2.9206	0.4674	3.3880	0.0000	1,743.1527	1,743.1527	0.5407	0.0000	1,756.6691
2024	2.1959	17.6173	22.5026	0.0411	5.3630	0.7351	5.8459	2.9206	0.6975	3.3649	0.0000	3,862.1904	3,862.1904	0.7657	0.0000	3,881.3342
2025	8.7990	5.3524	9.1205	0.0147	0.1453	0.2475	0.3928	0.0385	0.2285	0.2671	0.0000	1,414.1825	1,414.1825	0.4139	0.0000	1,424.5296
Maximum	8.7990	17.6173	22.5026	0.0411	5.3630	0.7351	5.8710	2.9206	0.6975	3.3880	0.0000	3,862.1904	3,862.1904	0.7657	0.0000	3,881.3342

Descanso 1C - South Coast Air Basin, Winter

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	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
Mobile	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133
Total	1.3126	0.4444	0.6414	3.2700e-003	0.1529	0.0218	0.1747	0.0409	0.0218	0.0626		492.7221	492.7221	0.0141	5.9600e-003	494.8513

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	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
Mobile	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133
Total	1.3126	0.4444	0.6414	3.2700e-003	0.1529	0.0218	0.1747	0.0409	0.0218	0.0626		492.7221	492.7221	0.0141	5.9600e-003	494.8513

Descanso 1C - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/27/2019	11/26/2019	5	0	
2	Site Preparation	Site Preparation	8/2/2023	7/16/2024	5	250	
3	Grading	Grading	7/17/2024	8/13/2024	5	20	
4	Building Construction	Building Construction	8/14/2024	10/8/2024	5	40	
5	Paving	Paving	10/8/2024	5/5/2025	5	150	
6	Architectural Coating	Architectural Coating	5/6/2025	7/28/2025	5	60	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 83,589; Non-Residential Outdoor: 27,863; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 1C - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Descanso 1C - South Coast Air Basin, Winter

3.2 Demolition - 2019

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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.2736	0.0000	5.2736	2.8969	0.0000	2.8969			0.0000			0.0000
Off-Road	1.1339	12.4250	6.6420	0.0172		0.5074	0.5074		0.4668	0.4668		1,666.0573	1,666.0573	0.5388		1,679.5282
Total	1.1339	12.4250	6.6420	0.0172	5.2736	0.5074	5.7810	2.8969	0.4668	3.3637		1,666.0573	1,666.0573	0.5388		1,679.5282

Descanso 1C - South Coast Air Basin, Winter

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0327	0.0196	0.2313	7.7000e-004	0.0894	6.3000e-004	0.0901	0.0237	5.8000e-004	0.0243		77.0954	77.0954	1.8200e-003		77.1409
Total	0.0327	0.0196	0.2313	7.7000e-004	0.0894	6.3000e-004	0.0901	0.0237	5.8000e-004	0.0243		77.0954	77.0954	1.8200e-003		77.1409

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					5.2736	0.0000	5.2736	2.8969	0.0000	2.8969			0.0000			0.0000
Off-Road	1.1339	12.4250	6.6420	0.0172		0.5074	0.5074		0.4668	0.4668	0.0000	1,666.0573	1,666.0573	0.5388		1,679.5282
Total	1.1339	12.4250	6.6420	0.0172	5.2736	0.5074	5.7810	2.8969	0.4668	3.3637	0.0000	1,666.0573	1,666.0573	0.5388		1,679.5282

Descanso 1C - South Coast Air Basin, Winter

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0327	0.0196	0.2313	7.7000e-004	0.0894	6.3000e-004	0.0901	0.0237	5.8000e-004	0.0243		77.0954	77.0954	1.8200e-003		77.1409
Total	0.0327	0.0196	0.2313	7.7000e-004	0.0894	6.3000e-004	0.0901	0.0237	5.8000e-004	0.0243		77.0954	77.0954	1.8200e-003		77.1409

3.3 Site Preparation - 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					
Fugitive Dust					5.2736	0.0000	5.2736	2.8969	0.0000	2.8969			0.0000			0.0000
Off-Road	1.1067	11.8407	6.6317	0.0172		0.4823	0.4823		0.4437	0.4437		1,665.8826	1,665.8826	0.5388		1,679.3521
Total	1.1067	11.8407	6.6317	0.0172	5.2736	0.4823	5.7558	2.8969	0.4437	3.3406		1,665.8826	1,665.8826	0.5388		1,679.3521

Descanso 1C - South Coast Air Basin, Winter

3.3 Site Preparation - 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	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
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
Worker	0.0311	0.0179	0.2156	7.5000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		74.5474	74.5474	1.6600e-003		74.5890
Total	0.0311	0.0179	0.2156	7.5000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		74.5474	74.5474	1.6600e-003		74.5890

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					5.2736	0.0000	5.2736	2.8969	0.0000	2.8969			0.0000			0.0000
Off-Road	1.1067	11.8407	6.6317	0.0172		0.4823	0.4823		0.4437	0.4437	0.0000	1,665.8826	1,665.8826	0.5388		1,679.3521
Total	1.1067	11.8407	6.6317	0.0172	5.2736	0.4823	5.7558	2.8969	0.4437	3.3406	0.0000	1,665.8826	1,665.8826	0.5388		1,679.3521

Descanso 1C - South Coast Air Basin, Winter

3.3 Site Preparation - 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	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
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
Worker	0.0311	0.0179	0.2156	7.5000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		74.5474	74.5474	1.6600e-003		74.5890
Total	0.0311	0.0179	0.2156	7.5000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		74.5474	74.5474	1.6600e-003		74.5890

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5961	0.0000	4.5961	2.4913	0.0000	2.4913			0.0000			0.0000
Off-Road	0.9132	9.7297	5.5468	0.0141		0.4001	0.4001		0.3681	0.3681		1,364.6623	1,364.6623	0.4414		1,375.6962
Total	0.9132	9.7297	5.5468	0.0141	4.5961	0.4001	4.9962	2.4913	0.3681	2.8594		1,364.6623	1,364.6623	0.4414		1,375.6962

Descanso 1C - South Coast Air Basin, Winter

3.4 Grading - 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	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
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
Worker	0.0311	0.0179	0.2156	7.5000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		74.5474	74.5474	1.6600e-003		74.5890
Total	0.0311	0.0179	0.2156	7.5000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		74.5474	74.5474	1.6600e-003		74.5890

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					4.5961	0.0000	4.5961	2.4913	0.0000	2.4913			0.0000			0.0000
Off-Road	0.9132	9.7297	5.5468	0.0141		0.4001	0.4001		0.3681	0.3681	0.0000	1,364.6623	1,364.6623	0.4414		1,375.6962
Total	0.9132	9.7297	5.5468	0.0141	4.5961	0.4001	4.9962	2.4913	0.3681	2.8594	0.0000	1,364.6623	1,364.6623	0.4414		1,375.6962

Descanso 1C - South Coast Air Basin, Winter

3.4 Grading - 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	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
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
Worker	0.0311	0.0179	0.2156	7.5000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		74.5474	74.5474	1.6600e-003		74.5890
Total	0.0311	0.0179	0.2156	7.5000e-004	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		74.5474	74.5474	1.6600e-003		74.5890

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563
Total	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563

Descanso 1C - South Coast Air Basin, Winter

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	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
Vendor	0.0181	0.6124	0.1898	2.1200e-003	0.0576	7.3000e-004	0.0583	0.0166	7.0000e-004	0.0173		226.9369	226.9369	0.0134		227.2727
Worker	0.0893	0.0513	0.6200	2.1500e-003	0.2571	1.7800e-003	0.2589	0.0682	1.6300e-003	0.0698		214.3238	214.3238	4.7800e-003		214.4434
Total	0.1074	0.6637	0.8098	4.2700e-003	0.3147	2.5100e-003	0.3172	0.0848	2.3300e-003	0.0871		441.2606	441.2606	0.0182		441.7160

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.9214	2,001.9214	0.3334		2,010.2563
Total	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.9214	2,001.9214	0.3334		2,010.2563

Descanso 1C - South Coast Air Basin, Winter

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	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
Vendor	0.0181	0.6124	0.1898	2.1200e-003	0.0576	7.3000e-004	0.0583	0.0166	7.0000e-004	0.0173		226.9369	226.9369	0.0134		227.2727
Worker	0.0893	0.0513	0.6200	2.1500e-003	0.2571	1.7800e-003	0.2589	0.0682	1.6300e-003	0.0698		214.3238	214.3238	4.7800e-003		214.4434
Total	0.1074	0.6637	0.8098	4.2700e-003	0.3147	2.5100e-003	0.3172	0.0848	2.3300e-003	0.0871		441.2606	441.2606	0.0182		441.7160

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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594		1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594		1,297.8688	1,297.8688	0.4114		1,308.1547

Descanso 1C - South Coast Air Basin, Winter

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	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
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
Worker	0.0505	0.0290	0.3504	1.2100e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		121.1395	121.1395	2.7000e-003		121.2071
Total	0.0505	0.0290	0.3504	1.2100e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		121.1395	121.1395	2.7000e-003		121.2071

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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594	0.0000	1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594	0.0000	1,297.8688	1,297.8688	0.4114		1,308.1547

Descanso 1C - South Coast Air Basin, Winter

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	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
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
Worker	0.0505	0.0290	0.3504	1.2100e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		121.1395	121.1395	2.7000e-003		121.2071
Total	0.0505	0.0290	0.3504	1.2100e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		121.1395	121.1395	2.7000e-003		121.2071

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276		1,297.8096	1,297.8096	0.4114		1,308.0951
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276		1,297.8096	1,297.8096	0.4114		1,308.0951

Descanso 1C - South Coast Air Basin, Winter

3.6 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0481	0.0265	0.3254	1.1700e-003	0.1453	9.8000e-004	0.1463	0.0385	9.1000e-004	0.0394		116.3729	116.3729	2.4600e-003		116.4345
Total	0.0481	0.0265	0.3254	1.1700e-003	0.1453	9.8000e-004	0.1463	0.0385	9.1000e-004	0.0394		116.3729	116.3729	2.4600e-003		116.4345

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	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276	0.0000	1,297.8096	1,297.8096	0.4114		1,308.0951
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276	0.0000	1,297.8096	1,297.8096	0.4114		1,308.0951

Descanso 1C - South Coast Air Basin, Winter

3.6 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0481	0.0265	0.3254	1.1700e-003	0.1453	9.8000e-004	0.1463	0.0385	9.1000e-004	0.0394		116.3729	116.3729	2.4600e-003		116.4345
Total	0.0481	0.0265	0.3254	1.1700e-003	0.1453	9.8000e-004	0.1463	0.0385	9.1000e-004	0.0394		116.3729	116.3729	2.4600e-003		116.4345

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.6097					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	8.7805	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Descanso 1C - South Coast Air Basin, Winter

3.7 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0185	0.0102	0.1251	4.5000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		44.7588	44.7588	9.5000e-004		44.7825
Total	0.0185	0.0102	0.1251	4.5000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		44.7588	44.7588	9.5000e-004		44.7825

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	8.6097					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	8.7805	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Descanso 1C - South Coast Air Basin, Winter

3.7 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0185	0.0102	0.1251	4.5000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		44.7588	44.7588	9.5000e-004		44.7825
Total	0.0185	0.0102	0.1251	4.5000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		44.7588	44.7588	9.5000e-004		44.7825

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 1C - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133
Unmitigated	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.553907	0.042339	0.204535	0.114490	0.014186	0.005810	0.021866	0.032691	0.002129	0.001663	0.004844	0.000713	0.000827

5.0 Energy Detail

Historical Energy Use: N

Descanso 1C - South Coast Air Basin, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
NaturalGas Unmitigated	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377

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					
Arena	2763.4	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
Total		0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377

Descanso 1C - South Coast Air Basin, Winter

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					
Arena	2.7634	0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377
Total		0.0298	0.2709	0.2276	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.1058	325.1058	6.2300e-003	5.9600e-003	327.0377

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 1C - South Coast Air Basin, Winter

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	0.1415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1034					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.1415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1034					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.2449	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 1C - South Coast Air Basin, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Descanso 1D - South Coast Air Basin, Annual

Descanso 1D
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	4.00	151,341.90	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - small amount of constr

Descanso 1D - South Coast Air Basin, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	50.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	50.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	PhaseEndDate	1/18/2021	3/13/2026
tblConstructionPhase	PhaseEndDate	11/27/2020	10/22/2026
tblConstructionPhase	PhaseEndDate	12/24/2019	9/11/2025
tblConstructionPhase	PhaseEndDate	1/10/2020	12/4/2025
tblConstructionPhase	PhaseEndDate	12/23/2020	12/31/2026
tblConstructionPhase	PhaseEndDate	12/31/2019	1/16/2026
tblConstructionPhase	PhaseStartDate	12/24/2020	1/3/2026
tblConstructionPhase	PhaseStartDate	1/11/2020	12/5/2025
tblConstructionPhase	PhaseStartDate	11/27/2019	8/1/2025
tblConstructionPhase	PhaseStartDate	1/1/2020	11/7/2025
tblConstructionPhase	PhaseStartDate	11/28/2020	10/23/2026
tblConstructionPhase	PhaseStartDate	12/25/2019	9/1/2025
tblGrading	AcresOfGrading	10.00	4.00
tblLandUse	LandUseSquareFeet	43,560.00	151,341.90
tblLandUse	LotAcreage	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00

Descanso 1D - South Coast Air Basin, Annual

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.1417	1.3863	1.1151	2.4200e-003	0.8782	0.0584	0.9366	0.4759	0.0538	0.5297	0.0000	212.9362	212.9362	0.0610	0.0000	214.4619
2026	0.8962	1.7049	2.1507	4.6000e-003	0.2093	0.0638	0.2731	0.0868	0.0600	0.1468	0.0000	405.5292	405.5292	0.0726	0.0000	407.3453
Maximum	0.8962	1.7049	2.1507	4.6000e-003	0.8782	0.0638	0.9366	0.4759	0.0600	0.5297	0.0000	405.5292	405.5292	0.0726	0.0000	407.3453

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					
2025	0.1417	1.3863	1.1151	2.4200e-003	0.8782	0.0584	0.9366	0.4759	0.0538	0.5297	0.0000	212.9360	212.9360	0.0610	0.0000	214.4616
2026	0.8962	1.7049	2.1507	4.6000e-003	0.2093	0.0638	0.2731	0.0868	0.0600	0.1468	0.0000	405.5288	405.5288	0.0726	0.0000	407.3449
Maximum	0.8962	1.7049	2.1507	4.6000e-003	0.8782	0.0638	0.9366	0.4759	0.0600	0.5297	0.0000	405.5288	405.5288	0.0726	0.0000	407.3449

Descanso 1D - South Coast Air Basin, Annual

	ROG	NOx	CO	SO2	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
23	5-27-2025	8-26-2025	0.0007	0.0007
24	8-27-2025	11-26-2025	0.9853	0.9853
25	11-27-2025	2-26-2026	1.5564	1.5564
26	2-27-2026	5-26-2026	0.6051	0.6051
27	5-27-2026	8-26-2026	0.4621	0.4621
28	8-27-2026	9-30-2026	0.1758	0.1758
		Highest	1.5564	1.5564

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	0.6170	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0148	0.1343	0.1128	8.1000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	681.4294	681.4294	0.0249	7.2500e-003	684.2130
Mobile	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.6366	0.1572	0.1672	1.0300e-003	0.0195	0.0104	0.0299	5.2300e-003	0.0104	0.0156	0.4453	707.3756	707.8209	0.0710	8.3400e-003	712.0808

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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	0.6170	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0148	0.1343	0.1128	8.1000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	681.4294	681.4294	0.0249	7.2500e-003	684.2130
Mobile	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.6366	0.1572	0.1672	1.0300e-003	0.0195	0.0104	0.0299	5.2300e-003	0.0104	0.0156	0.4453	707.3756	707.8209	0.0710	8.3400e-003	712.0808

	ROG	NOx	CO	SO2	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2025	9/11/2025	5	30	
2	Site Preparation	Site Preparation	9/1/2025	1/16/2026	5	100	
3	Grading	Grading	11/7/2025	12/4/2025	5	20	
4	Building Construction	Building Construction	12/5/2025	10/22/2026	5	230	
5	Paving	Paving	10/23/2026	12/31/2026	5	50	
6	Architectural Coating	Architectural Coating	1/3/2026	3/13/2026	5	50	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 227,013; Non-Residential Outdoor: 75,671; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Demolition	Excavators	0	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

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3.2 Demolition - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.5000e-004	4.7000e-004	5.7900e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	1.8560	1.8560	4.0000e-005	0.0000	1.8570
Total	7.5000e-004	4.7000e-004	5.7900e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	1.8560	1.8560	4.0000e-005	0.0000	1.8570

3.3 Site Preparation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.7949	0.0000	0.7949	0.4370	0.0000	0.4370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1088	1.1103	0.7881	1.6800e-003		0.0478	0.0478		0.0440	0.0440	0.0000	147.2547	147.2547	0.0476	0.0000	148.4454
Total	0.1088	1.1103	0.7881	1.6800e-003	0.7949	0.0478	0.8427	0.4370	0.0440	0.4809	0.0000	147.2547	147.2547	0.0476	0.0000	148.4454

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3.3 Site Preparation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6200e-003	1.6600e-003	0.0204	7.0000e-005	8.6900e-003	6.0000e-005	8.7500e-003	2.3100e-003	6.0000e-005	2.3600e-003	0.0000	6.5331	6.5331	1.4000e-004	0.0000	6.5366
Total	2.6200e-003	1.6600e-003	0.0204	7.0000e-005	8.6900e-003	6.0000e-005	8.7500e-003	2.3100e-003	6.0000e-005	2.3600e-003	0.0000	6.5331	6.5331	1.4000e-004	0.0000	6.5366

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					0.7949	0.0000	0.7949	0.4370	0.0000	0.4370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1088	1.1103	0.7881	1.6800e-003		0.0478	0.0478		0.0440	0.0440	0.0000	147.2546	147.2546	0.0476	0.0000	148.4452
Total	0.1088	1.1103	0.7881	1.6800e-003	0.7949	0.0478	0.8427	0.4370	0.0440	0.4809	0.0000	147.2546	147.2546	0.0476	0.0000	148.4452

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3.3 Site Preparation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6200e-003	1.6600e-003	0.0204	7.0000e-005	8.6900e-003	6.0000e-005	8.7500e-003	2.3100e-003	6.0000e-005	2.3600e-003	0.0000	6.5331	6.5331	1.4000e-004	0.0000	6.5366
Total	2.6200e-003	1.6600e-003	0.0204	7.0000e-005	8.6900e-003	6.0000e-005	8.7500e-003	2.3100e-003	6.0000e-005	2.3600e-003	0.0000	6.5331	6.5331	1.4000e-004	0.0000	6.5366

3.3 Site Preparation - 2026

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					0.1084	0.0000	0.1084	0.0596	0.0000	0.0596	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1514	0.1075	2.3000e-004		6.5200e-003	6.5200e-003		6.0000e-003	6.0000e-003	0.0000	20.0802	20.0802	6.4900e-003	0.0000	20.2426
Total	0.0148	0.1514	0.1075	2.3000e-004	0.1084	6.5200e-003	0.1149	0.0596	6.0000e-003	0.0656	0.0000	20.0802	20.0802	6.4900e-003	0.0000	20.2426

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3.3 Site Preparation - 2026

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	3.4000e-004	2.1000e-004	2.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.8593	0.8593	2.0000e-005	0.0000	0.8598
Total	3.4000e-004	2.1000e-004	2.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.8593	0.8593	2.0000e-005	0.0000	0.8598

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					0.1084	0.0000	0.1084	0.0596	0.0000	0.0596	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.1514	0.1075	2.3000e-004		6.5200e-003	6.5200e-003		6.0000e-003	6.0000e-003	0.0000	20.0802	20.0802	6.4900e-003	0.0000	20.2425
Total	0.0148	0.1514	0.1075	2.3000e-004	0.1084	6.5200e-003	0.1149	0.0596	6.0000e-003	0.0656	0.0000	20.0802	20.0802	6.4900e-003	0.0000	20.2425

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3.3 Site Preparation - 2026

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	3.4000e-004	2.1000e-004	2.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.8593	0.8593	2.0000e-005	0.0000	0.8598
Total	3.4000e-004	2.1000e-004	2.6000e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.8593	0.8593	2.0000e-005	0.0000	0.8598

3.4 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0623	0.0000	0.0623	0.0333	0.0000	0.0333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0152	0.1532	0.1454	3.0000e-004		6.2400e-003	6.2400e-003		5.7400e-003	5.7400e-003	0.0000	26.0698	26.0698	8.4300e-003	0.0000	26.2806
Total	0.0152	0.1532	0.1454	3.0000e-004	0.0623	6.2400e-003	0.0686	0.0333	5.7400e-003	0.0391	0.0000	26.0698	26.0698	8.4300e-003	0.0000	26.2806

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3.4 Grading - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.2000e-004	3.8600e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2373	1.2373	3.0000e-005	0.0000	1.2380
Total	5.0000e-004	3.2000e-004	3.8600e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2373	1.2373	3.0000e-005	0.0000	1.2380

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					0.0623	0.0000	0.0623	0.0333	0.0000	0.0333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0152	0.1532	0.1454	3.0000e-004		6.2400e-003	6.2400e-003		5.7400e-003	5.7400e-003	0.0000	26.0698	26.0698	8.4300e-003	0.0000	26.2806
Total	0.0152	0.1532	0.1454	3.0000e-004	0.0623	6.2400e-003	0.0686	0.0333	5.7400e-003	0.0391	0.0000	26.0698	26.0698	8.4300e-003	0.0000	26.2806

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3.4 Grading - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.2000e-004	3.8600e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2373	1.2373	3.0000e-005	0.0000	1.2380
Total	5.0000e-004	3.2000e-004	3.8600e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2373	1.2373	3.0000e-005	0.0000	1.2380

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1029	0.1313	2.3000e-004		4.1800e-003	4.1800e-003		3.9500e-003	3.9500e-003	0.0000	19.4808	19.4808	4.3500e-003	0.0000	19.5897
Total	0.0113	0.1029	0.1313	2.3000e-004		4.1800e-003	4.1800e-003		3.9500e-003	3.9500e-003	0.0000	19.4808	19.4808	4.3500e-003	0.0000	19.5897

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3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-004	0.0163	4.6900e-003	6.0000e-005	1.5000e-003	2.0000e-005	1.5200e-003	4.3000e-004	2.0000e-005	4.5000e-004	0.0000	5.4891	5.4891	3.1000e-004	0.0000	5.4968
Worker	2.0100e-003	1.2800e-003	0.0156	6.0000e-005	6.6700e-003	5.0000e-005	6.7200e-003	1.7700e-003	4.0000e-005	1.8100e-003	0.0000	5.0153	5.0153	1.1000e-004	0.0000	5.0180
Total	2.4600e-003	0.0175	0.0203	1.2000e-004	8.1700e-003	7.0000e-005	8.2400e-003	2.2000e-003	6.0000e-005	2.2600e-003	0.0000	10.5044	10.5044	4.2000e-004	0.0000	10.5147

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	0.0113	0.1029	0.1313	2.3000e-004		4.1800e-003	4.1800e-003		3.9500e-003	3.9500e-003	0.0000	19.4808	19.4808	4.3500e-003	0.0000	19.5896
Total	0.0113	0.1029	0.1313	2.3000e-004		4.1800e-003	4.1800e-003		3.9500e-003	3.9500e-003	0.0000	19.4808	19.4808	4.3500e-003	0.0000	19.5896

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3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-004	0.0163	4.6900e-003	6.0000e-005	1.5000e-003	2.0000e-005	1.5200e-003	4.3000e-004	2.0000e-005	4.5000e-004	0.0000	5.4891	5.4891	3.1000e-004	0.0000	5.4968
Worker	2.0100e-003	1.2800e-003	0.0156	6.0000e-005	6.6700e-003	5.0000e-005	6.7200e-003	1.7700e-003	4.0000e-005	1.8100e-003	0.0000	5.0153	5.0153	1.1000e-004	0.0000	5.0180
Total	2.4600e-003	0.0175	0.0203	1.2000e-004	8.1700e-003	7.0000e-005	8.2400e-003	2.2000e-003	6.0000e-005	2.2600e-003	0.0000	10.5044	10.5044	4.2000e-004	0.0000	10.5147

3.5 Building Construction - 2026

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	0.1259	1.1428	1.4577	2.5200e-003		0.0464	0.0464		0.0439	0.0439	0.0000	216.3396	216.3396	0.0484	0.0000	217.5483
Total	0.1259	1.1428	1.4577	2.5200e-003		0.0464	0.0464		0.0439	0.0439	0.0000	216.3396	216.3396	0.0484	0.0000	217.5483

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3.5 Building Construction - 2026

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	4.9200e-003	0.1788	0.0510	6.2000e-004	0.0166	2.0000e-004	0.0168	4.8000e-003	1.9000e-004	4.9900e-003	0.0000	60.6335	60.6335	3.3500e-003	0.0000	60.7174
Worker	0.0214	0.0131	0.1624	5.9000e-004	0.0741	4.9000e-004	0.0746	0.0197	4.5000e-004	0.0201	0.0000	53.7235	53.7235	1.0800e-003	0.0000	53.7506
Total	0.0263	0.1919	0.2134	1.2100e-003	0.0907	6.9000e-004	0.0914	0.0245	6.4000e-004	0.0251	0.0000	114.3571	114.3571	4.4300e-003	0.0000	114.4680

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	0.1259	1.1428	1.4577	2.5200e-003		0.0464	0.0464		0.0439	0.0439	0.0000	216.3393	216.3393	0.0484	0.0000	217.5481
Total	0.1259	1.1428	1.4577	2.5200e-003		0.0464	0.0464		0.0439	0.0439	0.0000	216.3393	216.3393	0.0484	0.0000	217.5481

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3.5 Building Construction - 2026

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	4.9200e-003	0.1788	0.0510	6.2000e-004	0.0166	2.0000e-004	0.0168	4.8000e-003	1.9000e-004	4.9900e-003	0.0000	60.6335	60.6335	3.3500e-003	0.0000	60.7174
Worker	0.0214	0.0131	0.1624	5.9000e-004	0.0741	4.9000e-004	0.0746	0.0197	4.5000e-004	0.0201	0.0000	53.7235	53.7235	1.0800e-003	0.0000	53.7506
Total	0.0263	0.1919	0.2134	1.2100e-003	0.0907	6.9000e-004	0.0914	0.0245	6.4000e-004	0.0251	0.0000	114.3571	114.3571	4.4300e-003	0.0000	114.4680

3.6 Paving - 2026

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	0.0205	0.1883	0.3044	4.7000e-004		8.8100e-003	8.8100e-003		8.1500e-003	8.1500e-003	0.0000	40.9456	40.9456	0.0129	0.0000	41.2673
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0205	0.1883	0.3044	4.7000e-004		8.8100e-003	8.8100e-003		8.1500e-003	8.1500e-003	0.0000	40.9456	40.9456	0.0129	0.0000	41.2673

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3.6 Paving - 2026

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	1.5800e-003	9.7000e-004	0.0120	4.0000e-005	5.4900e-003	4.0000e-005	5.5200e-003	1.4600e-003	3.0000e-005	1.4900e-003	0.0000	3.9783	3.9783	8.0000e-005	0.0000	3.9803
Total	1.5800e-003	9.7000e-004	0.0120	4.0000e-005	5.4900e-003	4.0000e-005	5.5200e-003	1.4600e-003	3.0000e-005	1.4900e-003	0.0000	3.9783	3.9783	8.0000e-005	0.0000	3.9803

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	0.0205	0.1883	0.3044	4.7000e-004		8.8100e-003	8.8100e-003		8.1500e-003	8.1500e-003	0.0000	40.9456	40.9456	0.0129	0.0000	41.2672
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0205	0.1883	0.3044	4.7000e-004		8.8100e-003	8.8100e-003		8.1500e-003	8.1500e-003	0.0000	40.9456	40.9456	0.0129	0.0000	41.2672

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3.6 Paving - 2026

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	1.5800e-003	9.7000e-004	0.0120	4.0000e-005	5.4900e-003	4.0000e-005	5.5200e-003	1.4600e-003	3.0000e-005	1.4900e-003	0.0000	3.9783	3.9783	8.0000e-005	0.0000	3.9803
Total	1.5800e-003	9.7000e-004	0.0120	4.0000e-005	5.4900e-003	4.0000e-005	5.5200e-003	1.4600e-003	3.0000e-005	1.4900e-003	0.0000	3.9783	3.9783	8.0000e-005	0.0000	3.9803

3.7 Architectural Coating - 2026

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	0.7015					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2700e-003	0.0286	0.0452	7.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	6.3831	6.3831	3.5000e-004	0.0000	6.3918
Total	0.7057	0.0286	0.0452	7.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	6.3831	6.3831	3.5000e-004	0.0000	6.3918

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3.7 Architectural Coating - 2026

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	1.0300e-003	6.3000e-004	7.8200e-003	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	2.5859	2.5859	5.0000e-005	0.0000	2.5872
Total	1.0300e-003	6.3000e-004	7.8200e-003	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	2.5859	2.5859	5.0000e-005	0.0000	2.5872

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	0.7015					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2700e-003	0.0286	0.0452	7.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	6.3831	6.3831	3.5000e-004	0.0000	6.3918
Total	0.7057	0.0286	0.0452	7.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	6.3831	6.3831	3.5000e-004	0.0000	6.3918

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3.7 Architectural Coating - 2026

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	1.0300e-003	6.3000e-004	7.8200e-003	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	2.5859	2.5859	5.0000e-005	0.0000	2.5872
Total	1.0300e-003	6.3000e-004	7.8200e-003	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	2.5859	2.5859	5.0000e-005	0.0000	2.5872

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801
Unmitigated	4.7700e-003	0.0229	0.0544	2.2000e-004	0.0195	1.6000e-004	0.0197	5.2300e-003	1.5000e-004	5.3800e-003	0.0000	20.0571	20.0571	9.2000e-004	0.0000	20.0801

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.553907	0.042339	0.204535	0.114490	0.014186	0.005810	0.021866	0.032691	0.002129	0.001663	0.004844	0.000713	0.000827

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	535.2506	535.2506	0.0221	4.5700e-003	537.1654
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	535.2506	535.2506	0.0221	4.5700e-003	537.1654
NaturalGas Mitigated	0.0148	0.1343	0.1128	8.1000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	146.1789	146.1789	2.8000e-003	2.6800e-003	147.0475
NaturalGas Unmitigated	0.0148	0.1343	0.1128	8.1000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	146.1789	146.1789	2.8000e-003	2.6800e-003	147.0475

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	2.73929e+006	0.0148	0.1343	0.1128	8.1000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	146.1789	146.1789	2.8000e-003	2.6800e-003	147.0475
Total		0.0148	0.1343	0.1128	8.1000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	146.1789	146.1789	2.8000e-003	2.6800e-003	147.0475

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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	tons/yr										MT/yr					
Arena	2.73929e+006	0.0148	0.1343	0.1128	8.1000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	146.1789	146.1789	2.8000e-003	2.6800e-003	147.0475
Total		0.0148	0.1343	0.1128	8.1000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	146.1789	146.1789	2.8000e-003	2.6800e-003	147.0475

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	1.6799e+006	535.2506	0.0221	4.5700e-003	537.1654
Total		535.2506	0.0221	4.5700e-003	537.1654

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	1.6799e+006	535.2506	0.0221	4.5700e-003	537.1654
Total		535.2506	0.0221	4.5700e-003	537.1654

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6170	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.6170	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0702					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5469					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.6170	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0702					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5469					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.6170	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

Descanso 1D - South Coast Air Basin, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.3161	0.0441	1.0900e-003	7.7425
Unmitigated	6.3161	0.0441	1.0900e-003	7.7425

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

Descanso 1D - South Coast Air Basin, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0183	1.0800e-003	0.0000	0.0453
Unmitigated	0.0183	1.0800e-003	0.0000	0.0453

Descanso 1D - South Coast Air Basin, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Descanso 1D - South Coast Air Basin, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 1D - South Coast Air Basin, Summer

Descanso 1D
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	4.00	151,341.90	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - small amount of constr

Descanso 1D - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	50.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	50.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	PhaseEndDate	1/18/2021	3/13/2026
tblConstructionPhase	PhaseEndDate	11/27/2020	10/22/2026
tblConstructionPhase	PhaseEndDate	12/24/2019	9/11/2025
tblConstructionPhase	PhaseEndDate	1/10/2020	12/4/2025
tblConstructionPhase	PhaseEndDate	12/23/2020	12/31/2026
tblConstructionPhase	PhaseEndDate	12/31/2019	1/16/2026
tblConstructionPhase	PhaseStartDate	12/24/2020	1/3/2026
tblConstructionPhase	PhaseStartDate	1/11/2020	12/5/2025
tblConstructionPhase	PhaseStartDate	11/27/2019	8/1/2025
tblConstructionPhase	PhaseStartDate	1/1/2020	11/7/2025
tblConstructionPhase	PhaseStartDate	11/28/2020	10/23/2026
tblConstructionPhase	PhaseStartDate	12/25/2019	9/1/2025
tblGrading	AcresOfGrading	10.00	4.00
tblLandUse	LandUseSquareFeet	43,560.00	151,341.90
tblLandUse	LotAcreage	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00

Descanso 1D - South Coast Air Basin, Summer

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	4.1049	40.6100	34.4813	0.0758	24.6693	1.7129	26.3822	13.3616	1.5758	14.9375	0.0000	7,376.3640	7,376.3640	2.1293	0.0000	7,420.1062
2026	32.2425	39.0537	36.4720	0.0797	19.2881	1.5871	20.8752	10.2584	1.4752	11.7335	0.0000	7,746.3470	7,746.3470	1.7656	0.0000	7,790.4859
Maximum	32.2425	40.6100	36.4720	0.0797	24.6693	1.7129	26.3822	13.3616	1.5758	14.9375	0.0000	7,746.3470	7,746.3470	2.1293	0.0000	7,790.4859

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					
2025	4.1049	40.6100	34.4813	0.0758	24.6693	1.7129	26.3822	13.3616	1.5758	14.9375	0.0000	7,376.3640	7,376.3640	2.1293	0.0000	7,420.1062
2026	32.2425	39.0537	36.4720	0.0797	19.2881	1.5871	20.8752	10.2584	1.4752	11.7335	0.0000	7,746.3470	7,746.3470	1.7656	0.0000	7,790.4859
Maximum	32.2425	40.6100	36.4720	0.0797	24.6693	1.7129	26.3822	13.3616	1.5758	14.9375	0.0000	7,746.3470	7,746.3470	2.1293	0.0000	7,790.4859

Descanso 1D - South Coast Air Basin, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
Mobile	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938
Total	3.5016	0.9074	1.0513	6.1400e-003	0.1529	0.0572	0.2100	0.0409	0.0571	0.0980		1,059.6280	1,059.6280	0.0247	0.0162	1,065.0702

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
Mobile	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938
Total	3.5016	0.9074	1.0513	6.1400e-003	0.1529	0.0572	0.2100	0.0409	0.0571	0.0980		1,059.6280	1,059.6280	0.0247	0.0162	1,065.0702

Descanso 1D - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2025	9/11/2025	5	30	
2	Site Preparation	Site Preparation	9/1/2025	1/16/2026	5	100	
3	Grading	Grading	11/7/2025	12/4/2025	5	20	
4	Building Construction	Building Construction	12/5/2025	10/22/2026	5	230	
5	Paving	Paving	10/23/2026	12/31/2026	5	50	
6	Architectural Coating	Architectural Coating	1/3/2026	3/13/2026	5	50	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 227,013; Non-Residential Outdoor: 75,671; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 1D - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Demolition	Excavators	0	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Descanso 1D - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	64.00	25.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Descanso 1D - South Coast Air Basin, Summer

3.2 Demolition - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0498	0.0279	0.4174	1.4400e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		143.1836	143.1836	3.0500e-003		143.2599
Total	0.0498	0.0279	0.4174	1.4400e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		143.1836	143.1836	3.0500e-003		143.2599

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

Descanso 1D - South Coast Air Basin, Summer

3.2 Demolition - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0498	0.0279	0.4174	1.4400e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		143.1836	143.1836	3.0500e-003		143.2599
Total	0.0498	0.0279	0.4174	1.4400e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		143.1836	143.1836	3.0500e-003		143.2599

3.3 Site Preparation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 1D - South Coast Air Basin, Summer

3.3 Site Preparation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0597	0.0335	0.5009	1.7200e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2500e-003	0.0546		171.8204	171.8204	3.6600e-003		171.9118
Total	0.0597	0.0335	0.5009	1.7200e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2500e-003	0.0546		171.8204	171.8204	3.6600e-003		171.9118

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 1D - South Coast Air Basin, Summer

3.3 Site Preparation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0597	0.0335	0.5009	1.7200e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2500e-003	0.0546		171.8204	171.8204	3.6600e-003		171.9118
Total	0.0597	0.0335	0.5009	1.7200e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2500e-003	0.0546		171.8204	171.8204	3.6600e-003		171.9118

3.3 Site Preparation - 2026

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 1D - South Coast Air Basin, Summer

3.3 Site Preparation - 2026

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
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
Worker	0.0570	0.0308	0.4686	1.6600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		165.7398	165.7398	3.3500e-003		165.8236
Total	0.0570	0.0308	0.4686	1.6600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		165.7398	165.7398	3.3500e-003		165.8236

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 1D - South Coast Air Basin, Summer

3.3 Site Preparation - 2026

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
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
Worker	0.0570	0.0308	0.4686	1.6600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		165.7398	165.7398	3.3500e-003		165.8236
Total	0.0570	0.0308	0.4686	1.6600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		165.7398	165.7398	3.3500e-003		165.8236

3.4 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.5227	15.3148	14.5402	0.0297		0.6236	0.6236		0.5737	0.5737		2,873.7052	2,873.7052	0.9294		2,896.9405
Total	1.5227	15.3148	14.5402	0.0297	6.2342	0.6236	6.8578	3.3331	0.5737	3.9068		2,873.7052	2,873.7052	0.9294		2,896.9405

Descanso 1D - South Coast Air Basin, Summer

3.4 Grading - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0498	0.0279	0.4174	1.4400e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		143.1836	143.1836	3.0500e-003		143.2599
Total	0.0498	0.0279	0.4174	1.4400e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		143.1836	143.1836	3.0500e-003		143.2599

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					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.5227	15.3148	14.5402	0.0297		0.6236	0.6236		0.5737	0.5737	0.0000	2,873.7052	2,873.7052	0.9294		2,896.9405
Total	1.5227	15.3148	14.5402	0.0297	6.2342	0.6236	6.8578	3.3331	0.5737	3.9068	0.0000	2,873.7052	2,873.7052	0.9294		2,896.9405

Descanso 1D - South Coast Air Basin, Summer

3.4 Grading - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0498	0.0279	0.4174	1.4400e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		143.1836	143.1836	3.0500e-003		143.2599
Total	0.0498	0.0279	0.4174	1.4400e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		143.1836	143.1836	3.0500e-003		143.2599

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156		2,260.4127	2,260.4127	0.5052		2,273.0426
Total	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156		2,260.4127	2,260.4127	0.5052		2,273.0426

Descanso 1D - South Coast Air Basin, Summer

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0467	1.6949	0.4704	6.0000e-003	0.1600	1.9100e-003	0.1619	0.0461	1.8300e-003	0.0479		644.1104	644.1104	0.0347		644.9777
Worker	0.2124	0.1190	1.7810	6.1300e-003	0.7154	4.8500e-003	0.7202	0.1897	4.4600e-003	0.1942		610.9168	610.9168	0.0130		611.2421
Total	0.2591	1.8140	2.2514	0.0121	0.8753	6.7600e-003	0.8821	0.2358	6.2900e-003	0.2421		1,255.0272	1,255.0272	0.0477		1,256.2198

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156	0.0000	2,260.4127	2,260.4127	0.5052		2,273.0426
Total	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156	0.0000	2,260.4127	2,260.4127	0.5052		2,273.0426

Descanso 1D - South Coast Air Basin, Summer

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0467	1.6949	0.4704	6.0000e-003	0.1600	1.9100e-003	0.1619	0.0461	1.8300e-003	0.0479		644.1104	644.1104	0.0347		644.9777
Worker	0.2124	0.1190	1.7810	6.1300e-003	0.7154	4.8500e-003	0.7202	0.1897	4.4600e-003	0.1942		610.9168	610.9168	0.0130		611.2421
Total	0.2591	1.8140	2.2514	0.0121	0.8753	6.7600e-003	0.8821	0.2358	6.2900e-003	0.2421		1,255.0272	1,255.0272	0.0477		1,256.2198

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156		2,260.4127	2,260.4127	0.5052		2,273.0426
Total	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156		2,260.4127	2,260.4127	0.5052		2,273.0426

Descanso 1D - South Coast Air Basin, Summer

3.5 Building Construction - 2026

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
Vendor	0.0456	1.6790	0.4610	5.9600e-003	0.1600	1.8800e-003	0.1619	0.0461	1.7900e-003	0.0479		640.6448	640.6448	0.0342		641.4992
Worker	0.2027	0.1096	1.6660	5.9100e-003	0.7154	4.6900e-003	0.7201	0.1897	4.3100e-003	0.1940		589.2970	589.2970	0.0119		589.5951
Total	0.2483	1.7886	2.1269	0.0119	0.8753	6.5700e-003	0.8819	0.2358	6.1000e-003	0.2419		1,229.9418	1,229.9418	0.0461		1,231.0943

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156	0.0000	2,260.4127	2,260.4127	0.5052		2,273.0426
Total	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156	0.0000	2,260.4127	2,260.4127	0.5052		2,273.0426

Descanso 1D - South Coast Air Basin, Summer

3.5 Building Construction - 2026

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
Vendor	0.0456	1.6790	0.4610	5.9600e-003	0.1600	1.8800e-003	0.1619	0.0461	1.7900e-003	0.0479		640.6448	640.6448	0.0342		641.4992
Worker	0.2027	0.1096	1.6660	5.9100e-003	0.7154	4.6900e-003	0.7201	0.1897	4.3100e-003	0.1940		589.2970	589.2970	0.0119		589.5951
Total	0.2483	1.7886	2.1269	0.0119	0.8753	6.5700e-003	0.8819	0.2358	6.1000e-003	0.2419		1,229.9418	1,229.9418	0.0461		1,231.0943

3.6 Paving - 2026

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	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259		1,805.3926	1,805.3926	0.5673		1,819.5741
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259		1,805.3926	1,805.3926	0.5673		1,819.5741

Descanso 1D - South Coast Air Basin, Summer

3.6 Paving - 2026

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
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
Worker	0.0634	0.0343	0.5206	1.8500e-003	0.2236	1.4600e-003	0.2250	0.0593	1.3500e-003	0.0606		184.1553	184.1553	3.7300e-003		184.2485
Total	0.0634	0.0343	0.5206	1.8500e-003	0.2236	1.4600e-003	0.2250	0.0593	1.3500e-003	0.0606		184.1553	184.1553	3.7300e-003		184.2485

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	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259	0.0000	1,805.3926	1,805.3926	0.5673		1,819.5741
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259	0.0000	1,805.3926	1,805.3926	0.5673		1,819.5741

Descanso 1D - South Coast Air Basin, Summer

3.6 Paving - 2026

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
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
Worker	0.0634	0.0343	0.5206	1.8500e-003	0.2236	1.4600e-003	0.2250	0.0593	1.3500e-003	0.0606		184.1553	184.1553	3.7300e-003		184.2485
Total	0.0634	0.0343	0.5206	1.8500e-003	0.2236	1.4600e-003	0.2250	0.0593	1.3500e-003	0.0606		184.1553	184.1553	3.7300e-003		184.2485

3.7 Architectural Coating - 2026

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	28.0588					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	28.2297	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Descanso 1D - South Coast Air Basin, Summer

3.7 Architectural Coating - 2026

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
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
Worker	0.0412	0.0223	0.3384	1.2000e-003	0.1453	9.5000e-004	0.1463	0.0385	8.8000e-004	0.0394		119.7010	119.7010	2.4200e-003		119.7615
Total	0.0412	0.0223	0.3384	1.2000e-003	0.1453	9.5000e-004	0.1463	0.0385	8.8000e-004	0.0394		119.7010	119.7010	2.4200e-003		119.7615

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	28.0588					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	28.2297	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Descanso 1D - South Coast Air Basin, Summer

3.7 Architectural Coating - 2026

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
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
Worker	0.0412	0.0223	0.3384	1.2000e-003	0.1453	9.5000e-004	0.1463	0.0385	8.8000e-004	0.0394		119.7010	119.7010	2.4200e-003		119.7615
Total	0.0412	0.0223	0.3384	1.2000e-003	0.1453	9.5000e-004	0.1463	0.0385	8.8000e-004	0.0394		119.7010	119.7010	2.4200e-003		119.7615

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 1D - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938
Unmitigated	0.0397	0.1716	0.4332	1.7300e-003	0.1529	1.2400e-003	0.1541	0.0409	1.1500e-003	0.0420		176.6984	176.6984	7.8200e-003		176.8938

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.553907	0.042339	0.204535	0.114490	0.014186	0.005810	0.021866	0.032691	0.002129	0.001663	0.004844	0.000713	0.000827

5.0 Energy Detail

Historical Energy Use: N

Descanso 1D - South Coast Air Basin, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
NaturalGas Unmitigated	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762

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					
Arena	7504.9	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
Total		0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762

Descanso 1D - South Coast Air Basin, Summer

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					
Arena	7.5049	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
Total		0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 1D - South Coast Air Basin, Summer

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	0.3844					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9966					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.3844					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9966					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 1D - South Coast Air Basin, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 1D - South Coast Air Basin, Winter

Descanso 1D
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	4.00	151,341.90	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - small amount of constr

Descanso 1D - South Coast Air Basin, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	50.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	50.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	PhaseEndDate	1/18/2021	3/13/2026
tblConstructionPhase	PhaseEndDate	11/27/2020	10/22/2026
tblConstructionPhase	PhaseEndDate	12/24/2019	9/11/2025
tblConstructionPhase	PhaseEndDate	1/10/2020	12/4/2025
tblConstructionPhase	PhaseEndDate	12/23/2020	12/31/2026
tblConstructionPhase	PhaseEndDate	12/31/2019	1/16/2026
tblConstructionPhase	PhaseStartDate	12/24/2020	1/3/2026
tblConstructionPhase	PhaseStartDate	1/11/2020	12/5/2025
tblConstructionPhase	PhaseStartDate	11/27/2019	8/1/2025
tblConstructionPhase	PhaseStartDate	1/1/2020	11/7/2025
tblConstructionPhase	PhaseStartDate	11/28/2020	10/23/2026
tblConstructionPhase	PhaseStartDate	12/25/2019	9/1/2025
tblGrading	AcresOfGrading	10.00	4.00
tblLandUse	LandUseSquareFeet	43,560.00	151,341.90
tblLandUse	LotAcreage	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00

Descanso 1D - South Coast Air Basin, Winter

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	4.1174	40.6160	34.2953	0.0752	24.6693	1.7129	26.3822	13.3616	1.5758	14.9375	0.0000	7,310.535 1	7,310.535 1	2.1288	0.0000	7,354.299 9
2026	32.2804	39.0608	36.2635	0.0790	19.2881	1.5871	20.8752	10.2584	1.4753	11.7336	0.0000	7,674.960 2	7,674.960 2	1.7663	0.0000	7,719.118 0
Maximum	32.2804	40.6160	36.2635	0.0790	24.6693	1.7129	26.3822	13.3616	1.5758	14.9375	0.0000	7,674.960 2	7,674.960 2	2.1288	0.0000	7,719.118 0

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					
2025	4.1174	40.6160	34.2953	0.0752	24.6693	1.7129	26.3822	13.3616	1.5758	14.9375	0.0000	7,310.535 1	7,310.535 1	2.1288	0.0000	7,354.299 9
2026	32.2804	39.0608	36.2635	0.0790	19.2881	1.5871	20.8752	10.2584	1.4753	11.7336	0.0000	7,674.960 2	7,674.960 2	1.7663	0.0000	7,719.118 0
Maximum	32.2804	40.6160	36.2635	0.0790	24.6693	1.7129	26.3822	13.3616	1.5758	14.9375	0.0000	7,674.960 2	7,674.960 2	2.1288	0.0000	7,719.118 0

Descanso 1D - South Coast Air Basin, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
Mobile	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133
Total	3.4998	0.9092	1.0318	6.0500e-003	0.1529	0.0572	0.2100	0.0409	0.0571	0.0980		1,050.5458	1,050.5458	0.0248	0.0162	1,055.9898

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
Mobile	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133
Total	3.4998	0.9092	1.0318	6.0500e-003	0.1529	0.0572	0.2100	0.0409	0.0571	0.0980		1,050.5458	1,050.5458	0.0248	0.0162	1,055.9898

Descanso 1D - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2025	9/11/2025	5	30	
2	Site Preparation	Site Preparation	9/1/2025	1/16/2026	5	100	
3	Grading	Grading	11/7/2025	12/4/2025	5	20	
4	Building Construction	Building Construction	12/5/2025	10/22/2026	5	230	
5	Paving	Paving	10/23/2026	12/31/2026	5	50	
6	Architectural Coating	Architectural Coating	1/3/2026	3/13/2026	5	50	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 227,013; Non-Residential Outdoor: 75,671; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 1D - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Demolition	Excavators	0	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Descanso 1D - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	64.00	25.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Descanso 1D - South Coast Air Basin, Winter

3.2 Demolition - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0555	0.0306	0.3754	1.3500e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		134.2764	134.2764	2.8400e-003		134.3475
Total	0.0555	0.0306	0.3754	1.3500e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		134.2764	134.2764	2.8400e-003		134.3475

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

Descanso 1D - South Coast Air Basin, Winter

3.2 Demolition - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0555	0.0306	0.3754	1.3500e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		134.2764	134.2764	2.8400e-003		134.3475
Total	0.0555	0.0306	0.3754	1.3500e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		134.2764	134.2764	2.8400e-003		134.3475

3.3 Site Preparation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 1D - South Coast Air Basin, Winter

3.3 Site Preparation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0666	0.0367	0.4505	1.6200e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2500e-003	0.0546		161.1317	161.1317	3.4100e-003		161.2170
Total	0.0666	0.0367	0.4505	1.6200e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2500e-003	0.0546		161.1317	161.1317	3.4100e-003		161.2170

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 1D - South Coast Air Basin, Winter

3.3 Site Preparation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0666	0.0367	0.4505	1.6200e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2500e-003	0.0546		161.1317	161.1317	3.4100e-003		161.2170
Total	0.0666	0.0367	0.4505	1.6200e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2500e-003	0.0546		161.1317	161.1317	3.4100e-003		161.2170

3.3 Site Preparation - 2026

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 1D - South Coast Air Basin, Winter

3.3 Site Preparation - 2026

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
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
Worker	0.0638	0.0338	0.4210	1.5600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		155.4253	155.4253	3.1200e-003		155.5034
Total	0.0638	0.0338	0.4210	1.5600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		155.4253	155.4253	3.1200e-003		155.5034

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 1D - South Coast Air Basin, Winter

3.3 Site Preparation - 2026

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
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
Worker	0.0638	0.0338	0.4210	1.5600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		155.4253	155.4253	3.1200e-003		155.5034
Total	0.0638	0.0338	0.4210	1.5600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		155.4253	155.4253	3.1200e-003		155.5034

3.4 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.5227	15.3148	14.5402	0.0297		0.6236	0.6236		0.5737	0.5737		2,873.7052	2,873.7052	0.9294		2,896.9405
Total	1.5227	15.3148	14.5402	0.0297	6.2342	0.6236	6.8578	3.3331	0.5737	3.9068		2,873.7052	2,873.7052	0.9294		2,896.9405

Descanso 1D - South Coast Air Basin, Winter

3.4 Grading - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0555	0.0306	0.3754	1.3500e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		134.2764	134.2764	2.8400e-003		134.3475
Total	0.0555	0.0306	0.3754	1.3500e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		134.2764	134.2764	2.8400e-003		134.3475

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					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.5227	15.3148	14.5402	0.0297		0.6236	0.6236		0.5737	0.5737	0.0000	2,873.7052	2,873.7052	0.9294		2,896.9405
Total	1.5227	15.3148	14.5402	0.0297	6.2342	0.6236	6.8578	3.3331	0.5737	3.9068	0.0000	2,873.7052	2,873.7052	0.9294		2,896.9405

Descanso 1D - South Coast Air Basin, Winter

3.4 Grading - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
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
Worker	0.0555	0.0306	0.3754	1.3500e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		134.2764	134.2764	2.8400e-003		134.3475
Total	0.0555	0.0306	0.3754	1.3500e-003	0.1677	1.1400e-003	0.1688	0.0445	1.0500e-003	0.0455		134.2764	134.2764	2.8400e-003		134.3475

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156		2,260.4127	2,260.4127	0.5052		2,273.0426
Total	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156		2,260.4127	2,260.4127	0.5052		2,273.0426

Descanso 1D - South Coast Air Basin, Winter

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0491	1.6863	0.5140	5.8400e-003	0.1600	1.9900e-003	0.1620	0.0461	1.9000e-003	0.0480		626.9742	626.9742	0.0367		627.8923
Worker	0.2368	0.1306	1.6018	5.7400e-003	0.7154	4.8500e-003	0.7202	0.1897	4.4600e-003	0.1942		572.9128	572.9128	0.0121		573.2160
Total	0.2858	1.8169	2.1158	0.0116	0.8753	6.8400e-003	0.8822	0.2358	6.3600e-003	0.2421		1,199.8869	1,199.8869	0.0489		1,201.1083

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156	0.0000	2,260.4127	2,260.4127	0.5052		2,273.0426
Total	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156	0.0000	2,260.4127	2,260.4127	0.5052		2,273.0426

Descanso 1D - South Coast Air Basin, Winter

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0491	1.6863	0.5140	5.8400e-003	0.1600	1.9900e-003	0.1620	0.0461	1.9000e-003	0.0480		626.9742	626.9742	0.0367		627.8923
Worker	0.2368	0.1306	1.6018	5.7400e-003	0.7154	4.8500e-003	0.7202	0.1897	4.4600e-003	0.1942		572.9128	572.9128	0.0121		573.2160
Total	0.2858	1.8169	2.1158	0.0116	0.8753	6.8400e-003	0.8822	0.2358	6.3600e-003	0.2421		1,199.8869	1,199.8869	0.0489		1,201.1083

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156		2,260.4127	2,260.4127	0.5052		2,273.0426
Total	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156		2,260.4127	2,260.4127	0.5052		2,273.0426

Descanso 1D - South Coast Air Basin, Winter

3.5 Building Construction - 2026

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
Vendor	0.0479	1.6705	0.5036	5.8100e-003	0.1600	1.9500e-003	0.1619	0.0461	1.8600e-003	0.0479		623.6957	623.6957	0.0361		624.5993
Worker	0.2267	0.1202	1.4968	5.5400e-003	0.7154	4.6900e-003	0.7201	0.1897	4.3100e-003	0.1940		552.6232	552.6232	0.0111		552.9009
Total	0.2746	1.7907	2.0004	0.0114	0.8753	6.6400e-003	0.8820	0.2358	6.1700e-003	0.2419		1,176.3189	1,176.3189	0.0473		1,177.5002

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156	0.0000	2,260.4127	2,260.4127	0.5052		2,273.0426
Total	1.1936	10.8326	13.8172	0.0239		0.4399	0.4399		0.4156	0.4156	0.0000	2,260.4127	2,260.4127	0.5052		2,273.0426

Descanso 1D - South Coast Air Basin, Winter

3.5 Building Construction - 2026

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
Vendor	0.0479	1.6705	0.5036	5.8100e-003	0.1600	1.9500e-003	0.1619	0.0461	1.8600e-003	0.0479		623.6957	623.6957	0.0361		624.5993
Worker	0.2267	0.1202	1.4968	5.5400e-003	0.7154	4.6900e-003	0.7201	0.1897	4.3100e-003	0.1940		552.6232	552.6232	0.0111		552.9009
Total	0.2746	1.7907	2.0004	0.0114	0.8753	6.6400e-003	0.8820	0.2358	6.1700e-003	0.2419		1,176.3189	1,176.3189	0.0473		1,177.5002

3.6 Paving - 2026

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	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259		1,805.3926	1,805.3926	0.5673		1,819.5741
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259		1,805.3926	1,805.3926	0.5673		1,819.5741

Descanso 1D - South Coast Air Basin, Winter

3.6 Paving - 2026

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
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
Worker	0.0708	0.0376	0.4678	1.7300e-003	0.2236	1.4600e-003	0.2250	0.0593	1.3500e-003	0.0606		172.6947	172.6947	3.4700e-003		172.7815
Total	0.0708	0.0376	0.4678	1.7300e-003	0.2236	1.4600e-003	0.2250	0.0593	1.3500e-003	0.0606		172.6947	172.6947	3.4700e-003		172.7815

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	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259	0.0000	1,805.3926	1,805.3926	0.5673		1,819.5741
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259	0.0000	1,805.3926	1,805.3926	0.5673		1,819.5741

Descanso 1D - South Coast Air Basin, Winter

3.6 Paving - 2026

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
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
Worker	0.0708	0.0376	0.4678	1.7300e-003	0.2236	1.4600e-003	0.2250	0.0593	1.3500e-003	0.0606		172.6947	172.6947	3.4700e-003		172.7815
Total	0.0708	0.0376	0.4678	1.7300e-003	0.2236	1.4600e-003	0.2250	0.0593	1.3500e-003	0.0606		172.6947	172.6947	3.4700e-003		172.7815

3.7 Architectural Coating - 2026

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	28.0588					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	28.2297	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Descanso 1D - South Coast Air Basin, Winter

3.7 Architectural Coating - 2026

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
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
Worker	0.0460	0.0244	0.3040	1.1300e-003	0.1453	9.5000e-004	0.1463	0.0385	8.8000e-004	0.0394		112.2516	112.2516	2.2600e-003		112.3080
Total	0.0460	0.0244	0.3040	1.1300e-003	0.1453	9.5000e-004	0.1463	0.0385	8.8000e-004	0.0394		112.2516	112.2516	2.2600e-003		112.3080

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	28.0588					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	28.2297	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Descanso 1D - South Coast Air Basin, Winter

3.7 Architectural Coating - 2026

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
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
Worker	0.0460	0.0244	0.3040	1.1300e-003	0.1453	9.5000e-004	0.1463	0.0385	8.8000e-004	0.0394		112.2516	112.2516	2.2600e-003		112.3080
Total	0.0460	0.0244	0.3040	1.1300e-003	0.1453	9.5000e-004	0.1463	0.0385	8.8000e-004	0.0394		112.2516	112.2516	2.2600e-003		112.3080

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 1D - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133
Unmitigated	0.0379	0.1735	0.4137	1.6400e-003	0.1529	1.2500e-003	0.1541	0.0409	1.1600e-003	0.0421		167.6162	167.6162	7.8900e-003		167.8133

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.553907	0.042339	0.204535	0.114490	0.014186	0.005810	0.021866	0.032691	0.002129	0.001663	0.004844	0.000713	0.000827

5.0 Energy Detail

Historical Energy Use: N

Descanso 1D - South Coast Air Basin, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
NaturalGas Unmitigated	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762

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					
Arena	7504.9	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
Total		0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762

Descanso 1D - South Coast Air Basin, Winter

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					
Arena	7.5049	0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762
Total		0.0809	0.7358	0.6181	4.4100e-003		0.0559	0.0559		0.0559	0.0559		882.9294	882.9294	0.0169	0.0162	888.1762

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 1D - South Coast Air Basin, Winter

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	0.3844					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9966					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.3844					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.9966					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	3.3810	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 1D - South Coast Air Basin, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2A - South Coast Air Basin, Annual

Descanso 2A
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	7.20	313,632.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	100.00

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tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	50.00
tblConstructionPhase	NumDays	20.00	55.00
tblConstructionPhase	NumDays	10.00	100.00
tblConstructionPhase	PhaseEndDate	2/16/2021	5/14/2027
tblConstructionPhase	PhaseEndDate	12/22/2020	10/9/2026
tblConstructionPhase	PhaseEndDate	12/24/2019	11/26/2019
tblConstructionPhase	PhaseEndDate	2/4/2020	10/9/2026
tblConstructionPhase	PhaseEndDate	1/19/2021	12/25/2026
tblConstructionPhase	PhaseEndDate	1/7/2020	7/31/2026
tblConstructionPhase	PhaseStartDate	1/20/2021	12/27/2026
tblConstructionPhase	PhaseStartDate	2/5/2020	10/10/2026
tblConstructionPhase	PhaseStartDate	1/8/2020	8/1/2026
tblConstructionPhase	PhaseStartDate	12/23/2020	10/10/2026
tblConstructionPhase	PhaseStartDate	12/25/2019	3/15/2026
tblGrading	AcresOfGrading	25.00	10.00
tblLandUse	LandUseSquareFeet	43,560.00	313,632.00
tblLandUse	LotAcreage	1.00	7.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

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tblTripsAndVMT	:	WorkerTripNumber	:	0.00	:	15.00
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2.0 Emissions Summary

Descanso 2A - South Coast Air Basin, Annual

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2026	0.2509	1.8862	1.7054	3.4300e-003	1.0783	0.0817	1.1599	0.5849	0.0751	0.6601	0.0000	301.9137	301.9137	0.0933	0.0000	304.2465
2027	1.4075	0.0572	0.1150	2.5000e-004	0.0137	2.5600e-003	0.0163	3.6400e-003	2.5500e-003	6.1900e-003	0.0000	21.8639	21.8639	8.5000e-004	0.0000	21.8852
Maximum	1.4075	1.8862	1.7054	3.4300e-003	1.0783	0.0817	1.1599	0.5849	0.0751	0.6601	0.0000	301.9137	301.9137	0.0933	0.0000	304.2465

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2026	0.2509	1.8862	1.7054	3.4300e-003	1.0783	0.0817	1.1599	0.5849	0.0751	0.6601	0.0000	301.9134	301.9134	0.0933	0.0000	304.2461
2027	1.4075	0.0572	0.1150	2.5000e-004	0.0137	2.5600e-003	0.0163	3.6400e-003	2.5500e-003	6.1900e-003	0.0000	21.8639	21.8639	8.5000e-004	0.0000	21.8852
Maximum	1.4075	1.8862	1.7054	3.4300e-003	1.0783	0.0817	1.1599	0.5849	0.0751	0.6601	0.0000	301.9134	301.9134	0.0933	0.0000	304.2461

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
26	2-27-2026	5-26-2026	0.7247	0.7247
27	5-27-2026	8-26-2026	0.8122	0.8122
28	8-27-2026	11-26-2026	0.4300	0.4300
29	11-27-2026	2-26-2027	0.7751	0.7751
30	2-27-2027	5-26-2027	0.8392	0.8392
		Highest	0.8392	0.8392

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2787	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	1,412.1540	1,412.1540	0.0516	0.0150	1,417.9225
Mobile	4.1600e-003	0.0217	0.0467	2.0000e-004	0.0195	1.4000e-004	0.0197	5.2300e-003	1.3000e-004	5.3500e-003	0.0000	18.7210	18.7210	8.2000e-004	0.0000	18.7414
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	1.3135	0.2999	0.2805	1.8700e-003	0.0195	0.0213	0.0408	5.2300e-003	0.0213	0.0265	0.4453	1,436.7641	1,437.2094	0.0976	0.0161	1,444.4516

Descanso 2A - South Coast Air Basin, Annual

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2787	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	1,412.1540	1,412.1540	0.0516	0.0150	1,417.9225
Mobile	4.1600e-003	0.0217	0.0467	2.0000e-004	0.0195	1.4000e-004	0.0197	5.2300e-003	1.3000e-004	5.3500e-003	0.0000	18.7210	18.7210	8.2000e-004	0.0000	18.7414
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	1.3135	0.2999	0.2805	1.8700e-003	0.0195	0.0213	0.0408	5.2300e-003	0.0213	0.0265	0.4453	1,436.7641	1,437.2094	0.0976	0.0161	1,444.4516

	ROG	NOx	CO	SO2	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/27/2019	11/26/2019	5	0	
2	Site Preparation	Site Preparation	3/15/2026	7/31/2026	5	100	
3	Grading	Grading	8/1/2026	10/9/2026	5	50	
4	Building Construction	Building Construction	10/10/2026	10/9/2026	5	0	
5	Paving	Paving	10/10/2026	12/25/2026	5	55	
6	Architectural Coating	Architectural Coating	12/27/2026	5/14/2027	5	100	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 470,448; Non-Residential Outdoor: 156,816; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Demolition	Excavators	0	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

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3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.3 Site Preparation - 2026

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					0.9033	0.0000	0.9033	0.4965	0.0000	0.4965	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1236	1.2617	0.8956	1.9000e-003		0.0543	0.0543		0.0500	0.0500	0.0000	167.3349	167.3349	0.0541	0.0000	168.6879
Total	0.1236	1.2617	0.8956	1.9000e-003	0.9033	0.0543	0.9577	0.4965	0.0500	0.5465	0.0000	167.3349	167.3349	0.0541	0.0000	168.6879

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3.3 Site Preparation - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8500e-003	1.7400e-003	0.0216	8.0000e-005	9.8700e-003	7.0000e-005	9.9400e-003	2.6200e-003	6.0000e-005	2.6800e-003	0.0000	7.1610	7.1610	1.4000e-004	0.0000	7.1646
Total	2.8500e-003	1.7400e-003	0.0216	8.0000e-005	9.8700e-003	7.0000e-005	9.9400e-003	2.6200e-003	6.0000e-005	2.6800e-003	0.0000	7.1610	7.1610	1.4000e-004	0.0000	7.1646

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					0.9033	0.0000	0.9033	0.4965	0.0000	0.4965	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1236	1.2617	0.8956	1.9000e-003		0.0543	0.0543		0.0500	0.0500	0.0000	167.3347	167.3347	0.0541	0.0000	168.6877
Total	0.1236	1.2617	0.8956	1.9000e-003	0.9033	0.0543	0.9577	0.4965	0.0500	0.5465	0.0000	167.3347	167.3347	0.0541	0.0000	168.6877

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3.3 Site Preparation - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8500e-003	1.7400e-003	0.0216	8.0000e-005	9.8700e-003	7.0000e-005	9.9400e-003	2.6200e-003	6.0000e-005	2.6800e-003	0.0000	7.1610	7.1610	1.4000e-004	0.0000	7.1646
Total	2.8500e-003	1.7400e-003	0.0216	8.0000e-005	9.8700e-003	7.0000e-005	9.9400e-003	2.6200e-003	6.0000e-005	2.6800e-003	0.0000	7.1610	7.1610	1.4000e-004	0.0000	7.1646

3.4 Grading - 2026

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					0.1559	0.0000	0.1559	0.0833	0.0000	0.0833	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0381	0.3829	0.3635	7.4000e-004		0.0156	0.0156		0.0143	0.0143	0.0000	65.1745	65.1745	0.0211	0.0000	65.7015
Total	0.0381	0.3829	0.3635	7.4000e-004	0.1559	0.0156	0.1714	0.0833	0.0143	0.0977	0.0000	65.1745	65.1745	0.0211	0.0000	65.7015

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3.4 Grading - 2026

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	1.1900e-003	7.3000e-004	9.0200e-003	3.0000e-005	4.1100e-003	3.0000e-005	4.1400e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	2.9838	2.9838	6.0000e-005	0.0000	2.9853
Total	1.1900e-003	7.3000e-004	9.0200e-003	3.0000e-005	4.1100e-003	3.0000e-005	4.1400e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	2.9838	2.9838	6.0000e-005	0.0000	2.9853

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					0.1559	0.0000	0.1559	0.0833	0.0000	0.0833	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0381	0.3829	0.3635	7.4000e-004		0.0156	0.0156		0.0143	0.0143	0.0000	65.1745	65.1745	0.0211	0.0000	65.7014
Total	0.0381	0.3829	0.3635	7.4000e-004	0.1559	0.0156	0.1714	0.0833	0.0143	0.0977	0.0000	65.1745	65.1745	0.0211	0.0000	65.7014

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3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.6 Paving - 2026

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	0.0252	0.2360	0.4009	6.3000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	55.0530	55.0530	0.0178	0.0000	55.4981
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0252	0.2360	0.4009	6.3000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	55.0530	55.0530	0.0178	0.0000	55.4981

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3.6 Paving - 2026

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	1.3100e-003	8.0000e-004	9.9200e-003	4.0000e-005	4.5300e-003	3.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.2821	3.2821	7.0000e-005	0.0000	3.2838
Total	1.3100e-003	8.0000e-004	9.9200e-003	4.0000e-005	4.5300e-003	3.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.2821	3.2821	7.0000e-005	0.0000	3.2838

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	0.0252	0.2360	0.4009	6.3000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	55.0529	55.0529	0.0178	0.0000	55.4980
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0252	0.2360	0.4009	6.3000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	55.0529	55.0529	0.0178	0.0000	55.4980

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3.6 Paving - 2026

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	1.3100e-003	8.0000e-004	9.9200e-003	4.0000e-005	4.5300e-003	3.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.2821	3.2821	7.0000e-005	0.0000	3.2838
Total	1.3100e-003	8.0000e-004	9.9200e-003	4.0000e-005	4.5300e-003	3.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.2821	3.2821	7.0000e-005	0.0000	3.2838

3.7 Architectural Coating - 2026

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	0.0582					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	2.2900e-003	3.6200e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.5107	0.5107	3.0000e-005	0.0000	0.5114
Total	0.0585	2.2900e-003	3.6200e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.5107	0.5107	3.0000e-005	0.0000	0.5114

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3.7 Architectural Coating - 2026

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	1.6000e-004	1.0000e-004	1.2500e-003	0.0000	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4138	0.4138	1.0000e-005	0.0000	0.4140
Total	1.6000e-004	1.0000e-004	1.2500e-003	0.0000	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4138	0.4138	1.0000e-005	0.0000	0.4140

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	0.0582					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	2.2900e-003	3.6200e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.5107	0.5107	3.0000e-005	0.0000	0.5114
Total	0.0585	2.2900e-003	3.6200e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.5107	0.5107	3.0000e-005	0.0000	0.5114

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3.7 Architectural Coating - 2026

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	1.6000e-004	1.0000e-004	1.2500e-003	0.0000	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4138	0.4138	1.0000e-005	0.0000	0.4140
Total	1.6000e-004	1.0000e-004	1.2500e-003	0.0000	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4138	0.4138	1.0000e-005	0.0000	0.4140

3.7 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3955					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2000e-003	0.0550	0.0868	1.4000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	12.2556	12.2556	6.7000e-004	0.0000	12.2723
Total	1.4037	0.0550	0.0868	1.4000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	12.2556	12.2556	6.7000e-004	0.0000	12.2723

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3.7 Architectural Coating - 2027

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	3.7700e-003	2.2300e-003	0.0281	1.1000e-004	0.0137	9.0000e-005	0.0138	3.6400e-003	8.0000e-005	3.7200e-003	0.0000	9.6083	9.6083	1.8000e-004	0.0000	9.6129
Total	3.7700e-003	2.2300e-003	0.0281	1.1000e-004	0.0137	9.0000e-005	0.0138	3.6400e-003	8.0000e-005	3.7200e-003	0.0000	9.6083	9.6083	1.8000e-004	0.0000	9.6129

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3955					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2000e-003	0.0550	0.0868	1.4000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	12.2556	12.2556	6.7000e-004	0.0000	12.2723
Total	1.4037	0.0550	0.0868	1.4000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	12.2556	12.2556	6.7000e-004	0.0000	12.2723

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3.7 Architectural Coating - 2027

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	3.7700e-003	2.2300e-003	0.0281	1.1000e-004	0.0137	9.0000e-005	0.0138	3.6400e-003	8.0000e-005	3.7200e-003	0.0000	9.6083	9.6083	1.8000e-004	0.0000	9.6129
Total	3.7700e-003	2.2300e-003	0.0281	1.1000e-004	0.0137	9.0000e-005	0.0138	3.6400e-003	8.0000e-005	3.7200e-003	0.0000	9.6083	9.6083	1.8000e-004	0.0000	9.6129

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 2A - South Coast Air Basin, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	4.1600e-003	0.0217	0.0467	2.0000e-004	0.0195	1.4000e-004	0.0197	5.2300e-003	1.3000e-004	5.3500e-003	0.0000	18.7210	18.7210	8.2000e-004	0.0000	18.7414
Unmitigated	4.1600e-003	0.0217	0.0467	2.0000e-004	0.0195	1.4000e-004	0.0197	5.2300e-003	1.3000e-004	5.3500e-003	0.0000	18.7210	18.7210	8.2000e-004	0.0000	18.7414

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554500	0.041901	0.206158	0.112158	0.013256	0.005781	0.022151	0.034039	0.002155	0.001547	0.004857	0.000717	0.000782

5.0 Energy Detail

Historical Energy Use: N

Descanso 2A - South Coast Air Basin, Annual

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,109.2216	1,109.2216	0.0458	9.4700e-003	1,113.1899
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,109.2216	1,109.2216	0.0458	9.4700e-003	1,113.1899
NaturalGas Mitigated	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	302.9324	302.9324	5.8100e-003	5.5500e-003	304.7326
NaturalGas Unmitigated	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	302.9324	302.9324	5.8100e-003	5.5500e-003	304.7326

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	5.67674e+006	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	302.9324	302.9324	5.8100e-003	5.5500e-003	304.7326
Total		0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	302.9324	302.9324	5.8100e-003	5.5500e-003	304.7326

Descanso 2A - South Coast Air Basin, Annual

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					
Arena	5.67674e+006	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	302.9324	302.9324	5.8100e-003	5.5500e-003	304.7326
Total		0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	302.9324	302.9324	5.8100e-003	5.5500e-003	304.7326

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	3.48132e+006	1,109.2216	0.0458	9.4700e-003	1,113.1899
Total		1,109.2216	0.0458	9.4700e-003	1,113.1899

Descanso 2A - South Coast Air Basin, Annual

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	3.48132e+006	1,109.2216	0.0458	9.4700e-003	1,113.1899
Total		1,109.2216	0.0458	9.4700e-003	1,113.1899

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2787	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	1.2787	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Descanso 2A - South Coast Air Basin, Annual

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1454					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1333					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	1.2787	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1454					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1333					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	1.2787	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

Descanso 2A - South Coast Air Basin, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.3161	0.0441	1.0900e-003	7.7425
Unmitigated	6.3161	0.0441	1.0900e-003	7.7425

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

Descanso 2A - South Coast Air Basin, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0183	1.0800e-003	0.0000	0.0453
Unmitigated	0.0183	1.0800e-003	0.0000	0.0453

Descanso 2A - South Coast Air Basin, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Descanso 2A - South Coast Air Basin, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2A - South Coast Air Basin, Summer

Descanso 2A
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	7.20	313,632.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	100.00

Descanso 2A - South Coast Air Basin, Summer

tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	50.00
tblConstructionPhase	NumDays	20.00	55.00
tblConstructionPhase	NumDays	10.00	100.00
tblConstructionPhase	PhaseEndDate	2/16/2021	5/14/2027
tblConstructionPhase	PhaseEndDate	12/22/2020	10/9/2026
tblConstructionPhase	PhaseEndDate	12/24/2019	11/26/2019
tblConstructionPhase	PhaseEndDate	2/4/2020	10/9/2026
tblConstructionPhase	PhaseEndDate	1/19/2021	12/25/2026
tblConstructionPhase	PhaseEndDate	1/7/2020	7/31/2026
tblConstructionPhase	PhaseStartDate	1/20/2021	12/27/2026
tblConstructionPhase	PhaseStartDate	2/5/2020	10/10/2026
tblConstructionPhase	PhaseStartDate	1/8/2020	8/1/2026
tblConstructionPhase	PhaseStartDate	12/23/2020	10/10/2026
tblConstructionPhase	PhaseStartDate	12/25/2019	3/15/2026
tblGrading	AcresOfGrading	25.00	10.00
tblLandUse	LandUseSquareFeet	43,560.00	313,632.00
tblLandUse	LotAcreage	1.00	7.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

Descanso 2A - South Coast Air Basin, Summer

tblTripsAndVMT	:	WorkerTripNumber	:	0.00	:	15.00
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2.0 Emissions Summary

Descanso 2A - South Coast Air Basin, Summer

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	1.3100e-003	0.0000	0.0000	1.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2026	29.3269	25.2647	18.3804	0.0398	18.2675	1.0881	19.3556	9.9840	1.0011	10.9851	0.0000	3,854.8435	3,854.8435	1.1965	0.0000	3,884.7556
2027	29.3231	1.1866	2.4443	5.2900e-003	0.2906	0.0533	0.3439	0.0771	0.0532	0.1302	0.0000	513.1095	513.1095	0.0198	0.0000	513.6044
Maximum	29.3269	25.2647	18.3804	0.0398	18.2675	1.0881	19.3556	9.9840	1.0011	10.9851	0.0000	3,854.8435	3,854.8435	1.1965	0.0000	3,884.7556

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	1.3100e-003	0.0000	0.0000	1.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2026	29.3269	25.2647	18.3804	0.0398	18.2675	1.0881	19.3556	9.9840	1.0011	10.9851	0.0000	3,854.8435	3,854.8435	1.1965	0.0000	3,884.7556
2027	29.3231	1.1866	2.4443	5.2900e-003	0.2906	0.0533	0.3439	0.0771	0.0532	0.1302	0.0000	513.1095	513.1095	0.0198	0.0000	513.6044
Maximum	29.3269	25.2647	18.3804	0.0398	18.2675	1.0881	19.3556	9.9840	1.0011	10.9851	0.0000	3,854.8435	3,854.8435	1.1965	0.0000	3,884.7556

Descanso 2A - South Coast Air Basin, Summer

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	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
Mobile	0.0346	0.1629	0.3724	1.6100e-003	0.1529	1.0600e-003	0.1539	0.0409	9.9000e-004	0.0419		164.8072	164.8072	6.9100e-003		164.9799
Total	7.2088	1.6877	1.6533	0.0108	0.1529	0.1169	0.2698	0.0409	0.1169	0.1578		1,994.5380	1,994.5380	0.0420	0.0336	2,005.5839

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	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
Mobile	0.0346	0.1629	0.3724	1.6100e-003	0.1529	1.0600e-003	0.1539	0.0409	9.9000e-004	0.0419		164.8072	164.8072	6.9100e-003		164.9799
Total	7.2088	1.6877	1.6533	0.0108	0.1529	0.1169	0.2698	0.0409	0.1169	0.1578		1,994.5380	1,994.5380	0.0420	0.0336	2,005.5839

Descanso 2A - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/27/2019	11/26/2019	5	0	
2	Site Preparation	Site Preparation	3/15/2026	7/31/2026	5	100	
3	Grading	Grading	8/1/2026	10/9/2026	5	50	
4	Building Construction	Building Construction	10/10/2026	10/9/2026	5	0	
5	Paving	Paving	10/10/2026	12/25/2026	5	55	
6	Architectural Coating	Architectural Coating	12/27/2026	5/14/2027	5	100	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 470,448; Non-Residential Outdoor: 156,816; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 2A - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Demolition	Excavators	0	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Descanso 2A - South Coast Air Basin, Summer

3.2 Demolition - 2019

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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.3 Site Preparation - 2026

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2A - South Coast Air Basin, Summer

3.3 Site Preparation - 2026

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
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
Worker	0.0570	0.0308	0.4686	1.6600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		165.7398	165.7398	3.3500e-003		165.8236
Total	0.0570	0.0308	0.4686	1.6600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		165.7398	165.7398	3.3500e-003		165.8236

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2A - South Coast Air Basin, Summer

3.3 Site Preparation - 2026

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
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
Worker	0.0570	0.0308	0.4686	1.6600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		165.7398	165.7398	3.3500e-003		165.8236
Total	0.0570	0.0308	0.4686	1.6600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		165.7398	165.7398	3.3500e-003		165.8236

3.4 Grading - 2026

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					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.5227	15.3148	14.5402	0.0297		0.6236	0.6236		0.5737	0.5737		2,873.7052	2,873.7052	0.9294		2,896.9405
Total	1.5227	15.3148	14.5402	0.0297	6.2342	0.6236	6.8578	3.3331	0.5737	3.9068		2,873.7052	2,873.7052	0.9294		2,896.9405

Descanso 2A - South Coast Air Basin, Summer

3.4 Grading - 2026

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
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
Worker	0.0475	0.0257	0.3905	1.3800e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		138.1165	138.1165	2.7900e-003		138.1864
Total	0.0475	0.0257	0.3905	1.3800e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		138.1165	138.1165	2.7900e-003		138.1864

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					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.5227	15.3148	14.5402	0.0297		0.6236	0.6236		0.5737	0.5737	0.0000	2,873.705 2	2,873.705 2	0.9294		2,896.940 5
Total	1.5227	15.3148	14.5402	0.0297	6.2342	0.6236	6.8578	3.3331	0.5737	3.9068	0.0000	2,873.705 2	2,873.705 2	0.9294		2,896.940 5

Descanso 2A - South Coast Air Basin, Summer

3.5 Building Construction - 2026

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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.6 Paving - 2026

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878

Descanso 2A - South Coast Air Basin, Summer

3.6 Paving - 2026

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
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
Worker	0.0475	0.0257	0.3905	1.3800e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		138.1165	138.1165	2.7900e-003		138.1864
Total	0.0475	0.0257	0.3905	1.3800e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		138.1165	138.1165	2.7900e-003		138.1864

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

Descanso 2A - South Coast Air Basin, Summer

3.6 Paving - 2026

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
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
Worker	0.0475	0.0257	0.3905	1.3800e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		138.1165	138.1165	2.7900e-003		138.1864
Total	0.0475	0.0257	0.3905	1.3800e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		138.1165	138.1165	2.7900e-003		138.1864

3.7 Architectural Coating - 2026

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	29.0737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	29.2446	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Descanso 2A - South Coast Air Basin, Summer

3.7 Architectural Coating - 2026

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
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
Worker	0.0824	0.0445	0.6768	2.4000e-003	0.2906	1.9000e-003	0.2925	0.0771	1.7500e-003	0.0788		239.4019	239.4019	4.8400e-003		239.5230
Total	0.0824	0.0445	0.6768	2.4000e-003	0.2906	1.9000e-003	0.2925	0.0771	1.7500e-003	0.0788		239.4019	239.4019	4.8400e-003		239.5230

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	29.0737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	29.2446	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Descanso 2A - South Coast Air Basin, Summer

3.7 Architectural Coating - 2026

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
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
Worker	0.0824	0.0445	0.6768	2.4000e-003	0.2906	1.9000e-003	0.2925	0.0771	1.7500e-003	0.0788		239.4019	239.4019	4.8400e-003		239.5230
Total	0.0824	0.0445	0.6768	2.4000e-003	0.2906	1.9000e-003	0.2925	0.0771	1.7500e-003	0.0788		239.4019	239.4019	4.8400e-003		239.5230

3.7 Architectural Coating - 2027

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	29.0737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	29.2446	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Descanso 2A - South Coast Air Basin, Summer

3.7 Architectural Coating - 2027

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
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
Worker	0.0785	0.0411	0.6351	2.3200e-003	0.2906	1.8000e-003	0.2924	0.0771	1.6600e-003	0.0787		231.6614	231.6614	4.4500e-003		231.7726
Total	0.0785	0.0411	0.6351	2.3200e-003	0.2906	1.8000e-003	0.2924	0.0771	1.6600e-003	0.0787		231.6614	231.6614	4.4500e-003		231.7726

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	29.0737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	29.2446	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Descanso 2A - South Coast Air Basin, Summer

3.7 Architectural Coating - 2027

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
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
Worker	0.0785	0.0411	0.6351	2.3200e-003	0.2906	1.8000e-003	0.2924	0.0771	1.6600e-003	0.0787		231.6614	231.6614	4.4500e-003		231.7726
Total	0.0785	0.0411	0.6351	2.3200e-003	0.2906	1.8000e-003	0.2924	0.0771	1.6600e-003	0.0787		231.6614	231.6614	4.4500e-003		231.7726

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 2A - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0346	0.1629	0.3724	1.6100e-003	0.1529	1.0600e-003	0.1539	0.0409	9.9000e-004	0.0419		164.8072	164.8072	6.9100e-003		164.9799
Unmitigated	0.0346	0.1629	0.3724	1.6100e-003	0.1529	1.0600e-003	0.1539	0.0409	9.9000e-004	0.0419		164.8072	164.8072	6.9100e-003		164.9799

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554500	0.041901	0.206158	0.112158	0.013256	0.005781	0.022151	0.034039	0.002155	0.001547	0.004857	0.000717	0.000782

5.0 Energy Detail

Historical Energy Use: N

Descanso 2A - South Coast Air Basin, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
NaturalGas Unmitigated	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038

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					
Arena	15552.7	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
Total		0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038

Descanso 2A - South Coast Air Basin, Summer

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					
Arena	15.5527	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
Total		0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 2A - South Coast Air Basin, Summer

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	0.7965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.2099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.7965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.2099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 2A - South Coast Air Basin, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2A - South Coast Air Basin, Winter

Descanso 2A
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	7.20	313,632.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - calculated
- Construction Phase - approximate schedule- 18 mo
- Off-road Equipment - no demolition
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment - no constr

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	100.00

Descanso 2A - South Coast Air Basin, Winter

tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	50.00
tblConstructionPhase	NumDays	20.00	55.00
tblConstructionPhase	NumDays	10.00	100.00
tblConstructionPhase	PhaseEndDate	2/16/2021	5/14/2027
tblConstructionPhase	PhaseEndDate	12/22/2020	10/9/2026
tblConstructionPhase	PhaseEndDate	12/24/2019	11/26/2019
tblConstructionPhase	PhaseEndDate	2/4/2020	10/9/2026
tblConstructionPhase	PhaseEndDate	1/19/2021	12/25/2026
tblConstructionPhase	PhaseEndDate	1/7/2020	7/31/2026
tblConstructionPhase	PhaseStartDate	1/20/2021	12/27/2026
tblConstructionPhase	PhaseStartDate	2/5/2020	10/10/2026
tblConstructionPhase	PhaseStartDate	1/8/2020	8/1/2026
tblConstructionPhase	PhaseStartDate	12/23/2020	10/10/2026
tblConstructionPhase	PhaseStartDate	12/25/2019	3/15/2026
tblGrading	AcresOfGrading	25.00	10.00
tblLandUse	LandUseSquareFeet	43,560.00	313,632.00
tblLandUse	LotAcreage	1.00	7.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

Descanso 2A - South Coast Air Basin, Winter

tblTripsAndVMT	:	WorkerTripNumber	:	0.00	:	15.00
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2.0 Emissions Summary

Descanso 2A - South Coast Air Basin, Winter

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	1.3100e-003	0.0000	0.0000	1.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2026	29.3366	25.2677	18.3328	0.0397	18.2675	1.0881	19.3556	9.9840	1.0011	10.9851	0.0000	3,844.5290	3,844.5290	1.1963	0.0000	3,874.4354
2027	29.3326	1.1905	2.3792	5.1500e-003	0.2906	0.0533	0.3439	0.0771	0.0532	0.1302	0.0000	498.6793	498.6793	0.0195	0.0000	499.1666
Maximum	29.3366	25.2677	18.3328	0.0397	18.2675	1.0881	19.3556	9.9840	1.0011	10.9851	0.0000	3,844.5290	3,844.5290	1.1963	0.0000	3,874.4354

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	1.3100e-003	0.0000	0.0000	1.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2026	29.3366	25.2677	18.3328	0.0397	18.2675	1.0881	19.3556	9.9840	1.0011	10.9851	0.0000	3,844.5290	3,844.5290	1.1963	0.0000	3,874.4354
2027	29.3326	1.1905	2.3792	5.1500e-003	0.2906	0.0533	0.3439	0.0771	0.0532	0.1302	0.0000	498.6793	498.6793	0.0195	0.0000	499.1666
Maximum	29.3366	25.2677	18.3328	0.0397	18.2675	1.0881	19.3556	9.9840	1.0011	10.9851	0.0000	3,844.5290	3,844.5290	1.1963	0.0000	3,874.4354

Descanso 2A - South Coast Air Basin, Winter

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	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
Mobile	0.0330	0.1641	0.3558	1.5300e-003	0.1529	1.0700e-003	0.1539	0.0409	9.9000e-004	0.0419		156.4418	156.4418	7.0000e-003		156.6167
Total	7.2072	1.6889	1.6367	0.0107	0.1529	0.1170	0.2698	0.0409	0.1169	0.1578		1,986.1726	1,986.1726	0.0421	0.0336	1,997.2207

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	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
Mobile	0.0330	0.1641	0.3558	1.5300e-003	0.1529	1.0700e-003	0.1539	0.0409	9.9000e-004	0.0419		156.4418	156.4418	7.0000e-003		156.6167
Total	7.2072	1.6889	1.6367	0.0107	0.1529	0.1170	0.2698	0.0409	0.1169	0.1578		1,986.1726	1,986.1726	0.0421	0.0336	1,997.2207

Descanso 2A - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/27/2019	11/26/2019	5	0	
2	Site Preparation	Site Preparation	3/15/2026	7/31/2026	5	100	
3	Grading	Grading	8/1/2026	10/9/2026	5	50	
4	Building Construction	Building Construction	10/10/2026	10/9/2026	5	0	
5	Paving	Paving	10/10/2026	12/25/2026	5	55	
6	Architectural Coating	Architectural Coating	12/27/2026	5/14/2027	5	100	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 470,448; Non-Residential Outdoor: 156,816; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 2A - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Demolition	Excavators	0	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Descanso 2A - South Coast Air Basin, Winter

3.2 Demolition - 2019

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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.3 Site Preparation - 2026

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2A - South Coast Air Basin, Winter

3.3 Site Preparation - 2026

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
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
Worker	0.0638	0.0338	0.4210	1.5600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		155.4253	155.4253	3.1200e-003		155.5034
Total	0.0638	0.0338	0.4210	1.5600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		155.4253	155.4253	3.1200e-003		155.5034

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2A - South Coast Air Basin, Winter

3.3 Site Preparation - 2026

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
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
Worker	0.0638	0.0338	0.4210	1.5600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		155.4253	155.4253	3.1200e-003		155.5034
Total	0.0638	0.0338	0.4210	1.5600e-003	0.2012	1.3200e-003	0.2025	0.0534	1.2100e-003	0.0546		155.4253	155.4253	3.1200e-003		155.5034

3.4 Grading - 2026

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					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.5227	15.3148	14.5402	0.0297		0.6236	0.6236		0.5737	0.5737		2,873.7052	2,873.7052	0.9294		2,896.9405
Total	1.5227	15.3148	14.5402	0.0297	6.2342	0.6236	6.8578	3.3331	0.5737	3.9068		2,873.7052	2,873.7052	0.9294		2,896.9405

Descanso 2A - South Coast Air Basin, Winter

3.4 Grading - 2026

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
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
Worker	0.0531	0.0282	0.3508	1.3000e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		129.5211	129.5211	2.6000e-003		129.5862
Total	0.0531	0.0282	0.3508	1.3000e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		129.5211	129.5211	2.6000e-003		129.5862

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					6.2342	0.0000	6.2342	3.3331	0.0000	3.3331			0.0000			0.0000
Off-Road	1.5227	15.3148	14.5402	0.0297		0.6236	0.6236		0.5737	0.5737	0.0000	2,873.705 2	2,873.705 2	0.9294		2,896.940 5
Total	1.5227	15.3148	14.5402	0.0297	6.2342	0.6236	6.8578	3.3331	0.5737	3.9068	0.0000	2,873.705 2	2,873.705 2	0.9294		2,896.940 5

Descanso 2A - South Coast Air Basin, Winter

3.5 Building Construction - 2026

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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.6 Paving - 2026

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878

Descanso 2A - South Coast Air Basin, Winter

3.6 Paving - 2026

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
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
Worker	0.0531	0.0282	0.3508	1.3000e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		129.5211	129.5211	2.6000e-003		129.5862
Total	0.0531	0.0282	0.3508	1.3000e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		129.5211	129.5211	2.6000e-003		129.5862

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

Descanso 2A - South Coast Air Basin, Winter

3.6 Paving - 2026

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
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
Worker	0.0531	0.0282	0.3508	1.3000e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		129.5211	129.5211	2.6000e-003		129.5862
Total	0.0531	0.0282	0.3508	1.3000e-003	0.1677	1.1000e-003	0.1688	0.0445	1.0100e-003	0.0455		129.5211	129.5211	2.6000e-003		129.5862

3.7 Architectural Coating - 2026

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	29.0737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	29.2446	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Descanso 2A - South Coast Air Basin, Winter

3.7 Architectural Coating - 2026

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
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
Worker	0.0921	0.0488	0.6081	2.2500e-003	0.2906	1.9000e-003	0.2925	0.0771	1.7500e-003	0.0788		224.5032	224.5032	4.5100e-003		224.6160
Total	0.0921	0.0488	0.6081	2.2500e-003	0.2906	1.9000e-003	0.2925	0.0771	1.7500e-003	0.0788		224.5032	224.5032	4.5100e-003		224.6160

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	29.0737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	29.2446	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Descanso 2A - South Coast Air Basin, Winter

3.7 Architectural Coating - 2026

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
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
Worker	0.0921	0.0488	0.6081	2.2500e-003	0.2906	1.9000e-003	0.2925	0.0771	1.7500e-003	0.0788		224.5032	224.5032	4.5100e-003		224.6160
Total	0.0921	0.0488	0.6081	2.2500e-003	0.2906	1.9000e-003	0.2925	0.0771	1.7500e-003	0.0788		224.5032	224.5032	4.5100e-003		224.6160

3.7 Architectural Coating - 2027

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	29.0737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	29.2446	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Descanso 2A - South Coast Air Basin, Winter

3.7 Architectural Coating - 2027

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
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
Worker	0.0880	0.0450	0.5700	2.1800e-003	0.2906	1.8000e-003	0.2924	0.0771	1.6600e-003	0.0787		217.2312	217.2312	4.1400e-003		217.3347
Total	0.0880	0.0450	0.5700	2.1800e-003	0.2906	1.8000e-003	0.2924	0.0771	1.6600e-003	0.0787		217.2312	217.2312	4.1400e-003		217.3347

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	29.0737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	29.2446	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Descanso 2A - South Coast Air Basin, Winter

3.7 Architectural Coating - 2027

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
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
Worker	0.0880	0.0450	0.5700	2.1800e-003	0.2906	1.8000e-003	0.2924	0.0771	1.6600e-003	0.0787		217.2312	217.2312	4.1400e-003		217.3347
Total	0.0880	0.0450	0.5700	2.1800e-003	0.2906	1.8000e-003	0.2924	0.0771	1.6600e-003	0.0787		217.2312	217.2312	4.1400e-003		217.3347

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 2A - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0330	0.1641	0.3558	1.5300e-003	0.1529	1.0700e-003	0.1539	0.0409	9.9000e-004	0.0419		156.4418	156.4418	7.0000e-003		156.6167
Unmitigated	0.0330	0.1641	0.3558	1.5300e-003	0.1529	1.0700e-003	0.1539	0.0409	9.9000e-004	0.0419		156.4418	156.4418	7.0000e-003		156.6167

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554500	0.041901	0.206158	0.112158	0.013256	0.005781	0.022151	0.034039	0.002155	0.001547	0.004857	0.000717	0.000782

5.0 Energy Detail

Historical Energy Use: N

Descanso 2A - South Coast Air Basin, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
NaturalGas Unmitigated	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038

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					
Arena	15552.7	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
Total		0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038

Descanso 2A - South Coast Air Basin, Winter

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					
Arena	15.5527	0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038
Total		0.1677	1.5248	1.2808	9.1500e-003		0.1159	0.1159		0.1159	0.1159		1,829.7306	1,829.7306	0.0351	0.0336	1,840.6038

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 2A - South Coast Air Basin, Winter

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	0.7965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.2099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.7965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.2099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	7.0065	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 2A - South Coast Air Basin, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Descanso 2B - South Coast Air Basin, Annual

Descanso 2B
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	12.90	562,205.80	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2031
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

Descanso 2B - South Coast Air Basin, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	30.00	100.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	10.00	100.00
tblConstructionPhase	PhaseEndDate	6/8/2021	3/15/2030
tblConstructionPhase	PhaseEndDate	4/13/2021	8/29/2029
tblConstructionPhase	PhaseEndDate	12/24/2019	10/1/2027
tblConstructionPhase	PhaseEndDate	2/18/2020	7/6/2028
tblConstructionPhase	PhaseEndDate	5/11/2021	1/18/2030
tblConstructionPhase	PhaseEndDate	1/7/2020	2/18/2028
tblConstructionPhase	PhaseStartDate	5/12/2021	1/19/2030
tblConstructionPhase	PhaseStartDate	2/19/2020	7/6/2028
tblConstructionPhase	PhaseStartDate	11/27/2019	5/15/2027
tblConstructionPhase	PhaseStartDate	1/8/2020	2/18/2028
tblConstructionPhase	PhaseStartDate	4/14/2021	9/2/2029
tblConstructionPhase	PhaseStartDate	12/25/2019	10/2/2027
tblGrading	AcresOfGrading	250.00	75.00
tblLandUse	LandUseSquareFeet	43,560.00	562,205.80
tblLandUse	LotAcreage	1.00	12.90

2.0 Emissions Summary

Descanso 2B - South Coast Air Basin, Annual

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					
2027	0.1890	1.7823	1.5832	3.2900e-003	0.6018	0.0781	0.6799	0.3266	0.0722	0.3988	0.0000	289.0341	289.0341	0.0828	0.0000	291.1051
2028	0.3325	3.0468	3.1071	8.1900e-003	0.8727	0.1105	0.9832	0.4017	0.1024	0.5041	0.0000	733.2677	733.2677	0.1511	0.0000	737.0457
2029	0.2286	2.0058	2.5854	6.8500e-003	0.2812	0.0655	0.3467	0.0758	0.0612	0.1370	0.0000	620.4373	620.4373	0.0873	0.0000	622.6199
2030	2.6208	0.0684	0.1665	3.4000e-004	0.0115	2.7800e-003	0.0142	3.0400e-003	2.7700e-003	5.8200e-003	0.0000	29.3872	29.3872	1.1200e-003	0.0000	29.4151
Maximum	2.6208	3.0468	3.1071	8.1900e-003	0.8727	0.1105	0.9832	0.4017	0.1024	0.5041	0.0000	733.2677	733.2677	0.1511	0.0000	737.0457

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2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2027	0.1890	1.7823	1.5832	3.2900e-003	0.6018	0.0781	0.6799	0.3266	0.0722	0.3988	0.0000	289.0338	289.0338	0.0828	0.0000	291.1047
2028	0.3325	3.0468	3.1071	8.1900e-003	0.8727	0.1105	0.9832	0.4017	0.1024	0.5041	0.0000	733.2672	733.2672	0.1511	0.0000	737.0452
2029	0.2286	2.0058	2.5854	6.8500e-003	0.2812	0.0655	0.3467	0.0758	0.0612	0.1370	0.0000	620.4369	620.4369	0.0873	0.0000	622.6196
2030	2.6208	0.0684	0.1665	3.4000e-004	0.0115	2.7800e-003	0.0142	3.0400e-003	2.7700e-003	5.8200e-003	0.0000	29.3871	29.3871	1.1200e-003	0.0000	29.4151
Maximum	2.6208	3.0468	3.1071	8.1900e-003	0.8727	0.1105	0.9832	0.4017	0.1024	0.5041	0.0000	733.2672	733.2672	0.1511	0.0000	737.0452

	ROG	NOx	CO	SO2	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
30	2-27-2027	5-26-2027	0.0915	0.0915
31	5-27-2027	8-26-2027	0.7018	0.7018
32	8-27-2027	11-26-2027	0.8306	0.8306
33	11-27-2027	2-26-2028	0.9333	0.9333
34	2-27-2028	5-26-2028	0.9943	0.9943
35	5-27-2028	8-26-2028	0.8447	0.8447
36	8-27-2028	11-26-2028	0.6950	0.6950
37	11-27-2028	2-26-2029	0.6937	0.6937

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38	2-27-2029	5-26-2029	0.6678	0.6678
39	5-27-2029	8-26-2029	0.6893	0.6893
40	8-27-2029	11-26-2029	0.3162	0.3162
41	11-27-2029	2-26-2030	2.0059	2.0059
42	2-27-2030	5-26-2030	0.7982	0.7982
		Highest	2.0059	2.0059

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	2.2921	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0549	0.4988	0.4190	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	2,531.3781	2,531.3781	0.0925	0.0269	2,541.7185
Mobile	3.6500e-003	0.0208	0.0413	1.9000e-004	0.0195	1.2000e-004	0.0196	5.2300e-003	1.1000e-004	5.3300e-003	0.0000	17.8523	17.8523	7.5000e-004	0.0000	17.8709
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	2.3506	0.5197	0.4603	3.1800e-003	0.0195	0.0380	0.0575	5.2300e-003	0.0380	0.0432	0.4453	2,555.1195	2,555.5648	0.1384	0.0280	2,567.3771

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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	2.2921	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0549	0.4988	0.4190	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	2,531.3781	2,531.3781	0.0925	0.0269	2,541.7185
Mobile	3.6500e-003	0.0208	0.0413	1.9000e-004	0.0195	1.2000e-004	0.0196	5.2300e-003	1.1000e-004	5.3300e-003	0.0000	17.8523	17.8523	7.5000e-004	0.0000	17.8709
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	2.3506	0.5197	0.4603	3.1800e-003	0.0195	0.0380	0.0575	5.2300e-003	0.0380	0.0432	0.4453	2,555.1195	2,555.5648	0.1384	0.0280	2,567.3771

	ROG	NOx	CO	SO2	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/15/2027	10/1/2027	5	100	
2	Site Preparation	Site Preparation	10/2/2027	2/18/2028	5	100	
3	Grading	Grading	2/18/2028	7/6/2028	5	100	
4	Building Construction	Building Construction	7/6/2028	8/29/2029	5	300	
5	Paving	Paving	9/2/2029	1/18/2030	5	100	
6	Architectural Coating	Architectural Coating	1/19/2030	3/15/2030	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 843,309; Non-Residential Outdoor: 281,103; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Scrapers	2	8.00	367	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Demolition	Excavators	3	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	236.00	92.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	47.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2027

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	0.1046	0.9598	0.9709	1.9400e-003		0.0426	0.0426		0.0396	0.0396	0.0000	169.9883	169.9883	0.0475	0.0000	171.1749
Total	0.1046	0.9598	0.9709	1.9400e-003		0.0426	0.0426		0.0396	0.0396	0.0000	169.9883	169.9883	0.0475	0.0000	171.1749

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3.2 Demolition - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2700e-003	1.3400e-003	0.0169	6.0000e-005	8.2300e-003	5.0000e-005	8.2800e-003	2.1900e-003	5.0000e-005	2.2300e-003	0.0000	5.7742	5.7742	1.1000e-004	0.0000	5.7770
Total	2.2700e-003	1.3400e-003	0.0169	6.0000e-005	8.2300e-003	5.0000e-005	8.2800e-003	2.1900e-003	5.0000e-005	2.2300e-003	0.0000	5.7742	5.7742	1.1000e-004	0.0000	5.7770

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	0.1046	0.9598	0.9709	1.9400e-003		0.0426	0.0426		0.0396	0.0396	0.0000	169.9881	169.9881	0.0475	0.0000	171.1747
Total	0.1046	0.9598	0.9709	1.9400e-003		0.0426	0.0426		0.0396	0.0396	0.0000	169.9881	169.9881	0.0475	0.0000	171.1747

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3.2 Demolition - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2700e-003	1.3400e-003	0.0169	6.0000e-005	8.2300e-003	5.0000e-005	8.2800e-003	2.1900e-003	5.0000e-005	2.2300e-003	0.0000	5.7742	5.7742	1.1000e-004	0.0000	5.7770
Total	2.2700e-003	1.3400e-003	0.0169	6.0000e-005	8.2300e-003	5.0000e-005	8.2800e-003	2.1900e-003	5.0000e-005	2.2300e-003	0.0000	5.7742	5.7742	1.1000e-004	0.0000	5.7770

3.3 Site Preparation - 2027

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					0.5872	0.0000	0.5872	0.3228	0.0000	0.3228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0804	0.8201	0.5821	1.2400e-003		0.0353	0.0353		0.0325	0.0325	0.0000	108.7677	108.7677	0.0352	0.0000	109.6472
Total	0.0804	0.8201	0.5821	1.2400e-003	0.5872	0.0353	0.6225	0.3228	0.0325	0.3553	0.0000	108.7677	108.7677	0.0352	0.0000	109.6472

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3.3 Site Preparation - 2027

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	1.7700e-003	1.0400e-003	0.0132	5.0000e-005	6.4200e-003	4.0000e-005	6.4600e-003	1.7000e-003	4.0000e-005	1.7400e-003	0.0000	4.5039	4.5039	9.0000e-005	0.0000	4.5061
Total	1.7700e-003	1.0400e-003	0.0132	5.0000e-005	6.4200e-003	4.0000e-005	6.4600e-003	1.7000e-003	4.0000e-005	1.7400e-003	0.0000	4.5039	4.5039	9.0000e-005	0.0000	4.5061

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					0.5872	0.0000	0.5872	0.3228	0.0000	0.3228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0804	0.8201	0.5821	1.2400e-003		0.0353	0.0353		0.0325	0.0325	0.0000	108.7676	108.7676	0.0352	0.0000	109.6470
Total	0.0804	0.8201	0.5821	1.2400e-003	0.5872	0.0353	0.6225	0.3228	0.0325	0.3553	0.0000	108.7676	108.7676	0.0352	0.0000	109.6470

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3.3 Site Preparation - 2027

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	1.7700e-003	1.0400e-003	0.0132	5.0000e-005	6.4200e-003	4.0000e-005	6.4600e-003	1.7000e-003	4.0000e-005	1.7400e-003	0.0000	4.5039	4.5039	9.0000e-005	0.0000	4.5061
Total	1.7700e-003	1.0400e-003	0.0132	5.0000e-005	6.4200e-003	4.0000e-005	6.4600e-003	1.7000e-003	4.0000e-005	1.7400e-003	0.0000	4.5039	4.5039	9.0000e-005	0.0000	4.5061

3.3 Site Preparation - 2028

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					0.3162	0.0000	0.3162	0.1738	0.0000	0.1738	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0433	0.4416	0.3135	6.7000e-004		0.0190	0.0190		0.0175	0.0175	0.0000	58.5672	58.5672	0.0189	0.0000	59.0408
Total	0.0433	0.4416	0.3135	6.7000e-004	0.3162	0.0190	0.3352	0.1738	0.0175	0.1913	0.0000	58.5672	58.5672	0.0189	0.0000	59.0408

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3.3 Site Preparation - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-004	5.2000e-004	6.6900e-003	3.0000e-005	3.4600e-003	2.0000e-005	3.4800e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.3537	2.3537	4.0000e-005	0.0000	2.3547
Total	9.0000e-004	5.2000e-004	6.6900e-003	3.0000e-005	3.4600e-003	2.0000e-005	3.4800e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.3537	2.3537	4.0000e-005	0.0000	2.3547

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					0.3162	0.0000	0.3162	0.1738	0.0000	0.1738	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0433	0.4416	0.3135	6.7000e-004		0.0190	0.0190		0.0175	0.0175	0.0000	58.5672	58.5672	0.0189	0.0000	59.0407
Total	0.0433	0.4416	0.3135	6.7000e-004	0.3162	0.0190	0.3352	0.1738	0.0175	0.1913	0.0000	58.5672	58.5672	0.0189	0.0000	59.0407

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3.3 Site Preparation - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-004	5.2000e-004	6.6900e-003	3.0000e-005	3.4600e-003	2.0000e-005	3.4800e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.3537	2.3537	4.0000e-005	0.0000	2.3547
Total	9.0000e-004	5.2000e-004	6.6900e-003	3.0000e-005	3.4600e-003	2.0000e-005	3.4800e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.3537	2.3537	4.0000e-005	0.0000	2.3547

3.4 Grading - 2028

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					0.3409	0.0000	0.3409	0.1698	0.0000	0.1698	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1451	1.3971	1.3166	3.1000e-003		0.0565	0.0565		0.0520	0.0520	0.0000	272.5311	272.5311	0.0881	0.0000	274.7346
Total	0.1451	1.3971	1.3166	3.1000e-003	0.3409	0.0565	0.3974	0.1698	0.0520	0.2218	0.0000	272.5311	272.5311	0.0881	0.0000	274.7346

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3.4 Grading - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8700e-003	1.6500e-003	0.0212	8.0000e-005	0.0110	6.0000e-005	0.0110	2.9100e-003	6.0000e-005	2.9700e-003	0.0000	7.4720	7.4720	1.4000e-004	0.0000	7.4753
Total	2.8700e-003	1.6500e-003	0.0212	8.0000e-005	0.0110	6.0000e-005	0.0110	2.9100e-003	6.0000e-005	2.9700e-003	0.0000	7.4720	7.4720	1.4000e-004	0.0000	7.4753

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					0.3409	0.0000	0.3409	0.1698	0.0000	0.1698	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1451	1.3971	1.3166	3.1000e-003		0.0565	0.0565		0.0520	0.0520	0.0000	272.5307	272.5307	0.0881	0.0000	274.7343
Total	0.1451	1.3971	1.3166	3.1000e-003	0.3409	0.0565	0.3974	0.1698	0.0520	0.2218	0.0000	272.5307	272.5307	0.0881	0.0000	274.7343

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3.4 Grading - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8700e-003	1.6500e-003	0.0212	8.0000e-005	0.0110	6.0000e-005	0.0110	2.9100e-003	6.0000e-005	2.9700e-003	0.0000	7.4720	7.4720	1.4000e-004	0.0000	7.4753
Total	2.8700e-003	1.6500e-003	0.0212	8.0000e-005	0.0110	6.0000e-005	0.0110	2.9100e-003	6.0000e-005	2.9700e-003	0.0000	7.4720	7.4720	1.4000e-004	0.0000	7.4753

3.5 Building Construction - 2028

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	0.0868	0.7918	1.0214	1.7100e-003		0.0335	0.0335		0.0315	0.0315	0.0000	147.2689	147.2689	0.0346	0.0000	148.1343
Total	0.0868	0.7918	1.0214	1.7100e-003		0.0335	0.0335		0.0315	0.0315	0.0000	147.2689	147.2689	0.0346	0.0000	148.1343

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3.5 Building Construction - 2028

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	0.0105	0.3893	0.1096	1.3600e-003	0.0368	4.3000e-004	0.0373	0.0106	4.1000e-004	0.0110	0.0000	133.1004	133.1004	7.2100e-003	0.0000	133.2806
Worker	0.0430	0.0247	0.3182	1.2400e-003	0.1644	9.6000e-004	0.1654	0.0437	8.8000e-004	0.0446	0.0000	111.9746	111.9746	2.0300e-003	0.0000	112.0254
Total	0.0535	0.4140	0.4278	2.6000e-003	0.2012	1.3900e-003	0.2026	0.0543	1.2900e-003	0.0556	0.0000	245.0750	245.0750	9.2400e-003	0.0000	245.3060

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	0.0868	0.7918	1.0214	1.7100e-003		0.0335	0.0335		0.0315	0.0315	0.0000	147.2687	147.2687	0.0346	0.0000	148.1341
Total	0.0868	0.7918	1.0214	1.7100e-003		0.0335	0.0335		0.0315	0.0315	0.0000	147.2687	147.2687	0.0346	0.0000	148.1341

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3.5 Building Construction - 2028

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	0.0105	0.3893	0.1096	1.3600e-003	0.0368	4.3000e-004	0.0373	0.0106	4.1000e-004	0.0110	0.0000	133.1004	133.1004	7.2100e-003	0.0000	133.2806
Worker	0.0430	0.0247	0.3182	1.2400e-003	0.1644	9.6000e-004	0.1654	0.0437	8.8000e-004	0.0446	0.0000	111.9746	111.9746	2.0300e-003	0.0000	112.0254
Total	0.0535	0.4140	0.4278	2.6000e-003	0.2012	1.3900e-003	0.2026	0.0543	1.2900e-003	0.0556	0.0000	245.0750	245.0750	9.2400e-003	0.0000	245.3060

3.5 Building Construction - 2029

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	0.1183	1.0786	1.3913	2.3300e-003		0.0456	0.0456		0.0429	0.0429	0.0000	200.6103	200.6103	0.0472	0.0000	201.7893
Total	0.1183	1.0786	1.3913	2.3300e-003		0.0456	0.0456		0.0429	0.0429	0.0000	200.6103	200.6103	0.0472	0.0000	201.7893

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3.5 Building Construction - 2029

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	0.0141	0.5261	0.1474	1.8500e-003	0.0502	5.7000e-004	0.0507	0.0145	5.5000e-004	0.0150	0.0000	180.6333	180.6333	9.6900e-003	0.0000	180.8756
Worker	0.0551	0.0310	0.4070	1.6400e-003	0.2240	1.2200e-003	0.2252	0.0595	1.1200e-003	0.0606	0.0000	148.4213	148.4213	2.5400e-003	0.0000	148.4847
Total	0.0692	0.5572	0.5544	3.4900e-003	0.2741	1.7900e-003	0.2759	0.0740	1.6700e-003	0.0756	0.0000	329.0546	329.0546	0.0122	0.0000	329.3603

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	0.1183	1.0786	1.3913	2.3300e-003		0.0456	0.0456		0.0429	0.0429	0.0000	200.6101	200.6101	0.0472	0.0000	201.7890
Total	0.1183	1.0786	1.3913	2.3300e-003		0.0456	0.0456		0.0429	0.0429	0.0000	200.6101	200.6101	0.0472	0.0000	201.7890

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3.5 Building Construction - 2029

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	0.0141	0.5261	0.1474	1.8500e-003	0.0502	5.7000e-004	0.0507	0.0145	5.5000e-004	0.0150	0.0000	180.6333	180.6333	9.6900e-003	0.0000	180.8756
Worker	0.0551	0.0310	0.4070	1.6400e-003	0.2240	1.2200e-003	0.2252	0.0595	1.1200e-003	0.0606	0.0000	148.4213	148.4213	2.5400e-003	0.0000	148.4847
Total	0.0692	0.5572	0.5544	3.4900e-003	0.2741	1.7900e-003	0.2759	0.0740	1.6700e-003	0.0756	0.0000	329.0546	329.0546	0.0122	0.0000	329.3603

3.6 Paving - 2029

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	0.0394	0.3690	0.6269	9.8000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	86.0828	86.0828	0.0278	0.0000	86.7788
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0394	0.3690	0.6269	9.8000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	86.0828	86.0828	0.0278	0.0000	86.7788

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3.6 Paving - 2029

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	1.7400e-003	9.8000e-004	0.0129	5.0000e-005	7.0800e-003	4.0000e-005	7.1100e-003	1.8800e-003	4.0000e-005	1.9100e-003	0.0000	4.6895	4.6895	8.0000e-005	0.0000	4.6915
Total	1.7400e-003	9.8000e-004	0.0129	5.0000e-005	7.0800e-003	4.0000e-005	7.1100e-003	1.8800e-003	4.0000e-005	1.9100e-003	0.0000	4.6895	4.6895	8.0000e-005	0.0000	4.6915

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	0.0394	0.3690	0.6269	9.8000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	86.0827	86.0827	0.0278	0.0000	86.7787
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0394	0.3690	0.6269	9.8000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	86.0827	86.0827	0.0278	0.0000	86.7787

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3.6 Paving - 2029

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	1.7400e-003	9.8000e-004	0.0129	5.0000e-005	7.0800e-003	4.0000e-005	7.1100e-003	1.8800e-003	4.0000e-005	1.9100e-003	0.0000	4.6895	4.6895	8.0000e-005	0.0000	4.6915
Total	1.7400e-003	9.8000e-004	0.0129	5.0000e-005	7.0800e-003	4.0000e-005	7.1100e-003	1.8800e-003	4.0000e-005	1.9100e-003	0.0000	4.6895	4.6895	8.0000e-005	0.0000	4.6915

3.6 Paving - 2030

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	9.6900e-003	0.0498	0.1110	2.0000e-004		2.3100e-003	2.3100e-003		2.3100e-003	2.3100e-003	0.0000	16.8697	16.8697	7.9000e-004	0.0000	16.8894
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.6900e-003	0.0498	0.1110	2.0000e-004		2.3100e-003	2.3100e-003		2.3100e-003	2.3100e-003	0.0000	16.8697	16.8697	7.9000e-004	0.0000	16.8894

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3.6 Paving - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.5000e-004	1.9700e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.7447	0.7447	1.0000e-005	0.0000	0.7449
Total	2.7000e-004	1.5000e-004	1.9700e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.7447	0.7447	1.0000e-005	0.0000	0.7449

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	9.6900e-003	0.0498	0.1110	2.0000e-004		2.3100e-003	2.3100e-003		2.3100e-003	2.3100e-003	0.0000	16.8696	16.8696	7.9000e-004	0.0000	16.8894
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.6900e-003	0.0498	0.1110	2.0000e-004		2.3100e-003	2.3100e-003		2.3100e-003	2.3100e-003	0.0000	16.8696	16.8696	7.9000e-004	0.0000	16.8894

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3.6 Paving - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.5000e-004	1.9700e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.7447	0.7447	1.0000e-005	0.0000	0.7449
Total	2.7000e-004	1.5000e-004	1.9700e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.7447	0.7447	1.0000e-005	0.0000	0.7449

3.7 Architectural Coating - 2030

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	2.6058					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6100e-003	0.0171	0.0360	6.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.1065	5.1065	2.1000e-004	0.0000	5.1117
Total	2.6084	0.0171	0.0360	6.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.1065	5.1065	2.1000e-004	0.0000	5.1117

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3.7 Architectural Coating - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3800e-003	1.3100e-003	0.0176	7.0000e-005	0.0103	5.0000e-005	0.0104	2.7400e-003	5.0000e-005	2.7900e-003	0.0000	6.6664	6.6664	1.1000e-004	0.0000	6.6690
Total	2.3800e-003	1.3100e-003	0.0176	7.0000e-005	0.0103	5.0000e-005	0.0104	2.7400e-003	5.0000e-005	2.7900e-003	0.0000	6.6664	6.6664	1.1000e-004	0.0000	6.6690

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	2.6058					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6100e-003	0.0171	0.0360	6.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.1065	5.1065	2.1000e-004	0.0000	5.1117
Total	2.6084	0.0171	0.0360	6.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.1065	5.1065	2.1000e-004	0.0000	5.1117

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3.7 Architectural Coating - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3800e-003	1.3100e-003	0.0176	7.0000e-005	0.0103	5.0000e-005	0.0104	2.7400e-003	5.0000e-005	2.7900e-003	0.0000	6.6664	6.6664	1.1000e-004	0.0000	6.6690
Total	2.3800e-003	1.3100e-003	0.0176	7.0000e-005	0.0103	5.0000e-005	0.0104	2.7400e-003	5.0000e-005	2.7900e-003	0.0000	6.6664	6.6664	1.1000e-004	0.0000	6.6690

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6500e-003	0.0208	0.0413	1.9000e-004	0.0195	1.2000e-004	0.0196	5.2300e-003	1.1000e-004	5.3300e-003	0.0000	17.8523	17.8523	7.5000e-004	0.0000	17.8709
Unmitigated	3.6500e-003	0.0208	0.0413	1.9000e-004	0.0195	1.2000e-004	0.0196	5.2300e-003	1.1000e-004	5.3300e-003	0.0000	17.8523	17.8523	7.5000e-004	0.0000	17.8709

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554622	0.041562	0.206751	0.111062	0.012660	0.005774	0.022378	0.035217	0.002175	0.001476	0.004853	0.000718	0.000752

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,988.3520	1,988.3520	0.0821	0.0170	1,995.4654
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,988.3520	1,988.3520	0.0821	0.0170	1,995.4654
NaturalGas Mitigated	0.0549	0.4988	0.4190	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	543.0261	543.0261	0.0104	9.9600e-003	546.2530
NaturalGas Unmitigated	0.0549	0.4988	0.4190	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	543.0261	543.0261	0.0104	9.9600e-003	546.2530

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	1.01759e+007	0.0549	0.4988	0.4190	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	543.0261	543.0261	0.0104	9.9600e-003	546.2530
Total		0.0549	0.4988	0.4190	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	543.0261	543.0261	0.0104	9.9600e-003	546.2530

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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	tons/yr										MT/yr					
Arena	1.01759e+007	0.0549	0.4988	0.4190	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	543.0261	543.0261	0.0104	9.9600e-003	546.2530
Total		0.0549	0.4988	0.4190	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	543.0261	543.0261	0.0104	9.9600e-003	546.2530

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	6.24048e+006	1,988.3520	0.0821	0.0170	1,995.4654
Total		1,988.3520	0.0821	0.0170	1,995.4654

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	6.24048e+006	1,988.3520	0.0821	0.0170	1,995.4654
Total		1,988.3520	0.0821	0.0170	1,995.4654

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2921	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	2.2921	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2606					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	2.2921	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2606					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	2.2921	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

Descanso 2B - South Coast Air Basin, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.3161	0.0441	1.0900e-003	7.7425
Unmitigated	6.3161	0.0441	1.0900e-003	7.7425

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0183	1.0800e-003	0.0000	0.0453
Unmitigated	0.0183	1.0800e-003	0.0000	0.0453

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Descanso 2B - South Coast Air Basin, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2B - South Coast Air Basin, Summer

Descanso 2B
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	12.90	562,205.80	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2031
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

Descanso 2B - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	30.00	100.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	10.00	100.00
tblConstructionPhase	PhaseEndDate	6/8/2021	3/15/2030
tblConstructionPhase	PhaseEndDate	4/13/2021	8/29/2029
tblConstructionPhase	PhaseEndDate	12/24/2019	10/1/2027
tblConstructionPhase	PhaseEndDate	2/18/2020	7/6/2028
tblConstructionPhase	PhaseEndDate	5/11/2021	1/18/2030
tblConstructionPhase	PhaseEndDate	1/7/2020	2/18/2028
tblConstructionPhase	PhaseStartDate	5/12/2021	1/19/2030
tblConstructionPhase	PhaseStartDate	2/19/2020	7/6/2028
tblConstructionPhase	PhaseStartDate	11/27/2019	5/15/2027
tblConstructionPhase	PhaseStartDate	1/8/2020	2/18/2028
tblConstructionPhase	PhaseStartDate	4/14/2021	9/2/2029
tblConstructionPhase	PhaseStartDate	12/25/2019	10/2/2027
tblGrading	AcresOfGrading	250.00	75.00
tblLandUse	LandUseSquareFeet	43,560.00	562,205.80
tblLandUse	LotAcreage	1.00	12.90

2.0 Emissions Summary

Descanso 2B - South Coast Air Basin, Summer

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					
2027	2.5271	25.2623	19.7848	0.0402	18.2675	1.0880	19.3555	9.9840	1.0010	10.9850	0.0000	3,881.2504	3,881.2504	1.1962	0.0000	3,907.4755
2028	5.4829	53.2323	49.9558	0.1329	25.3085	2.2201	27.5286	13.4394	2.0425	15.4820	0.0000	13,114.8858	13,114.8858	3.1423	0.0000	13,182.5526
2029	2.1628	18.8150	22.8170	0.0685	3.2266	0.5482	3.7748	0.8691	0.5155	1.3846	0.0000	6,870.0201	6,870.0201	0.7557	0.0000	6,888.9127
2030	130.5405	7.1388	16.1549	0.0293	0.5254	0.3315	0.5483	0.1393	0.3314	0.3759	0.0000	2,779.6628	2,779.6628	0.1265	0.0000	2,782.8261
Maximum	130.5405	53.2323	49.9558	0.1329	25.3085	2.2201	27.5286	13.4394	2.0425	15.4820	0.0000	13,114.8858	13,114.8858	3.1423	0.0000	13,182.5526

Descanso 2B - South Coast Air Basin, Summer

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	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
Mobile	0.0304	0.1573	0.3289	1.5300e-003	0.1529	8.9000e-004	0.1538	0.0409	8.2000e-004	0.0417		157.0893	157.0893	6.3000e-003		157.2468
Total	12.8906	2.8906	2.6249	0.0179	0.1529	0.2086	0.3615	0.0409	0.2086	0.2494		3,437.0008	3,437.0008	0.0692	0.0601	3,456.6493

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	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
Mobile	0.0304	0.1573	0.3289	1.5300e-003	0.1529	8.9000e-004	0.1538	0.0409	8.2000e-004	0.0417		157.0893	157.0893	6.3000e-003		157.2468
Total	12.8906	2.8906	2.6249	0.0179	0.1529	0.2086	0.3615	0.0409	0.2086	0.2494		3,437.0008	3,437.0008	0.0692	0.0601	3,456.6493

Descanso 2B - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/15/2027	10/1/2027	5	100	
2	Site Preparation	Site Preparation	10/2/2027	2/18/2028	5	100	
3	Grading	Grading	2/18/2028	7/6/2028	5	100	
4	Building Construction	Building Construction	7/6/2028	8/29/2029	5	300	
5	Paving	Paving	9/2/2029	1/18/2030	5	100	
6	Architectural Coating	Architectural Coating	1/19/2030	3/15/2030	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 843,309; Non-Residential Outdoor: 281,103; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 2B - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Scrapers	2	8.00	367	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Demolition	Excavators	3	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Descanso 2B - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	236.00	92.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	47.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2027

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	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920		3,747.5996	3,747.5996	1.0464		3,773.7606
Total	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920		3,747.5996	3,747.5996	1.0464		3,773.7606

Descanso 2B - South Coast Air Basin, Summer

3.2 Demolition - 2027

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
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
Worker	0.0453	0.0237	0.3664	1.3400e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		133.6508	133.6508	2.5700e-003		133.7149
Total	0.0453	0.0237	0.3664	1.3400e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		133.6508	133.6508	2.5700e-003		133.7149

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	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606
Total	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606

Descanso 2B - South Coast Air Basin, Summer

3.2 Demolition - 2027

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
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
Worker	0.0453	0.0237	0.3664	1.3400e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		133.6508	133.6508	2.5700e-003		133.7149
Total	0.0453	0.0237	0.3664	1.3400e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		133.6508	133.6508	2.5700e-003		133.7149

3.3 Site Preparation - 2027

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2B - South Coast Air Basin, Summer

3.3 Site Preparation - 2027

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
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
Worker	0.0543	0.0284	0.4397	1.6100e-003	0.2012	1.2500e-003	0.2024	0.0534	1.1500e-003	0.0545		160.3810	160.3810	3.0800e-003		160.4579
Total	0.0543	0.0284	0.4397	1.6100e-003	0.2012	1.2500e-003	0.2024	0.0534	1.1500e-003	0.0545		160.3810	160.3810	3.0800e-003		160.4579

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2B - South Coast Air Basin, Summer

3.3 Site Preparation - 2027

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
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
Worker	0.0543	0.0284	0.4397	1.6100e-003	0.2012	1.2500e-003	0.2024	0.0534	1.1500e-003	0.0545		160.3810	160.3810	3.0800e-003		160.4579
Total	0.0543	0.0284	0.4397	1.6100e-003	0.2012	1.2500e-003	0.2024	0.0534	1.1500e-003	0.0545		160.3810	160.3810	3.0800e-003		160.4579

3.3 Site Preparation - 2028

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2B - South Coast Air Basin, Summer

3.3 Site Preparation - 2028

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
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
Worker	0.0516	0.0263	0.4144	1.5600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		155.6634	155.6634	2.8400e-003		155.7345
Total	0.0516	0.0263	0.4144	1.5600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		155.6634	155.6634	2.8400e-003		155.7345

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2B - South Coast Air Basin, Summer

3.3 Site Preparation - 2028

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
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
Worker	0.0516	0.0263	0.4144	1.5600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		155.6634	155.6634	2.8400e-003		155.7345
Total	0.0516	0.0263	0.4144	1.5600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		155.6634	155.6634	2.8400e-003		155.7345

3.4 Grading - 2028

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					6.8175	0.0000	6.8175	3.3961	0.0000	3.3961			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	6.8175	1.1309	7.9484	3.3961	1.0404	4.4365		6,008.2814	6,008.2814	1.9432		6,056.8614

Descanso 2B - South Coast Air Basin, Summer

3.4 Grading - 2028

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
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
Worker	0.0573	0.0292	0.4604	1.7300e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		172.9594	172.9594	3.1600e-003		173.0383
Total	0.0573	0.0292	0.4604	1.7300e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		172.9594	172.9594	3.1600e-003		173.0383

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					6.8175	0.0000	6.8175	3.3961	0.0000	3.3961			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	6.8175	1.1309	7.9484	3.3961	1.0404	4.4365	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614

Descanso 2B - South Coast Air Basin, Summer

3.4 Grading - 2028

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
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
Worker	0.0573	0.0292	0.4604	1.7300e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		172.9594	172.9594	3.1600e-003		173.0383
Total	0.0573	0.0292	0.4604	1.7300e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		172.9594	172.9594	3.1600e-003		173.0383

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

Descanso 2B - South Coast Air Basin, Summer

3.5 Building Construction - 2028

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
Vendor	0.1618	6.0747	1.6465	0.0217	0.5887	6.6900e-003	0.5954	0.1695	6.3900e-003	0.1759		2,336.2502	2,336.2502	0.1221		2,339.3031
Worker	0.6765	0.3448	5.4331	0.0205	2.6379	0.0151	2.6531	0.6996	0.0139	0.7135		2,040.9204	2,040.9204	0.0373		2,041.8516
Total	0.8383	6.4195	7.0796	0.0422	3.2266	0.0218	3.2485	0.8691	0.0203	0.8894		4,377.1706	4,377.1706	0.1594		4,381.1548

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981

Descanso 2B - South Coast Air Basin, Summer

3.5 Building Construction - 2028

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
Vendor	0.1618	6.0747	1.6465	0.0217	0.5887	6.6900e-003	0.5954	0.1695	6.3900e-003	0.1759		2,336.2502	2,336.2502	0.1221		2,339.3031
Worker	0.6765	0.3448	5.4331	0.0205	2.6379	0.0151	2.6531	0.6996	0.0139	0.7135		2,040.9204	2,040.9204	0.0373		2,041.8516
Total	0.8383	6.4195	7.0796	0.0422	3.2266	0.0218	3.2485	0.8691	0.0203	0.8894		4,377.1706	4,377.1706	0.1594		4,381.1548

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

Descanso 2B - South Coast Air Basin, Summer

3.5 Building Construction - 2029

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
Vendor	0.1592	6.0277	1.6260	0.0216	0.5887	6.5700e-003	0.5953	0.1695	6.2800e-003	0.1758		2,327.4421	2,327.4421	0.1206		2,330.4561
Worker	0.6362	0.3176	5.1064	0.0199	2.6379	0.0141	2.6520	0.6996	0.0129	0.7125		1,986.1036	1,986.1036	0.0342		1,986.9585
Total	0.7954	6.3453	6.7324	0.0415	3.2266	0.0206	3.2473	0.8691	0.0192	0.8883		4,313.5457	4,313.5457	0.1548		4,317.4146

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981

Descanso 2B - South Coast Air Basin, Summer

3.5 Building Construction - 2029

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
Vendor	0.1592	6.0277	1.6260	0.0216	0.5887	6.5700e-003	0.5953	0.1695	6.2800e-003	0.1758		2,327.4421	2,327.4421	0.1206		2,330.4561
Worker	0.6362	0.3176	5.1064	0.0199	2.6379	0.0141	2.6520	0.6996	0.0129	0.7125		1,986.1036	1,986.1036	0.0342		1,986.9585
Total	0.7954	6.3453	6.7324	0.0415	3.2266	0.0206	3.2473	0.8691	0.0192	0.8883		4,313.5457	4,313.5457	0.1548		4,317.4146

3.6 Paving - 2029

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878

Descanso 2B - South Coast Air Basin, Summer

3.6 Paving - 2029

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
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
Worker	0.0404	0.0202	0.3246	1.2700e-003	0.1677	8.9000e-004	0.1686	0.0445	8.2000e-004	0.0453		126.2354	126.2354	2.1700e-003		126.2897
Total	0.0404	0.0202	0.3246	1.2700e-003	0.1677	8.9000e-004	0.1686	0.0445	8.2000e-004	0.0453		126.2354	126.2354	2.1700e-003		126.2897

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

Descanso 2B - South Coast Air Basin, Summer

3.6 Paving - 2029

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
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
Worker	0.0404	0.0202	0.3246	1.2700e-003	0.1677	8.9000e-004	0.1686	0.0445	8.2000e-004	0.0453		126.2354	126.2354	2.1700e-003		126.2897
Total	0.0404	0.0202	0.3246	1.2700e-003	0.1677	8.9000e-004	0.1686	0.0445	8.2000e-004	0.0453		126.2354	126.2354	2.1700e-003		126.2897

3.6 Paving - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306		2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306		2,656.5168	2,656.5168	0.1245		2,659.6302

Descanso 2B - South Coast Air Basin, Summer

3.6 Paving - 2030

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
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
Worker	0.0378	0.0186	0.3054	1.2300e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		123.1461	123.1461	2.0000e-003		123.1960
Total	0.0378	0.0186	0.3054	1.2300e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		123.1461	123.1461	2.0000e-003		123.1960

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306	0.0000	2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306	0.0000	2,656.5168	2,656.5168	0.1245		2,659.6302

Descanso 2B - South Coast Air Basin, Summer

3.6 Paving - 2030

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
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
Worker	0.0378	0.0186	0.3054	1.2300e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		123.1461	123.1461	2.0000e-003		123.1960
Total	0.0378	0.0186	0.3054	1.2300e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		123.1461	123.1461	2.0000e-003		123.1960

3.7 Architectural Coating - 2030

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	130.2912					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	130.4220	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328

Descanso 2B - South Coast Air Basin, Summer

3.7 Architectural Coating - 2030

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
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
Worker	0.1185	0.0581	0.9568	3.8700e-003	0.5254	2.6100e-003	0.5280	0.1393	2.4000e-003	0.1417		385.8577	385.8577	6.2500e-003		386.0140
Total	0.1185	0.0581	0.9568	3.8700e-003	0.5254	2.6100e-003	0.5280	0.1393	2.4000e-003	0.1417		385.8577	385.8577	6.2500e-003		386.0140

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	130.2912					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	130.4220	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328

Descanso 2B - South Coast Air Basin, Summer

3.7 Architectural Coating - 2030

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
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
Worker	0.1185	0.0581	0.9568	3.8700e-003	0.5254	2.6100e-003	0.5280	0.1393	2.4000e-003	0.1417		385.8577	385.8577	6.2500e-003		386.0140
Total	0.1185	0.0581	0.9568	3.8700e-003	0.5254	2.6100e-003	0.5280	0.1393	2.4000e-003	0.1417		385.8577	385.8577	6.2500e-003		386.0140

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 2B - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0304	0.1573	0.3289	1.5300e-003	0.1529	8.9000e-004	0.1538	0.0409	8.2000e-004	0.0417		157.0893	157.0893	6.3000e-003		157.2468
Unmitigated	0.0304	0.1573	0.3289	1.5300e-003	0.1529	8.9000e-004	0.1538	0.0409	8.2000e-004	0.0417		157.0893	157.0893	6.3000e-003		157.2468

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554622	0.041562	0.206751	0.111062	0.012660	0.005774	0.022378	0.035217	0.002175	0.001476	0.004853	0.000718	0.000752

5.0 Energy Detail

Historical Energy Use: N

Descanso 2B - South Coast Air Basin, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
NaturalGas Unmitigated	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022

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					
Arena	27879.2	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
Total		0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022

Descanso 2B - South Coast Air Basin, Summer

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					
Arena	27.8792	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
Total		0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 2B - South Coast Air Basin, Summer

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	1.4279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.1317					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	1.4279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.1317					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 2B - South Coast Air Basin, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2B - South Coast Air Basin, Winter

Descanso 2B
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	12.90	562,205.80	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2031
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

Descanso 2B - South Coast Air Basin, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	30.00	100.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	10.00	100.00
tblConstructionPhase	PhaseEndDate	6/8/2021	3/15/2030
tblConstructionPhase	PhaseEndDate	4/13/2021	8/29/2029
tblConstructionPhase	PhaseEndDate	12/24/2019	10/1/2027
tblConstructionPhase	PhaseEndDate	2/18/2020	7/6/2028
tblConstructionPhase	PhaseEndDate	5/11/2021	1/18/2030
tblConstructionPhase	PhaseEndDate	1/7/2020	2/18/2028
tblConstructionPhase	PhaseStartDate	5/12/2021	1/19/2030
tblConstructionPhase	PhaseStartDate	2/19/2020	7/6/2028
tblConstructionPhase	PhaseStartDate	11/27/2019	5/15/2027
tblConstructionPhase	PhaseStartDate	1/8/2020	2/18/2028
tblConstructionPhase	PhaseStartDate	4/14/2021	9/2/2029
tblConstructionPhase	PhaseStartDate	12/25/2019	10/2/2027
tblGrading	AcresOfGrading	250.00	75.00
tblLandUse	LandUseSquareFeet	43,560.00	562,205.80
tblLandUse	LotAcreage	1.00	12.90

2.0 Emissions Summary

Descanso 2B - South Coast Air Basin, Winter

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					
2027	2.5336	25.2651	19.7473	0.0401	18.2675	1.0880	19.3555	9.9840	1.0010	10.9850	0.0000	3,872.9253	3,872.9253	1.1960	0.0000	3,899.1460
2028	5.4964	53.2376	49.4981	0.1310	25.3085	2.2201	27.5286	13.4394	2.0425	15.4820	0.0000	12,915.5509	12,915.5509	3.1419	0.0000	12,983.3172
2029	2.2508	18.8141	22.4327	0.0667	3.2266	0.5484	3.7750	0.8691	0.5157	1.3847	0.0000	6,685.1331	6,685.1331	0.7599	0.0000	6,704.1305
2030	130.5557	7.1405	16.1226	0.0292	0.5254	0.3315	0.5483	0.1393	0.3314	0.3759	0.0000	2,771.9559	2,771.9559	0.1264	0.0000	2,775.1156
Maximum	130.5557	53.2376	49.4981	0.1310	25.3085	2.2201	27.5286	13.4394	2.0425	15.4820	0.0000	12,915.5509	12,915.5509	3.1419	0.0000	12,983.3172

Descanso 2B - South Coast Air Basin, Winter

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	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
Mobile	0.0290	0.1580	0.3142	1.4500e-003	0.1529	8.9000e-004	0.1538	0.0409	8.3000e-004	0.0417		149.1675	149.1675	6.4000e-003		149.3275
Total	12.8892	2.8912	2.6103	0.0179	0.1529	0.2086	0.3615	0.0409	0.2086	0.2494		3,429.0791	3,429.0791	0.0693	0.0601	3,448.7300

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	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
Mobile	0.0290	0.1580	0.3142	1.4500e-003	0.1529	8.9000e-004	0.1538	0.0409	8.3000e-004	0.0417		149.1675	149.1675	6.4000e-003		149.3275
Total	12.8892	2.8912	2.6103	0.0179	0.1529	0.2086	0.3615	0.0409	0.2086	0.2494		3,429.0791	3,429.0791	0.0693	0.0601	3,448.7300

Descanso 2B - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/15/2027	10/1/2027	5	100	
2	Site Preparation	Site Preparation	10/2/2027	2/18/2028	5	100	
3	Grading	Grading	2/18/2028	7/6/2028	5	100	
4	Building Construction	Building Construction	7/6/2028	8/29/2029	5	300	
5	Paving	Paving	9/2/2029	1/18/2030	5	100	
6	Architectural Coating	Architectural Coating	1/19/2030	3/15/2030	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 843,309; Non-Residential Outdoor: 281,103; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 2B - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Scrapers	2	8.00	367	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Demolition	Excavators	3	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Descanso 2B - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	236.00	92.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	47.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2027

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	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920		3,747.5996	3,747.5996	1.0464		3,773.7606
Total	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920		3,747.5996	3,747.5996	1.0464		3,773.7606

Descanso 2B - South Coast Air Basin, Winter

3.2 Demolition - 2027

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
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
Worker	0.0508	0.0260	0.3289	1.2600e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		125.3257	125.3257	2.3900e-003		125.3854
Total	0.0508	0.0260	0.3289	1.2600e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		125.3257	125.3257	2.3900e-003		125.3854

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	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606
Total	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606

Descanso 2B - South Coast Air Basin, Winter

3.2 Demolition - 2027

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
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
Worker	0.0508	0.0260	0.3289	1.2600e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		125.3257	125.3257	2.3900e-003		125.3854
Total	0.0508	0.0260	0.3289	1.2600e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		125.3257	125.3257	2.3900e-003		125.3854

3.3 Site Preparation - 2027

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2B - South Coast Air Basin, Winter

3.3 Site Preparation - 2027

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
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
Worker	0.0609	0.0312	0.3946	1.5100e-003	0.2012	1.2500e-003	0.2024	0.0534	1.1500e-003	0.0545		150.3909	150.3909	2.8700e-003		150.4625
Total	0.0609	0.0312	0.3946	1.5100e-003	0.2012	1.2500e-003	0.2024	0.0534	1.1500e-003	0.0545		150.3909	150.3909	2.8700e-003		150.4625

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2B - South Coast Air Basin, Winter

3.3 Site Preparation - 2027

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
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
Worker	0.0609	0.0312	0.3946	1.5100e-003	0.2012	1.2500e-003	0.2024	0.0534	1.1500e-003	0.0545		150.3909	150.3909	2.8700e-003		150.4625
Total	0.0609	0.0312	0.3946	1.5100e-003	0.2012	1.2500e-003	0.2024	0.0534	1.1500e-003	0.0545		150.3909	150.3909	2.8700e-003		150.4625

3.3 Site Preparation - 2028

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2B - South Coast Air Basin, Winter

3.3 Site Preparation - 2028

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
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
Worker	0.0580	0.0288	0.3715	1.4600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		145.9553	145.9553	2.6400e-003		146.0214
Total	0.0580	0.0288	0.3715	1.4600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		145.9553	145.9553	2.6400e-003		146.0214

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Descanso 2B - South Coast Air Basin, Winter

3.3 Site Preparation - 2028

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
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
Worker	0.0580	0.0288	0.3715	1.4600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		145.9553	145.9553	2.6400e-003		146.0214
Total	0.0580	0.0288	0.3715	1.4600e-003	0.2012	1.1500e-003	0.2024	0.0534	1.0600e-003	0.0544		145.9553	145.9553	2.6400e-003		146.0214

3.4 Grading - 2028

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					6.8175	0.0000	6.8175	3.3961	0.0000	3.3961			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	6.8175	1.1309	7.9484	3.3961	1.0404	4.4365		6,008.2814	6,008.2814	1.9432		6,056.8614

Descanso 2B - South Coast Air Basin, Winter

3.4 Grading - 2028

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
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
Worker	0.0644	0.0320	0.4128	1.6300e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		162.1726	162.1726	2.9400e-003		162.2460
Total	0.0644	0.0320	0.4128	1.6300e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		162.1726	162.1726	2.9400e-003		162.2460

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					6.8175	0.0000	6.8175	3.3961	0.0000	3.3961			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	6.8175	1.1309	7.9484	3.3961	1.0404	4.4365	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614

Descanso 2B - South Coast Air Basin, Winter

3.4 Grading - 2028

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
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
Worker	0.0644	0.0320	0.4128	1.6300e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		162.1726	162.1726	2.9400e-003		162.2460
Total	0.0644	0.0320	0.4128	1.6300e-003	0.2236	1.2800e-003	0.2248	0.0593	1.1800e-003	0.0605		162.1726	162.1726	2.9400e-003		162.2460

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

Descanso 2B - South Coast Air Basin, Winter

3.5 Building Construction - 2028

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
Vendor	0.1699	6.0434	1.7983	0.0212	0.5887	6.8900e-003	0.5956	0.1695	6.5900e-003	0.1761		2,274.9863	2,274.9863	0.1289		2,278.2091
Worker	0.7601	0.3779	4.8713	0.0192	2.6379	0.0151	2.6531	0.6996	0.0139	0.7135		1,913.6362	1,913.6362	0.0347		1,914.5026
Total	0.9300	6.4213	6.6695	0.0403	3.2266	0.0220	3.2487	0.8691	0.0205	0.8896		4,188.6225	4,188.6225	0.1636		4,192.7117

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981

Descanso 2B - South Coast Air Basin, Winter

3.5 Building Construction - 2028

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
Vendor	0.1699	6.0434	1.7983	0.0212	0.5887	6.8900e-003	0.5956	0.1695	6.5900e-003	0.1761		2,274.9863	2,274.9863	0.1289		2,278.2091
Worker	0.7601	0.3779	4.8713	0.0192	2.6379	0.0151	2.6531	0.6996	0.0139	0.7135		1,913.6362	1,913.6362	0.0347		1,914.5026
Total	0.9300	6.4213	6.6695	0.0403	3.2266	0.0220	3.2487	0.8691	0.0205	0.8896		4,188.6225	4,188.6225	0.1636		4,192.7117

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

Descanso 2B - South Coast Air Basin, Winter

3.5 Building Construction - 2029

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
Vendor	0.1671	5.9965	1.7758	0.0211	0.5887	6.7500e-003	0.5955	0.1695	6.4500e-003	0.1759		2,266.6213	2,266.6213	0.1272		2,269.8003
Worker	0.7162	0.3480	4.5723	0.0187	2.6379	0.0141	2.6520	0.6996	0.0129	0.7125		1,862.0374	1,862.0374	0.0318		1,862.8322
Total	0.8834	6.3444	6.3481	0.0397	3.2266	0.0208	3.2475	0.8691	0.0194	0.8885		4,128.6587	4,128.6587	0.1590		4,132.6325

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981

Descanso 2B - South Coast Air Basin, Winter

3.5 Building Construction - 2029

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
Vendor	0.1671	5.9965	1.7758	0.0211	0.5887	6.7500e-003	0.5955	0.1695	6.4500e-003	0.1759		2,266.6213	2,266.6213	0.1272		2,269.8003
Worker	0.7162	0.3480	4.5723	0.0187	2.6379	0.0141	2.6520	0.6996	0.0129	0.7125		1,862.0374	1,862.0374	0.0318		1,862.8322
Total	0.8834	6.3444	6.3481	0.0397	3.2266	0.0208	3.2475	0.8691	0.0194	0.8885		4,128.6587	4,128.6587	0.1590		4,132.6325

3.6 Paving - 2029

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878

Descanso 2B - South Coast Air Basin, Winter

3.6 Paving - 2029

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
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
Worker	0.0455	0.0221	0.2906	1.1900e-003	0.1677	8.9000e-004	0.1686	0.0445	8.2000e-004	0.0453		118.3498	118.3498	2.0200e-003		118.4004
Total	0.0455	0.0221	0.2906	1.1900e-003	0.1677	8.9000e-004	0.1686	0.0445	8.2000e-004	0.0453		118.3498	118.3498	2.0200e-003		118.4004

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

Descanso 2B - South Coast Air Basin, Winter

3.6 Paving - 2029

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
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
Worker	0.0455	0.0221	0.2906	1.1900e-003	0.1677	8.9000e-004	0.1686	0.0445	8.2000e-004	0.0453		118.3498	118.3498	2.0200e-003		118.4004
Total	0.0455	0.0221	0.2906	1.1900e-003	0.1677	8.9000e-004	0.1686	0.0445	8.2000e-004	0.0453		118.3498	118.3498	2.0200e-003		118.4004

3.6 Paving - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306		2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306		2,656.5168	2,656.5168	0.1245		2,659.6302

Descanso 2B - South Coast Air Basin, Winter

3.6 Paving - 2030

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
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
Worker	0.0427	0.0203	0.2730	1.1600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		115.4392	115.4392	1.8500e-003		115.4855
Total	0.0427	0.0203	0.2730	1.1600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		115.4392	115.4392	1.8500e-003		115.4855

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306	0.0000	2,656.5168	2,656.5168	0.1245		2,659.6302
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3845	7.1202	15.8495	0.0281		0.3306	0.3306		0.3306	0.3306	0.0000	2,656.5168	2,656.5168	0.1245		2,659.6302

Descanso 2B - South Coast Air Basin, Winter

3.6 Paving - 2030

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
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
Worker	0.0427	0.0203	0.2730	1.1600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		115.4392	115.4392	1.8500e-003		115.4855
Total	0.0427	0.0203	0.2730	1.1600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		115.4392	115.4392	1.8500e-003		115.4855

3.7 Architectural Coating - 2030

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	130.2912					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	130.4220	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328

Descanso 2B - South Coast Air Basin, Winter

3.7 Architectural Coating - 2030

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
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
Worker	0.1337	0.0637	0.8555	3.6200e-003	0.5254	2.6100e-003	0.5280	0.1393	2.4000e-003	0.1417		361.7094	361.7094	5.8100e-003		361.8545
Total	0.1337	0.0637	0.8555	3.6200e-003	0.5254	2.6100e-003	0.5280	0.1393	2.4000e-003	0.1417		361.7094	361.7094	5.8100e-003		361.8545

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	130.2912					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	130.4220	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328

Descanso 2B - South Coast Air Basin, Winter

3.7 Architectural Coating - 2030

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
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
Worker	0.1337	0.0637	0.8555	3.6200e-003	0.5254	2.6100e-003	0.5280	0.1393	2.4000e-003	0.1417		361.7094	361.7094	5.8100e-003		361.8545
Total	0.1337	0.0637	0.8555	3.6200e-003	0.5254	2.6100e-003	0.5280	0.1393	2.4000e-003	0.1417		361.7094	361.7094	5.8100e-003		361.8545

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 2B - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0290	0.1580	0.3142	1.4500e-003	0.1529	8.9000e-004	0.1538	0.0409	8.3000e-004	0.0417		149.1675	149.1675	6.4000e-003		149.3275
Unmitigated	0.0290	0.1580	0.3142	1.4500e-003	0.1529	8.9000e-004	0.1538	0.0409	8.3000e-004	0.0417		149.1675	149.1675	6.4000e-003		149.3275

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554622	0.041562	0.206751	0.111062	0.012660	0.005774	0.022378	0.035217	0.002175	0.001476	0.004853	0.000718	0.000752

5.0 Energy Detail

Historical Energy Use: N

Descanso 2B - South Coast Air Basin, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
NaturalGas Unmitigated	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022

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					
Arena	27879.2	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
Total		0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022

Descanso 2B - South Coast Air Basin, Winter

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					
Arena	27.8792	0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022
Total		0.3007	2.7333	2.2959	0.0164		0.2077	0.2077		0.2077	0.2077		3,279.9114	3,279.9114	0.0629	0.0601	3,299.4022

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 2B - South Coast Air Basin, Winter

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	1.4279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.1317					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	1.4279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.1317					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	12.5595	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 2B - South Coast Air Basin, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2C - South Coast Air Basin, Annual

Descanso 2C
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	0.06	2,411.60	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2031
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	10.00	50.00
tblConstructionPhase	NumDays	2.00	50.00
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	NumDays	1.00	50.00
tblConstructionPhase	PhaseEndDate	6/8/2021	5/23/2031
tblConstructionPhase	PhaseEndDate	4/13/2021	2/28/2031
tblConstructionPhase	PhaseEndDate	12/24/2019	5/24/2030
tblConstructionPhase	PhaseEndDate	2/18/2020	10/11/2030
tblConstructionPhase	PhaseEndDate	5/11/2021	5/9/2031
tblConstructionPhase	PhaseEndDate	1/7/2020	8/2/2030
tblConstructionPhase	PhaseStartDate	5/12/2021	5/10/2031
tblConstructionPhase	PhaseStartDate	2/19/2020	10/12/2030
tblConstructionPhase	PhaseStartDate	11/27/2019	3/16/2030
tblConstructionPhase	PhaseStartDate	1/8/2020	8/3/2030
tblConstructionPhase	PhaseStartDate	4/14/2021	3/1/2031
tblConstructionPhase	PhaseStartDate	12/25/2019	5/25/2030
tblGrading	AcresOfGrading	25.00	0.50
tblLandUse	LandUseSquareFeet	43,560.00	2,411.60
tblLandUse	LotAcreage	1.00	0.06

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
42	2-27-2030	5-26-2030	0.1087	0.1087
43	5-27-2030	8-26-2030	0.0958	0.0958
44	8-27-2030	11-26-2030	0.1335	0.1335
45	11-27-2030	2-26-2031	0.1263	0.1263
46	2-27-2031	5-26-2031	0.1415	0.1415
		Highest	0.1415	0.1415

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	9.8300e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	2.4000e-004	2.1400e-003	1.8000e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	10.8584	10.8584	4.0000e-004	1.2000e-004	10.9028
Mobile	3.6500e-003	0.0208	0.0413	1.9000e-004	0.0195	1.2000e-004	0.0196	5.2300e-003	1.1000e-004	5.3300e-003	0.0000	17.8523	17.8523	7.5000e-004	0.0000	17.8709
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.0137	0.0230	0.0431	2.0000e-004	0.0195	2.8000e-004	0.0198	5.2300e-003	2.7000e-004	5.4900e-003	0.4453	34.5998	35.0451	0.0463	1.2100e-003	36.5614

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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	9.8300e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	2.4000e-004	2.1400e-003	1.8000e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	10.8584	10.8584	4.0000e-004	1.2000e-004	10.9028
Mobile	3.6500e-003	0.0208	0.0413	1.9000e-004	0.0195	1.2000e-004	0.0196	5.2300e-003	1.1000e-004	5.3300e-003	0.0000	17.8523	17.8523	7.5000e-004	0.0000	17.8709
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.0137	0.0230	0.0431	2.0000e-004	0.0195	2.8000e-004	0.0198	5.2300e-003	2.7000e-004	5.4900e-003	0.4453	34.5998	35.0451	0.0463	1.2100e-003	36.5614

	ROG	NOx	CO	SO2	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/16/2030	5/24/2030	5	50	
2	Site Preparation	Site Preparation	5/25/2030	8/2/2030	5	50	
3	Grading	Grading	8/3/2030	10/11/2030	5	50	
4	Building Construction	Building Construction	10/12/2030	2/28/2031	5	100	
5	Paving	Paving	3/1/2031	5/9/2031	5	50	
6	Architectural Coating	Architectural Coating	5/10/2031	5/23/2031	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,617; Non-Residential Outdoor: 1,206; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	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	5	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

3.2 Demolition - 2030

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	0.0140	0.0920	0.1859	3.3000e-004		2.0300e-003	2.0300e-003		2.0300e-003	2.0300e-003	0.0000	28.4866	28.4866	1.1100e-003	0.0000	28.5144
Total	0.0140	0.0920	0.1859	3.3000e-004		2.0300e-003	2.0300e-003		2.0300e-003	2.0300e-003	0.0000	28.4866	28.4866	1.1100e-003	0.0000	28.5144

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3.2 Demolition - 2030

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	6.3000e-004	3.5000e-004	4.6800e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.7730	1.7730	3.0000e-005	0.0000	1.7737
Total	6.3000e-004	3.5000e-004	4.6800e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.7730	1.7730	3.0000e-005	0.0000	1.7737

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	0.0140	0.0920	0.1859	3.3000e-004		2.0300e-003	2.0300e-003		2.0300e-003	2.0300e-003	0.0000	28.4865	28.4865	1.1100e-003	0.0000	28.5144
Total	0.0140	0.0920	0.1859	3.3000e-004		2.0300e-003	2.0300e-003		2.0300e-003	2.0300e-003	0.0000	28.4865	28.4865	1.1100e-003	0.0000	28.5144

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3.2 Demolition - 2030

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	6.3000e-004	3.5000e-004	4.6800e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.7730	1.7730	3.0000e-005	0.0000	1.7737
Total	6.3000e-004	3.5000e-004	4.6800e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.7730	1.7730	3.0000e-005	0.0000	1.7737

3.3 Site Preparation - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0116	0.0488	0.0974	3.0000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	25.5871	25.5871	9.3000e-004	0.0000	25.6103
Total	0.0116	0.0488	0.0974	3.0000e-004	2.7000e-004	1.2900e-003	1.5600e-003	3.0000e-005	1.2900e-003	1.3200e-003	0.0000	25.5871	25.5871	9.3000e-004	0.0000	25.6103

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3.3 Site Preparation - 2030

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	3.2000e-004	1.7000e-004	2.3400e-003	1.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	0.8865	0.8865	1.0000e-005	0.0000	0.8868
Total	3.2000e-004	1.7000e-004	2.3400e-003	1.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	0.8865	0.8865	1.0000e-005	0.0000	0.8868

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0116	0.0488	0.0974	3.0000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	25.5871	25.5871	9.3000e-004	0.0000	25.6102
Total	0.0116	0.0488	0.0974	3.0000e-004	2.7000e-004	1.2900e-003	1.5600e-003	3.0000e-005	1.2900e-003	1.3200e-003	0.0000	25.5871	25.5871	9.3000e-004	0.0000	25.6102

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3.3 Site Preparation - 2030

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	3.2000e-004	1.7000e-004	2.3400e-003	1.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	0.8865	0.8865	1.0000e-005	0.0000	0.8868
Total	3.2000e-004	1.7000e-004	2.3400e-003	1.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	0.8865	0.8865	1.0000e-005	0.0000	0.8868

3.4 Grading - 2030

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					0.0188	0.0000	0.0188	0.0103	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0140	0.0920	0.1859	3.3000e-004		2.0300e-003	2.0300e-003		2.0300e-003	2.0300e-003	0.0000	28.4866	28.4866	1.1100e-003	0.0000	28.5144
Total	0.0140	0.0920	0.1859	3.3000e-004	0.0188	2.0300e-003	0.0209	0.0103	2.0300e-003	0.0124	0.0000	28.4866	28.4866	1.1100e-003	0.0000	28.5144

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3.4 Grading - 2030

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	6.3000e-004	3.5000e-004	4.6800e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.7730	1.7730	3.0000e-005	0.0000	1.7737
Total	6.3000e-004	3.5000e-004	4.6800e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.7730	1.7730	3.0000e-005	0.0000	1.7737

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					0.0188	0.0000	0.0188	0.0103	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0140	0.0920	0.1859	3.3000e-004		2.0300e-003	2.0300e-003		2.0300e-003	2.0300e-003	0.0000	28.4865	28.4865	1.1100e-003	0.0000	28.5144
Total	0.0140	0.0920	0.1859	3.3000e-004	0.0188	2.0300e-003	0.0209	0.0103	2.0300e-003	0.0124	0.0000	28.4865	28.4865	1.1100e-003	0.0000	28.5144

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3.4 Grading - 2030

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	6.3000e-004	3.5000e-004	4.6800e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.7730	1.7730	3.0000e-005	0.0000	1.7737
Total	6.3000e-004	3.5000e-004	4.6800e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	1.7730	1.7730	3.0000e-005	0.0000	1.7737

3.5 Building Construction - 2030

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	0.0174	0.0921	0.2040	4.0000e-004		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003	0.0000	34.2006	34.2006	1.4000e-003	0.0000	34.2355
Total	0.0174	0.0921	0.2040	4.0000e-004		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003	0.0000	34.2006	34.2006	1.4000e-003	0.0000	34.2355

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3.5 Building Construction - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	4.0000e-005	5.3000e-004	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2021	0.2021	0.0000	0.0000	0.2022
Total	7.0000e-005	4.0000e-005	5.3000e-004	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2021	0.2021	0.0000	0.0000	0.2022

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	0.0174	0.0921	0.2040	4.0000e-004		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003	0.0000	34.2005	34.2005	1.4000e-003	0.0000	34.2354
Total	0.0174	0.0921	0.2040	4.0000e-004		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003	0.0000	34.2005	34.2005	1.4000e-003	0.0000	34.2354

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3.5 Building Construction - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	4.0000e-005	5.3000e-004	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2021	0.2021	0.0000	0.0000	0.2022
Total	7.0000e-005	4.0000e-005	5.3000e-004	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2021	0.2021	0.0000	0.0000	0.2022

3.5 Building Construction - 2031

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	0.0131	0.0695	0.1539	3.0000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	25.8004	25.8004	1.0500e-003	0.0000	25.8268
Total	0.0131	0.0695	0.1539	3.0000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	25.8004	25.8004	1.0500e-003	0.0000	25.8268

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3.5 Building Construction - 2031

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	5.0000e-005	3.0000e-005	3.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1492	0.1492	0.0000	0.0000	0.1493
Total	5.0000e-005	3.0000e-005	3.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1492	0.1492	0.0000	0.0000	0.1493

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	0.0131	0.0695	0.1539	3.0000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	25.8004	25.8004	1.0500e-003	0.0000	25.8267
Total	0.0131	0.0695	0.1539	3.0000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	25.8004	25.8004	1.0500e-003	0.0000	25.8267

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3.5 Building Construction - 2031

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	5.0000e-005	3.0000e-005	3.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1492	0.1492	0.0000	0.0000	0.1493
Total	5.0000e-005	3.0000e-005	3.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1492	0.1492	0.0000	0.0000	0.1493

3.6 Paving - 2031

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	0.0180	0.1030	0.1872	3.3000e-004		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.0000	27.4827	27.4827	1.4600e-003	0.0000	27.5192
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0180	0.1030	0.1872	3.3000e-004		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.0000	27.4827	27.4827	1.4600e-003	0.0000	27.5192

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3.6 Paving - 2031

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	1.0500e-003	5.7000e-004	7.9200e-003	3.0000e-005	4.9400e-003	2.0000e-005	4.9600e-003	1.3100e-003	2.0000e-005	1.3300e-003	0.0000	3.1236	3.1236	5.0000e-005	0.0000	3.1248
Total	1.0500e-003	5.7000e-004	7.9200e-003	3.0000e-005	4.9400e-003	2.0000e-005	4.9600e-003	1.3100e-003	2.0000e-005	1.3300e-003	0.0000	3.1236	3.1236	5.0000e-005	0.0000	3.1248

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	0.0180	0.1030	0.1872	3.3000e-004		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.0000	27.4826	27.4826	1.4600e-003	0.0000	27.5192
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0180	0.1030	0.1872	3.3000e-004		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.0000	27.4826	27.4826	1.4600e-003	0.0000	27.5192

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3.6 Paving - 2031

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	1.0500e-003	5.7000e-004	7.9200e-003	3.0000e-005	4.9400e-003	2.0000e-005	4.9600e-003	1.3100e-003	2.0000e-005	1.3300e-003	0.0000	3.1236	3.1236	5.0000e-005	0.0000	3.1248
Total	1.0500e-003	5.7000e-004	7.9200e-003	3.0000e-005	4.9400e-003	2.0000e-005	4.9600e-003	1.3100e-003	2.0000e-005	1.3300e-003	0.0000	3.1236	3.1236	5.0000e-005	0.0000	3.1248

3.7 Architectural Coating - 2031

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	0.0112					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5000e-004	4.2800e-003	8.9900e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2779
Total	0.0118	4.2800e-003	8.9900e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2779

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3.7 Architectural Coating - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0112					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5000e-004	4.2800e-003	8.9900e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2779
Total	0.0118	4.2800e-003	8.9900e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2779

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3.7 Architectural Coating - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6500e-003	0.0208	0.0413	1.9000e-004	0.0195	1.2000e-004	0.0196	5.2300e-003	1.1000e-004	5.3300e-003	0.0000	17.8523	17.8523	7.5000e-004	0.0000	17.8709
Unmitigated	3.6500e-003	0.0208	0.0413	1.9000e-004	0.0195	1.2000e-004	0.0196	5.2300e-003	1.1000e-004	5.3300e-003	0.0000	17.8523	17.8523	7.5000e-004	0.0000	17.8709

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554622	0.041562	0.206751	0.111062	0.012660	0.005774	0.022378	0.035217	0.002175	0.001476	0.004853	0.000718	0.000752

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	8.5291	8.5291	3.5000e-004	7.0000e-005	8.5596
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	8.5291	8.5291	3.5000e-004	7.0000e-005	8.5596
NaturalGas Mitigated	2.4000e-004	2.1400e-003	1.8000e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3293	2.3293	4.0000e-005	4.0000e-005	2.3432
NaturalGas Unmitigated	2.4000e-004	2.1400e-003	1.8000e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3293	2.3293	4.0000e-005	4.0000e-005	2.3432

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	43650	2.4000e-004	2.1400e-003	1.8000e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3293	2.3293	4.0000e-005	4.0000e-005	2.3432
Total		2.4000e-004	2.1400e-003	1.8000e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3293	2.3293	4.0000e-005	4.0000e-005	2.3432

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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	tons/yr										MT/yr					
Arena	43650	2.4000e-004	2.1400e-003	1.8000e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3293	2.3293	4.0000e-005	4.0000e-005	2.3432
Total		2.4000e-004	2.1400e-003	1.8000e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3293	2.3293	4.0000e-005	4.0000e-005	2.3432

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	26768.8	8.5291	3.5000e-004	7.0000e-005	8.5596
Total		8.5291	3.5000e-004	7.0000e-005	8.5596

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	26768.8	8.5291	3.5000e-004	7.0000e-005	8.5596
Total		8.5291	3.5000e-004	7.0000e-005	8.5596

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.8300e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	9.8300e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.7100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	9.8300e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.7100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	9.8300e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

Descanso 2C - South Coast Air Basin, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.3161	0.0441	1.0900e-003	7.7425
Unmitigated	6.3161	0.0441	1.0900e-003	7.7425

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0183	1.0800e-003	0.0000	0.0453
Unmitigated	0.0183	1.0800e-003	0.0000	0.0453

Descanso 2C - South Coast Air Basin, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2C - South Coast Air Basin, Summer

Descanso 2C
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	0.06	2,411.60	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2031
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

Descanso 2C - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	10.00	50.00
tblConstructionPhase	NumDays	2.00	50.00
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	NumDays	1.00	50.00
tblConstructionPhase	PhaseEndDate	6/8/2021	5/23/2031
tblConstructionPhase	PhaseEndDate	4/13/2021	2/28/2031
tblConstructionPhase	PhaseEndDate	12/24/2019	5/24/2030
tblConstructionPhase	PhaseEndDate	2/18/2020	10/11/2030
tblConstructionPhase	PhaseEndDate	5/11/2021	5/9/2031
tblConstructionPhase	PhaseEndDate	1/7/2020	8/2/2030
tblConstructionPhase	PhaseStartDate	5/12/2021	5/10/2031
tblConstructionPhase	PhaseStartDate	2/19/2020	10/12/2030
tblConstructionPhase	PhaseStartDate	11/27/2019	3/16/2030
tblConstructionPhase	PhaseStartDate	1/8/2020	8/3/2030
tblConstructionPhase	PhaseStartDate	4/14/2021	3/1/2031
tblConstructionPhase	PhaseStartDate	12/25/2019	5/25/2030
tblGrading	AcresOfGrading	25.00	0.50
tblLandUse	LandUseSquareFeet	43,560.00	2,411.60
tblLandUse	LotAcreage	1.00	0.06

2.0 Emissions Summary

Descanso 2C - South Coast Air Basin, Summer

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	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
Mobile	0.0304	0.1573	0.3289	1.5300e-003	0.1529	8.9000e-004	0.1538	0.0409	8.2000e-004	0.0417		157.0893	157.0893	6.3000e-003		157.2468
Total	0.0856	0.1690	0.3389	1.6000e-003	0.1529	1.7800e-003	0.1546	0.0409	1.7100e-003	0.0426		171.1588	171.1588	6.5700e-003	2.6000e-004	171.4000

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	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
Mobile	0.0304	0.1573	0.3289	1.5300e-003	0.1529	8.9000e-004	0.1538	0.0409	8.2000e-004	0.0417		157.0893	157.0893	6.3000e-003		157.2468
Total	0.0856	0.1690	0.3389	1.6000e-003	0.1529	1.7800e-003	0.1546	0.0409	1.7100e-003	0.0426		171.1588	171.1588	6.5700e-003	2.6000e-004	171.4000

Descanso 2C - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/16/2030	5/24/2030	5	50	
2	Site Preparation	Site Preparation	5/25/2030	8/2/2030	5	50	
3	Grading	Grading	8/3/2030	10/11/2030	5	50	
4	Building Construction	Building Construction	10/12/2030	2/28/2031	5	100	
5	Paving	Paving	3/1/2031	5/9/2031	5	50	
6	Architectural Coating	Architectural Coating	5/10/2031	5/23/2031	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,617; Non-Residential Outdoor: 1,206; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 2C - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	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	5	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Descanso 2C - South Coast Air Basin, Summer

3.1 Mitigation Measures Construction

3.2 Demolition - 2030

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	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.042 1	1,256.042 1	0.0491		1,257.270 5
Total	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.042 1	1,256.042 1	0.0491		1,257.270 5

Descanso 2C - South Coast Air Basin, Summer

3.2 Demolition - 2030

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
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
Worker	0.0252	0.0124	0.2036	8.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		82.0974	82.0974	1.3300e-003		82.1306
Total	0.0252	0.0124	0.2036	8.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		82.0974	82.0974	1.3300e-003		82.1306

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	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2C - South Coast Air Basin, Summer

3.2 Demolition - 2030

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
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
Worker	0.0252	0.0124	0.2036	8.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		82.0974	82.0974	1.3300e-003		82.1306
Total	0.0252	0.0124	0.2036	8.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		82.0974	82.0974	1.3300e-003		82.1306

3.3 Site Preparation - 2030

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					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003			0.0000			0.0000
Off-Road	0.4643	1.9529	3.8976	0.0119		0.0514	0.0514		0.0514	0.0514		1,128.1977	1,128.1977	0.0409		1,129.2198
Total	0.4643	1.9529	3.8976	0.0119	0.0106	0.0514	0.0621	1.1500e-003	0.0514	0.0526		1,128.1977	1,128.1977	0.0409		1,129.2198

Descanso 2C - South Coast Air Basin, Summer

3.3 Site Preparation - 2030

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
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
Worker	0.0126	6.1800e-003	0.1018	4.1000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.6000e-004	0.0151		41.0487	41.0487	6.7000e-004		41.0653
Total	0.0126	6.1800e-003	0.1018	4.1000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.6000e-004	0.0151		41.0487	41.0487	6.7000e-004		41.0653

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					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003			0.0000			0.0000
Off-Road	0.4643	1.9529	3.8976	0.0119		0.0514	0.0514		0.0514	0.0514	0.0000	1,128.1977	1,128.1977	0.0409		1,129.2198
Total	0.4643	1.9529	3.8976	0.0119	0.0106	0.0514	0.0621	1.1500e-003	0.0514	0.0526	0.0000	1,128.1977	1,128.1977	0.0409		1,129.2198

Descanso 2C - South Coast Air Basin, Summer

3.3 Site Preparation - 2030

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
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
Worker	0.0126	6.1800e-003	0.1018	4.1000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.6000e-004	0.0151		41.0487	41.0487	6.7000e-004		41.0653
Total	0.0126	6.1800e-003	0.1018	4.1000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.6000e-004	0.0151		41.0487	41.0487	6.7000e-004		41.0653

3.4 Grading - 2030

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948		1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2C - South Coast Air Basin, Summer

3.4 Grading - 2030

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
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
Worker	0.0252	0.0124	0.2036	8.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		82.0974	82.0974	1.3300e-003		82.1306
Total	0.0252	0.0124	0.2036	8.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		82.0974	82.0974	1.3300e-003		82.1306

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2C - South Coast Air Basin, Summer

3.4 Grading - 2030

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
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
Worker	0.0252	0.0124	0.2036	8.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		82.0974	82.0974	1.3300e-003		82.1306
Total	0.0252	0.0124	0.2036	8.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		82.0974	82.0974	1.3300e-003		82.1306

3.5 Building Construction - 2030

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2C - South Coast Air Basin, Summer

3.5 Building Construction - 2030

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
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
Worker	2.5200e-003	1.2400e-003	0.0204	8.0000e-005	0.0112	6.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0200e-003		8.2097	8.2097	1.3000e-004		8.2131
Total	2.5200e-003	1.2400e-003	0.0204	8.0000e-005	0.0112	6.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0200e-003		8.2097	8.2097	1.3000e-004		8.2131

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2C - South Coast Air Basin, Summer

3.5 Building Construction - 2030

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
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
Worker	2.5200e-003	1.2400e-003	0.0204	8.0000e-005	0.0112	6.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0200e-003		8.2097	8.2097	1.3000e-004		8.2131
Total	2.5200e-003	1.2400e-003	0.0204	8.0000e-005	0.0112	6.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0200e-003		8.2097	8.2097	1.3000e-004		8.2131

3.5 Building Construction - 2031

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2C - South Coast Air Basin, Summer

3.5 Building Construction - 2031

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
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
Worker	2.3300e-003	1.1300e-003	0.0192	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0100e-003		8.0368	8.0368	1.2000e-004		8.0398
Total	2.3300e-003	1.1300e-003	0.0192	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0100e-003		8.0368	8.0368	1.2000e-004		8.0398

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2C - South Coast Air Basin, Summer

3.5 Building Construction - 2031

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
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
Worker	2.3300e-003	1.1300e-003	0.0192	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0100e-003		8.0368	8.0368	1.2000e-004		8.0398
Total	2.3300e-003	1.1300e-003	0.0192	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0100e-003		8.0368	8.0368	1.2000e-004		8.0398

3.6 Paving - 2031

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	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529		1,211.7777	1,211.7777	0.0644		1,213.3888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529		1,211.7777	1,211.7777	0.0644		1,213.3888

Descanso 2C - South Coast Air Basin, Summer

3.6 Paving - 2031

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
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
Worker	0.0420	0.0203	0.3447	1.4500e-003	0.2012	9.3000e-004	0.2021	0.0534	8.6000e-004	0.0542		144.6621	144.6621	2.1900e-003		144.7169
Total	0.0420	0.0203	0.3447	1.4500e-003	0.2012	9.3000e-004	0.2021	0.0534	8.6000e-004	0.0542		144.6621	144.6621	2.1900e-003		144.7169

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	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529	0.0000	1,211.7777	1,211.7777	0.0644		1,213.3888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529	0.0000	1,211.7777	1,211.7777	0.0644		1,213.3888

Descanso 2C - South Coast Air Basin, Summer

3.6 Paving - 2031

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
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
Worker	0.0420	0.0203	0.3447	1.4500e-003	0.2012	9.3000e-004	0.2021	0.0534	8.6000e-004	0.0542		144.6621	144.6621	2.1900e-003		144.7169
Total	0.0420	0.0203	0.3447	1.4500e-003	0.2012	9.3000e-004	0.2021	0.0534	8.6000e-004	0.0542		144.6621	144.6621	2.1900e-003		144.7169

3.7 Architectural Coating - 2031

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	2.2355					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	2.3662	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328

Descanso 2C - South Coast Air Basin, Summer

3.7 Architectural Coating - 2031

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
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	2.2355					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	2.3662	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328

Descanso 2C - South Coast Air Basin, Summer

3.7 Architectural Coating - 2031

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
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 2C - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0304	0.1573	0.3289	1.5300e-003	0.1529	8.9000e-004	0.1538	0.0409	8.2000e-004	0.0417		157.0893	157.0893	6.3000e-003		157.2468
Unmitigated	0.0304	0.1573	0.3289	1.5300e-003	0.1529	8.9000e-004	0.1538	0.0409	8.2000e-004	0.0417		157.0893	157.0893	6.3000e-003		157.2468

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554622	0.041562	0.206751	0.111062	0.012660	0.005774	0.022378	0.035217	0.002175	0.001476	0.004853	0.000718	0.000752

5.0 Energy Detail

Historical Energy Use: N

Descanso 2C - South Coast Air Basin, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
NaturalGas Unmitigated	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529

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					
Arena	119.589	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
Total		1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529

Descanso 2C - South Coast Air Basin, Summer

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					
Arena	0.119589	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
Total		1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 2C - South Coast Air Basin, Summer

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	6.1200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0478					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	6.1200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0478					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 2C - South Coast Air Basin, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2C - South Coast Air Basin, Winter

Descanso 2C
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	0.06	2,411.60	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2031
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

Descanso 2C - South Coast Air Basin, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	10.00	50.00
tblConstructionPhase	NumDays	2.00	50.00
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	NumDays	1.00	50.00
tblConstructionPhase	PhaseEndDate	6/8/2021	5/23/2031
tblConstructionPhase	PhaseEndDate	4/13/2021	2/28/2031
tblConstructionPhase	PhaseEndDate	12/24/2019	5/24/2030
tblConstructionPhase	PhaseEndDate	2/18/2020	10/11/2030
tblConstructionPhase	PhaseEndDate	5/11/2021	5/9/2031
tblConstructionPhase	PhaseEndDate	1/7/2020	8/2/2030
tblConstructionPhase	PhaseStartDate	5/12/2021	5/10/2031
tblConstructionPhase	PhaseStartDate	2/19/2020	10/12/2030
tblConstructionPhase	PhaseStartDate	11/27/2019	3/16/2030
tblConstructionPhase	PhaseStartDate	1/8/2020	8/3/2030
tblConstructionPhase	PhaseStartDate	4/14/2021	3/1/2031
tblConstructionPhase	PhaseStartDate	12/25/2019	5/25/2030
tblGrading	AcresOfGrading	25.00	0.50
tblLandUse	LandUseSquareFeet	43,560.00	2,411.60
tblLandUse	LotAcreage	1.00	0.06

2.0 Emissions Summary

Descanso 2C - South Coast Air Basin, Winter

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	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
Mobile	0.0290	0.1580	0.3142	1.4500e-003	0.1529	8.9000e-004	0.1538	0.0409	8.3000e-004	0.0417		149.1675	149.1675	6.4000e-003		149.3275
Total	0.0841	0.1697	0.3242	1.5200e-003	0.1529	1.7800e-003	0.1546	0.0409	1.7200e-003	0.0426		163.2370	163.2370	6.6700e-003	2.6000e-004	163.4806

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	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
Mobile	0.0290	0.1580	0.3142	1.4500e-003	0.1529	8.9000e-004	0.1538	0.0409	8.3000e-004	0.0417		149.1675	149.1675	6.4000e-003		149.3275
Total	0.0841	0.1697	0.3242	1.5200e-003	0.1529	1.7800e-003	0.1546	0.0409	1.7200e-003	0.0426		163.2370	163.2370	6.6700e-003	2.6000e-004	163.4806

Descanso 2C - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/16/2030	5/24/2030	5	50	
2	Site Preparation	Site Preparation	5/25/2030	8/2/2030	5	50	
3	Grading	Grading	8/3/2030	10/11/2030	5	50	
4	Building Construction	Building Construction	10/12/2030	2/28/2031	5	100	
5	Paving	Paving	3/1/2031	5/9/2031	5	50	
6	Architectural Coating	Architectural Coating	5/10/2031	5/23/2031	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,617; Non-Residential Outdoor: 1,206; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 2C - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	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	5	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Descanso 2C - South Coast Air Basin, Winter

3.1 Mitigation Measures Construction

3.2 Demolition - 2030

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	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.042 1	1,256.042 1	0.0491		1,257.270 5
Total	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.042 1	1,256.042 1	0.0491		1,257.270 5

Descanso 2C - South Coast Air Basin, Winter

3.2 Demolition - 2030

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
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
Worker	0.0284	0.0135	0.1820	7.7000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		76.9594	76.9594	1.2400e-003		76.9903
Total	0.0284	0.0135	0.1820	7.7000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		76.9594	76.9594	1.2400e-003		76.9903

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	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2C - South Coast Air Basin, Winter

3.2 Demolition - 2030

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
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
Worker	0.0284	0.0135	0.1820	7.7000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		76.9594	76.9594	1.2400e-003		76.9903
Total	0.0284	0.0135	0.1820	7.7000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		76.9594	76.9594	1.2400e-003		76.9903

3.3 Site Preparation - 2030

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					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003			0.0000			0.0000
Off-Road	0.4643	1.9529	3.8976	0.0119		0.0514	0.0514		0.0514	0.0514		1,128.1977	1,128.1977	0.0409		1,129.2198
Total	0.4643	1.9529	3.8976	0.0119	0.0106	0.0514	0.0621	1.1500e-003	0.0514	0.0526		1,128.1977	1,128.1977	0.0409		1,129.2198

Descanso 2C - South Coast Air Basin, Winter

3.3 Site Preparation - 2030

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
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
Worker	0.0142	6.7700e-003	0.0910	3.9000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.6000e-004	0.0151		38.4797	38.4797	6.2000e-004		38.4952
Total	0.0142	6.7700e-003	0.0910	3.9000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.6000e-004	0.0151		38.4797	38.4797	6.2000e-004		38.4952

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					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003			0.0000			0.0000
Off-Road	0.4643	1.9529	3.8976	0.0119		0.0514	0.0514		0.0514	0.0514	0.0000	1,128.1977	1,128.1977	0.0409		1,129.2198
Total	0.4643	1.9529	3.8976	0.0119	0.0106	0.0514	0.0621	1.1500e-003	0.0514	0.0526	0.0000	1,128.1977	1,128.1977	0.0409		1,129.2198

Descanso 2C - South Coast Air Basin, Winter

3.3 Site Preparation - 2030

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
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
Worker	0.0142	6.7700e-003	0.0910	3.9000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.6000e-004	0.0151		38.4797	38.4797	6.2000e-004		38.4952
Total	0.0142	6.7700e-003	0.0910	3.9000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.6000e-004	0.0151		38.4797	38.4797	6.2000e-004		38.4952

3.4 Grading - 2030

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948		1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2C - South Coast Air Basin, Winter

3.4 Grading - 2030

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
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
Worker	0.0284	0.0135	0.1820	7.7000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		76.9594	76.9594	1.2400e-003		76.9903
Total	0.0284	0.0135	0.1820	7.7000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		76.9594	76.9594	1.2400e-003		76.9903

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2C - South Coast Air Basin, Winter

3.4 Grading - 2030

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
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
Worker	0.0284	0.0135	0.1820	7.7000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		76.9594	76.9594	1.2400e-003		76.9903
Total	0.0284	0.0135	0.1820	7.7000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302		76.9594	76.9594	1.2400e-003		76.9903

3.5 Building Construction - 2030

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2C - South Coast Air Basin, Winter

3.5 Building Construction - 2030

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
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
Worker	2.8400e-003	1.3500e-003	0.0182	8.0000e-005	0.0112	6.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0200e-003		7.6959	7.6959	1.2000e-004		7.6990
Total	2.8400e-003	1.3500e-003	0.0182	8.0000e-005	0.0112	6.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0200e-003		7.6959	7.6959	1.2000e-004		7.6990

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2C - South Coast Air Basin, Winter

3.5 Building Construction - 2030

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
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
Worker	2.8400e-003	1.3500e-003	0.0182	8.0000e-005	0.0112	6.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0200e-003		7.6959	7.6959	1.2000e-004		7.6990
Total	2.8400e-003	1.3500e-003	0.0182	8.0000e-005	0.0112	6.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0200e-003		7.6959	7.6959	1.2000e-004		7.6990

3.5 Building Construction - 2031

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2C - South Coast Air Basin, Winter

3.5 Building Construction - 2031

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
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
Worker	2.6300e-003	1.2400e-003	0.0171	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0100e-003		7.5323	7.5323	1.1000e-004		7.5351
Total	2.6300e-003	1.2400e-003	0.0171	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0100e-003		7.5323	7.5323	1.1000e-004		7.5351

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2C - South Coast Air Basin, Winter

3.5 Building Construction - 2031

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
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
Worker	2.6300e-003	1.2400e-003	0.0171	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0100e-003		7.5323	7.5323	1.1000e-004		7.5351
Total	2.6300e-003	1.2400e-003	0.0171	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	5.0000e-005	3.0100e-003		7.5323	7.5323	1.1000e-004		7.5351

3.6 Paving - 2031

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	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529		1,211.7777	1,211.7777	0.0644		1,213.3888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529		1,211.7777	1,211.7777	0.0644		1,213.3888

Descanso 2C - South Coast Air Basin, Winter

3.6 Paving - 2031

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
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
Worker	0.0474	0.0223	0.3076	1.3600e-003	0.2012	9.3000e-004	0.2021	0.0534	8.6000e-004	0.0542		135.5813	135.5813	2.0400e-003		135.6322
Total	0.0474	0.0223	0.3076	1.3600e-003	0.2012	9.3000e-004	0.2021	0.0534	8.6000e-004	0.0542		135.5813	135.5813	2.0400e-003		135.6322

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	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529	0.0000	1,211.7777	1,211.7777	0.0644		1,213.3888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529	0.0000	1,211.7777	1,211.7777	0.0644		1,213.3888

Descanso 2C - South Coast Air Basin, Winter

3.6 Paving - 2031

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
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
Worker	0.0474	0.0223	0.3076	1.3600e-003	0.2012	9.3000e-004	0.2021	0.0534	8.6000e-004	0.0542		135.5813	135.5813	2.0400e-003		135.6322
Total	0.0474	0.0223	0.3076	1.3600e-003	0.2012	9.3000e-004	0.2021	0.0534	8.6000e-004	0.0542		135.5813	135.5813	2.0400e-003		135.6322

3.7 Architectural Coating - 2031

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	2.2355					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	2.3662	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328

Descanso 2C - South Coast Air Basin, Winter

3.7 Architectural Coating - 2031

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
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	2.2355					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	2.3662	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328

Descanso 2C - South Coast Air Basin, Winter

3.7 Architectural Coating - 2031

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
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 2C - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0290	0.1580	0.3142	1.4500e-003	0.1529	8.9000e-004	0.1538	0.0409	8.3000e-004	0.0417		149.1675	149.1675	6.4000e-003		149.3275
Unmitigated	0.0290	0.1580	0.3142	1.4500e-003	0.1529	8.9000e-004	0.1538	0.0409	8.3000e-004	0.0417		149.1675	149.1675	6.4000e-003		149.3275

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554622	0.041562	0.206751	0.111062	0.012660	0.005774	0.022378	0.035217	0.002175	0.001476	0.004853	0.000718	0.000752

5.0 Energy Detail

Historical Energy Use: N

Descanso 2C - South Coast Air Basin, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
NaturalGas Unmitigated	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529

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					
Arena	119.589	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
Total		1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529

Descanso 2C - South Coast Air Basin, Winter

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					
Arena	0.119589	1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529
Total		1.2900e-003	0.0117	9.8500e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		14.0693	14.0693	2.7000e-004	2.6000e-004	14.1529

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 2C - South Coast Air Basin, Winter

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	6.1200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0478					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	6.1200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0478					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.0539	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 2C - South Coast Air Basin, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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Descanso 2D
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	0.24	10,452.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2033
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	150.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	2.00	60.00
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	1.00	80.00
tblConstructionPhase	PhaseEndDate	5/15/2020	10/7/2032
tblConstructionPhase	PhaseEndDate	5/1/2020	8/12/2032
tblConstructionPhase	PhaseEndDate	12/10/2019	7/3/2031
tblConstructionPhase	PhaseEndDate	12/13/2019	1/15/2032
tblConstructionPhase	PhaseEndDate	5/8/2020	9/23/2032
tblConstructionPhase	PhaseEndDate	12/11/2019	10/23/2031
tblConstructionPhase	PhaseStartDate	5/9/2020	9/24/2032
tblConstructionPhase	PhaseStartDate	12/14/2019	1/16/2032
tblConstructionPhase	PhaseStartDate	11/27/2019	5/23/2031
tblConstructionPhase	PhaseStartDate	12/12/2019	10/24/2031
tblConstructionPhase	PhaseStartDate	5/2/2020	8/13/2032
tblConstructionPhase	PhaseStartDate	12/11/2019	7/4/2031
tblGrading	AcresOfGrading	40.00	0.50
tblLandUse	LandUseSquareFeet	43,560.00	10,452.00
tblLandUse	LotAcreage	1.00	0.24

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
46	2-27-2031	5-26-2031	0.0061	0.0061
47	5-27-2031	8-26-2031	0.1050	0.1050
48	8-27-2031	11-26-2031	0.1024	0.1024
49	11-27-2031	2-26-2032	0.1362	0.1362
50	2-27-2032	5-26-2032	0.1281	0.1281
51	5-27-2032	8-26-2032	0.1355	0.1355
52	8-27-2032	9-30-2032	0.0757	0.0757
		Highest	0.1362	0.1362

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	0.0426	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	47.0610	47.0610	1.7200e-003	5.0000e-004	47.2532
Mobile	3.3700e-003	0.0205	0.0384	1.9000e-004	0.0195	1.0000e-004	0.0196	5.2300e-003	1.0000e-004	5.3200e-003	0.0000	17.4480	17.4480	7.1000e-004	0.0000	17.4658
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.0470	0.0297	0.0462	2.5000e-004	0.0195	8.0000e-004	0.0203	5.2300e-003	8.0000e-004	6.0200e-003	0.4453	70.3981	70.8434	0.0476	1.5900e-003	72.5068

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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	0.0426	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	47.0610	47.0610	1.7200e-003	5.0000e-004	47.2532
Mobile	3.3700e-003	0.0205	0.0384	1.9000e-004	0.0195	1.0000e-004	0.0196	5.2300e-003	1.0000e-004	5.3200e-003	0.0000	17.4480	17.4480	7.1000e-004	0.0000	17.4658
Waste						0.0000	0.0000		0.0000	0.0000	0.0183	0.0000	0.0183	1.0800e-003	0.0000	0.0453
Water						0.0000	0.0000		0.0000	0.0000	0.4271	5.8891	6.3161	0.0441	1.0900e-003	7.7425
Total	0.0470	0.0297	0.0462	2.5000e-004	0.0195	8.0000e-004	0.0203	5.2300e-003	8.0000e-004	6.0200e-003	0.4453	70.3981	70.8434	0.0476	1.5900e-003	72.5068

	ROG	NOx	CO	SO2	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/23/2031	7/3/2031	5	30	
2	Site Preparation	Site Preparation	7/4/2031	10/23/2031	5	80	
3	Grading	Grading	10/24/2031	1/15/2032	5	60	
4	Building Construction	Building Construction	1/16/2032	8/12/2032	5	150	
5	Paving	Paving	8/13/2032	9/23/2032	5	30	
6	Architectural Coating	Architectural Coating	9/24/2032	10/7/2032	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,678; Non-Residential Outdoor: 5,226; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	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	5	4.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

3.2 Demolition - 2031

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	8.4300e-003	0.0552	0.1115	2.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003	0.0000	17.0919	17.0919	6.7000e-004	0.0000	17.1087
Total	8.4300e-003	0.0552	0.1115	2.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003	0.0000	17.0919	17.0919	6.7000e-004	0.0000	17.1087

Descanso 2D - South Coast Air Basin, Annual

3.2 Demolition - 2031

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	3.5000e-004	1.9000e-004	2.6400e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.0412	1.0412	2.0000e-005	0.0000	1.0416
Total	3.5000e-004	1.9000e-004	2.6400e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.0412	1.0412	2.0000e-005	0.0000	1.0416

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4300e-003	0.0552	0.1115	2.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003	0.0000	17.0919	17.0919	6.7000e-004	0.0000	17.1086
Total	8.4300e-003	0.0552	0.1115	2.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003	0.0000	17.0919	17.0919	6.7000e-004	0.0000	17.1086

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3.2 Demolition - 2031

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	3.5000e-004	1.9000e-004	2.6400e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.0412	1.0412	2.0000e-005	0.0000	1.0416
Total	3.5000e-004	1.9000e-004	2.6400e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.0412	1.0412	2.0000e-005	0.0000	1.0416

3.3 Site Preparation - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0186	0.0781	0.1559	4.8000e-004		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	40.9394	40.9394	1.4800e-003	0.0000	40.9764
Total	0.0186	0.0781	0.1559	4.8000e-004	2.7000e-004	2.0600e-003	2.3300e-003	3.0000e-005	2.0600e-003	2.0900e-003	0.0000	40.9394	40.9394	1.4800e-003	0.0000	40.9764

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3.3 Site Preparation - 2031

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	4.7000e-004	2.5000e-004	3.5200e-003	2.0000e-005	2.1900e-003	1.0000e-005	2.2000e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.3883	1.3883	2.0000e-005	0.0000	1.3888
Total	4.7000e-004	2.5000e-004	3.5200e-003	2.0000e-005	2.1900e-003	1.0000e-005	2.2000e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.3883	1.3883	2.0000e-005	0.0000	1.3888

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0186	0.0781	0.1559	4.8000e-004		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	40.9393	40.9393	1.4800e-003	0.0000	40.9764
Total	0.0186	0.0781	0.1559	4.8000e-004	2.7000e-004	2.0600e-003	2.3300e-003	3.0000e-005	2.0600e-003	2.0900e-003	0.0000	40.9393	40.9393	1.4800e-003	0.0000	40.9764

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3.3 Site Preparation - 2031

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	4.7000e-004	2.5000e-004	3.5200e-003	2.0000e-005	2.1900e-003	1.0000e-005	2.2000e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.3883	1.3883	2.0000e-005	0.0000	1.3888
Total	4.7000e-004	2.5000e-004	3.5200e-003	2.0000e-005	2.1900e-003	1.0000e-005	2.2000e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.3883	1.3883	2.0000e-005	0.0000	1.3888

3.4 Grading - 2031

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					0.0184	0.0000	0.0184	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.0901	0.1822	3.2000e-004		1.9900e-003	1.9900e-003		1.9900e-003	1.9900e-003	0.0000	27.9168	27.9168	1.0900e-003	0.0000	27.9441
Total	0.0138	0.0901	0.1822	3.2000e-004	0.0184	1.9900e-003	0.0204	0.0101	1.9900e-003	0.0121	0.0000	27.9168	27.9168	1.0900e-003	0.0000	27.9441

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3.4 Grading - 2031

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	5.7000e-004	3.1000e-004	4.3100e-003	2.0000e-005	2.6900e-003	1.0000e-005	2.7000e-003	7.1000e-004	1.0000e-005	7.3000e-004	0.0000	1.7006	1.7006	3.0000e-005	0.0000	1.7013
Total	5.7000e-004	3.1000e-004	4.3100e-003	2.0000e-005	2.6900e-003	1.0000e-005	2.7000e-003	7.1000e-004	1.0000e-005	7.3000e-004	0.0000	1.7006	1.7006	3.0000e-005	0.0000	1.7013

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					0.0184	0.0000	0.0184	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.0901	0.1822	3.2000e-004		1.9900e-003	1.9900e-003		1.9900e-003	1.9900e-003	0.0000	27.9168	27.9168	1.0900e-003	0.0000	27.9441
Total	0.0138	0.0901	0.1822	3.2000e-004	0.0184	1.9900e-003	0.0204	0.0101	1.9900e-003	0.0121	0.0000	27.9168	27.9168	1.0900e-003	0.0000	27.9441

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3.4 Grading - 2031

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	5.7000e-004	3.1000e-004	4.3100e-003	2.0000e-005	2.6900e-003	1.0000e-005	2.7000e-003	7.1000e-004	1.0000e-005	7.3000e-004	0.0000	1.7006	1.7006	3.0000e-005	0.0000	1.7013
Total	5.7000e-004	3.1000e-004	4.3100e-003	2.0000e-005	2.6900e-003	1.0000e-005	2.7000e-003	7.1000e-004	1.0000e-005	7.3000e-004	0.0000	1.7006	1.7006	3.0000e-005	0.0000	1.7013

3.4 Grading - 2032

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					4.1400e-003	0.0000	4.1400e-003	2.2800e-003	0.0000	2.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0900e-003	0.0202	0.0409	7.0000e-005		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	6.2670	6.2670	2.5000e-004	0.0000	6.2732
Total	3.0900e-003	0.0202	0.0409	7.0000e-005	4.1400e-003	4.5000e-004	4.5900e-003	2.2800e-003	4.5000e-004	2.7300e-003	0.0000	6.2670	6.2670	2.5000e-004	0.0000	6.2732

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3.4 Grading - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	6.0000e-005	9.1000e-004	0.0000	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.3741	0.3741	1.0000e-005	0.0000	0.3742
Total	1.2000e-004	6.0000e-005	9.1000e-004	0.0000	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.3741	0.3741	1.0000e-005	0.0000	0.3742

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					4.1400e-003	0.0000	4.1400e-003	2.2800e-003	0.0000	2.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0900e-003	0.0202	0.0409	7.0000e-005		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	6.2670	6.2670	2.5000e-004	0.0000	6.2732
Total	3.0900e-003	0.0202	0.0409	7.0000e-005	4.1400e-003	4.5000e-004	4.5900e-003	2.2800e-003	4.5000e-004	2.7300e-003	0.0000	6.2670	6.2670	2.5000e-004	0.0000	6.2732

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3.4 Grading - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	6.0000e-005	9.1000e-004	0.0000	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.3741	0.3741	1.0000e-005	0.0000	0.3742
Total	1.2000e-004	6.0000e-005	9.1000e-004	0.0000	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.3741	0.3741	1.0000e-005	0.0000	0.3742

3.5 Building Construction - 2032

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	0.0458	0.2423	0.5368	1.0500e-003		4.6500e-003	4.6500e-003		4.6500e-003	4.6500e-003	0.0000	90.0015	90.0015	3.6700e-003	0.0000	90.0933
Total	0.0458	0.2423	0.5368	1.0500e-003		4.6500e-003	4.6500e-003		4.6500e-003	4.6500e-003	0.0000	90.0015	90.0015	3.6700e-003	0.0000	90.0933

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3.5 Building Construction - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	9.7200e-003	2.7300e-003	3.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	3.3810	3.3810	1.8000e-004	0.0000	3.3854
Worker	6.5000e-004	3.5000e-004	4.9700e-003	2.0000e-005	3.2900e-003	1.0000e-005	3.3100e-003	8.7000e-004	1.0000e-005	8.9000e-004	0.0000	2.0405	2.0405	3.0000e-005	0.0000	2.0413
Total	9.1000e-004	0.0101	7.7000e-003	5.0000e-005	4.2400e-003	2.0000e-005	4.2700e-003	1.1400e-003	2.0000e-005	1.1700e-003	0.0000	5.4215	5.4215	2.1000e-004	0.0000	5.4266

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	0.0458	0.2423	0.5368	1.0500e-003		4.6500e-003	4.6500e-003		4.6500e-003	4.6500e-003	0.0000	90.0014	90.0014	3.6700e-003	0.0000	90.0932
Total	0.0458	0.2423	0.5368	1.0500e-003		4.6500e-003	4.6500e-003		4.6500e-003	4.6500e-003	0.0000	90.0014	90.0014	3.6700e-003	0.0000	90.0932

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3.5 Building Construction - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	9.7200e-003	2.7300e-003	3.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	3.3810	3.3810	1.8000e-004	0.0000	3.3854
Worker	6.5000e-004	3.5000e-004	4.9700e-003	2.0000e-005	3.2900e-003	1.0000e-005	3.3100e-003	8.7000e-004	1.0000e-005	8.9000e-004	0.0000	2.0405	2.0405	3.0000e-005	0.0000	2.0413
Total	9.1000e-004	0.0101	7.7000e-003	5.0000e-005	4.2400e-003	2.0000e-005	4.2700e-003	1.1400e-003	2.0000e-005	1.1700e-003	0.0000	5.4215	5.4215	2.1000e-004	0.0000	5.4266

3.6 Paving - 2032

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	0.0108	0.0618	0.1123	2.0000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	16.4896	16.4896	8.8000e-004	0.0000	16.5115
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0108	0.0618	0.1123	2.0000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	16.4896	16.4896	8.8000e-004	0.0000	16.5115

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3.6 Paving - 2032

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	5.9000e-004	3.2000e-004	4.4700e-003	2.0000e-005	2.9600e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	1.8365	1.8365	3.0000e-005	0.0000	1.8371
Total	5.9000e-004	3.2000e-004	4.4700e-003	2.0000e-005	2.9600e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	1.8365	1.8365	3.0000e-005	0.0000	1.8371

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	0.0108	0.0618	0.1123	2.0000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	16.4896	16.4896	8.8000e-004	0.0000	16.5115
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0108	0.0618	0.1123	2.0000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	16.4896	16.4896	8.8000e-004	0.0000	16.5115

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3.6 Paving - 2032

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	5.9000e-004	3.2000e-004	4.4700e-003	2.0000e-005	2.9600e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	1.8365	1.8365	3.0000e-005	0.0000	1.8371
Total	5.9000e-004	3.2000e-004	4.4700e-003	2.0000e-005	2.9600e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	1.8365	1.8365	3.0000e-005	0.0000	1.8371

3.7 Architectural Coating - 2032

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	0.0485					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5000e-004	4.2800e-003	8.9900e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2779
Total	0.0491	4.2800e-003	8.9900e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2779

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3.7 Architectural Coating - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0340	0.0340	0.0000	0.0000	0.0340
Total	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0340	0.0340	0.0000	0.0000	0.0340

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	0.0485					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5000e-004	4.2800e-003	8.9900e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2779
Total	0.0491	4.2800e-003	8.9900e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2779

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3.7 Architectural Coating - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0340	0.0340	0.0000	0.0000	0.0340
Total	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0340	0.0340	0.0000	0.0000	0.0340

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.3700e-003	0.0205	0.0384	1.9000e-004	0.0195	1.0000e-004	0.0196	5.2300e-003	1.0000e-004	5.3200e-003	0.0000	17.4480	17.4480	7.1000e-004	0.0000	17.4658
Unmitigated	3.3700e-003	0.0205	0.0384	1.9000e-004	0.0195	1.0000e-004	0.0196	5.2300e-003	1.0000e-004	5.3200e-003	0.0000	17.4480	17.4480	7.1000e-004	0.0000	17.4658

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554504	0.041401	0.206771	0.110778	0.012413	0.005777	0.022517	0.035896	0.002189	0.001441	0.004853	0.000717	0.000741

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	36.9656	36.9656	1.5300e-003	3.2000e-004	37.0978
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	36.9656	36.9656	1.5300e-003	3.2000e-004	37.0978
NaturalGas Mitigated	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0954	10.0954	1.9000e-004	1.9000e-004	10.1554
NaturalGas Unmitigated	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0954	10.0954	1.9000e-004	1.9000e-004	10.1554

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	189181	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0954	10.0954	1.9000e-004	1.9000e-004	10.1554
Total		1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0954	10.0954	1.9000e-004	1.9000e-004	10.1554

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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					
Arena	189181	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0954	10.0954	1.9000e-004	1.9000e-004	10.1554
Total		1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0954	10.0954	1.9000e-004	1.9000e-004	10.1554

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	116017	36.9656	1.5300e-003	3.2000e-004	37.0978
Total		36.9656	1.5300e-003	3.2000e-004	37.0978

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	116017	36.9656	1.5300e-003	3.2000e-004	37.0978
Total		36.9656	1.5300e-003	3.2000e-004	37.0978

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0426	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0426	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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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	4.8400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0378					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0426	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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	4.8400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0378					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0426	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

Descanso 2D - South Coast Air Basin, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.3161	0.0441	1.0900e-003	7.7425
Unmitigated	6.3161	0.0441	1.0900e-003	7.7425

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.34616 / 0.0859249	6.3161	0.0441	1.0900e-003	7.7425
Total		6.3161	0.0441	1.0900e-003	7.7425

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0183	1.0800e-003	0.0000	0.0453
Unmitigated	0.0183	1.0800e-003	0.0000	0.0453

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.09	0.0183	1.0800e-003	0.0000	0.0453
Total		0.0183	1.0800e-003	0.0000	0.0453

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2D - South Coast Air Basin, Summer

Descanso 2D
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	0.24	10,452.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2033
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

Descanso 2D - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	150.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	2.00	60.00
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	1.00	80.00
tblConstructionPhase	PhaseEndDate	5/15/2020	10/7/2032
tblConstructionPhase	PhaseEndDate	5/1/2020	8/12/2032
tblConstructionPhase	PhaseEndDate	12/10/2019	7/3/2031
tblConstructionPhase	PhaseEndDate	12/13/2019	1/15/2032
tblConstructionPhase	PhaseEndDate	5/8/2020	9/23/2032
tblConstructionPhase	PhaseEndDate	12/11/2019	10/23/2031
tblConstructionPhase	PhaseStartDate	5/9/2020	9/24/2032
tblConstructionPhase	PhaseStartDate	12/14/2019	1/16/2032
tblConstructionPhase	PhaseStartDate	11/27/2019	5/23/2031
tblConstructionPhase	PhaseStartDate	12/12/2019	10/24/2031
tblConstructionPhase	PhaseStartDate	5/2/2020	8/13/2032
tblConstructionPhase	PhaseStartDate	12/11/2019	7/4/2031
tblGrading	AcresOfGrading	40.00	0.50
tblLandUse	LandUseSquareFeet	43,560.00	10,452.00
tblLandUse	LotAcreage	1.00	0.24

2.0 Emissions Summary

Descanso 2D - South Coast Air Basin, Summer

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	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
Mobile	0.0281	0.1546	0.3064	1.4900e-003	0.1529	7.9000e-004	0.1537	0.0409	7.4000e-004	0.0416		153.4993	153.4993	6.0100e-003		153.6497
Total	0.2672	0.2054	0.3492	1.7900e-003	0.1529	4.6500e-003	0.1575	0.0409	4.6000e-003	0.0455		214.4766	214.4766	7.1800e-003	1.1200e-003	214.9893

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	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
Mobile	0.0281	0.1546	0.3064	1.4900e-003	0.1529	7.9000e-004	0.1537	0.0409	7.4000e-004	0.0416		153.4993	153.4993	6.0100e-003		153.6497
Total	0.2672	0.2054	0.3492	1.7900e-003	0.1529	4.6500e-003	0.1575	0.0409	4.6000e-003	0.0455		214.4766	214.4766	7.1800e-003	1.1200e-003	214.9893

Descanso 2D - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/23/2031	7/3/2031	5	30	
2	Site Preparation	Site Preparation	7/4/2031	10/23/2031	5	80	
3	Grading	Grading	10/24/2031	1/15/2032	5	60	
4	Building Construction	Building Construction	1/16/2032	8/12/2032	5	150	
5	Paving	Paving	8/13/2032	9/23/2032	5	30	
6	Architectural Coating	Architectural Coating	9/24/2032	10/7/2032	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,678; Non-Residential Outdoor: 5,226; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 2D - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	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	5	4.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Descanso 2D - South Coast Air Basin, Summer

3.1 Mitigation Measures Construction

3.2 Demolition - 2031

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	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.042 1	1,256.042 1	0.0491		1,257.270 5
Total	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.042 1	1,256.042 1	0.0491		1,257.270 5

Descanso 2D - South Coast Air Basin, Summer

3.2 Demolition - 2031

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
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
Worker	0.0233	0.0113	0.1915	8.1000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		80.3678	80.3678	1.2200e-003		80.3983
Total	0.0233	0.0113	0.1915	8.1000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		80.3678	80.3678	1.2200e-003		80.3983

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	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Summer

3.2 Demolition - 2031

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
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
Worker	0.0233	0.0113	0.1915	8.1000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		80.3678	80.3678	1.2200e-003		80.3983
Total	0.0233	0.0113	0.1915	8.1000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		80.3678	80.3678	1.2200e-003		80.3983

3.3 Site Preparation - 2031

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					6.6300e-003	0.0000	6.6300e-003	7.2000e-004	0.0000	7.2000e-004			0.0000			0.0000
Off-Road	0.4643	1.9529	3.8976	0.0119		0.0514	0.0514		0.0514	0.0514		1,128.1977	1,128.1977	0.0409		1,129.2198
Total	0.4643	1.9529	3.8976	0.0119	6.6300e-003	0.0514	0.0581	7.2000e-004	0.0514	0.0522		1,128.1977	1,128.1977	0.0409		1,129.2198

Descanso 2D - South Coast Air Basin, Summer

3.3 Site Preparation - 2031

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
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
Worker	0.0117	5.6500e-003	0.0958	4.0000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		40.1839	40.1839	6.1000e-004		40.1991
Total	0.0117	5.6500e-003	0.0958	4.0000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		40.1839	40.1839	6.1000e-004		40.1991

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					6.6300e-003	0.0000	6.6300e-003	7.2000e-004	0.0000	7.2000e-004			0.0000			0.0000
Off-Road	0.4643	1.9529	3.8976	0.0119		0.0514	0.0514		0.0514	0.0514	0.0000	1,128.1977	1,128.1977	0.0409		1,129.2198
Total	0.4643	1.9529	3.8976	0.0119	6.6300e-003	0.0514	0.0581	7.2000e-004	0.0514	0.0522	0.0000	1,128.1977	1,128.1977	0.0409		1,129.2198

Descanso 2D - South Coast Air Basin, Summer

3.3 Site Preparation - 2031

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
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
Worker	0.0117	5.6500e-003	0.0958	4.0000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		40.1839	40.1839	6.1000e-004		40.1991
Total	0.0117	5.6500e-003	0.0958	4.0000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		40.1839	40.1839	6.1000e-004		40.1991

3.4 Grading - 2031

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948		1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Summer

3.4 Grading - 2031

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
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
Worker	0.0233	0.0113	0.1915	8.1000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		80.3678	80.3678	1.2200e-003		80.3983
Total	0.0233	0.0113	0.1915	8.1000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		80.3678	80.3678	1.2200e-003		80.3983

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Summer

3.4 Grading - 2031

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
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
Worker	0.0233	0.0113	0.1915	8.1000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		80.3678	80.3678	1.2200e-003		80.3983
Total	0.0233	0.0113	0.1915	8.1000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		80.3678	80.3678	1.2200e-003		80.3983

3.4 Grading - 2032

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948		1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Summer

3.4 Grading - 2032

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
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
Worker	0.0216	0.0104	0.1804	7.9000e-004	0.1118	4.8000e-004	0.1123	0.0296	4.4000e-004	0.0301		78.7616	78.7616	1.1200e-003		78.7896
Total	0.0216	0.0104	0.1804	7.9000e-004	0.1118	4.8000e-004	0.1123	0.0296	4.4000e-004	0.0301		78.7616	78.7616	1.1200e-003		78.7896

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Summer

3.4 Grading - 2032

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
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
Worker	0.0216	0.0104	0.1804	7.9000e-004	0.1118	4.8000e-004	0.1123	0.0296	4.4000e-004	0.0301		78.7616	78.7616	1.1200e-003		78.7896
Total	0.0216	0.0104	0.1804	7.9000e-004	0.1118	4.8000e-004	0.1123	0.0296	4.4000e-004	0.0301		78.7616	78.7616	1.1200e-003		78.7896

3.5 Building Construction - 2032

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2D - South Coast Air Basin, Summer

3.5 Building Construction - 2032

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
Vendor	3.3600e-003	0.1285	0.0347	4.7000e-004	0.0128	1.4000e-004	0.0129	3.6800e-003	1.3000e-004	3.8200e-003		50.2409	50.2409	2.5400e-003		50.3045
Worker	8.6500e-003	4.1500e-003	0.0722	3.2000e-004	0.0447	1.9000e-004	0.0449	0.0119	1.8000e-004	0.0120		31.5047	31.5047	4.5000e-004		31.5158
Total	0.0120	0.1327	0.1069	7.9000e-004	0.0575	3.3000e-004	0.0578	0.0155	3.1000e-004	0.0159		81.7455	81.7455	2.9900e-003		81.8203

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2D - South Coast Air Basin, Summer

3.5 Building Construction - 2032

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
Vendor	3.3600e-003	0.1285	0.0347	4.7000e-004	0.0128	1.4000e-004	0.0129	3.6800e-003	1.3000e-004	3.8200e-003		50.2409	50.2409	2.5400e-003		50.3045
Worker	8.6500e-003	4.1500e-003	0.0722	3.2000e-004	0.0447	1.9000e-004	0.0449	0.0119	1.8000e-004	0.0120		31.5047	31.5047	4.5000e-004		31.5158
Total	0.0120	0.1327	0.1069	7.9000e-004	0.0575	3.3000e-004	0.0578	0.0155	3.1000e-004	0.0159		81.7455	81.7455	2.9900e-003		81.8203

3.6 Paving - 2032

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	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529		1,211.7777	1,211.7777	0.0644		1,213.3888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529		1,211.7777	1,211.7777	0.0644		1,213.3888

Descanso 2D - South Coast Air Basin, Summer

3.6 Paving - 2032

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
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
Worker	0.0389	0.0187	0.3247	1.4200e-003	0.2012	8.7000e-004	0.2021	0.0534	8.0000e-004	0.0542		141.7709	141.7709	2.0100e-003		141.8212
Total	0.0389	0.0187	0.3247	1.4200e-003	0.2012	8.7000e-004	0.2021	0.0534	8.0000e-004	0.0542		141.7709	141.7709	2.0100e-003		141.8212

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	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529	0.0000	1,211.7777	1,211.7777	0.0644		1,213.3888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529	0.0000	1,211.7777	1,211.7777	0.0644		1,213.3888

Descanso 2D - South Coast Air Basin, Summer

3.6 Paving - 2032

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
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
Worker	0.0389	0.0187	0.3247	1.4200e-003	0.2012	8.7000e-004	0.2021	0.0534	8.0000e-004	0.0542		141.7709	141.7709	2.0100e-003		141.8212
Total	0.0389	0.0187	0.3247	1.4200e-003	0.2012	8.7000e-004	0.2021	0.0534	8.0000e-004	0.0542		141.7709	141.7709	2.0100e-003		141.8212

3.7 Architectural Coating - 2032

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	9.6890					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	9.8198	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328

Descanso 2D - South Coast Air Basin, Summer

3.7 Architectural Coating - 2032

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
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
Worker	2.1600e-003	1.0400e-003	0.0180	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	4.0000e-005	3.0100e-003		7.8762	7.8762	1.1000e-004		7.8790
Total	2.1600e-003	1.0400e-003	0.0180	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	4.0000e-005	3.0100e-003		7.8762	7.8762	1.1000e-004		7.8790

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	9.6890					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	9.8198	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328

Descanso 2D - South Coast Air Basin, Summer

3.7 Architectural Coating - 2032

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
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
Worker	2.1600e-003	1.0400e-003	0.0180	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	4.0000e-005	3.0100e-003		7.8762	7.8762	1.1000e-004		7.8790
Total	2.1600e-003	1.0400e-003	0.0180	8.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	4.0000e-005	3.0100e-003		7.8762	7.8762	1.1000e-004		7.8790

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 2D - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0281	0.1546	0.3064	1.4900e-003	0.1529	7.9000e-004	0.1537	0.0409	7.4000e-004	0.0416		153.4993	153.4993	6.0100e-003		153.6497
Unmitigated	0.0281	0.1546	0.3064	1.4900e-003	0.1529	7.9000e-004	0.1537	0.0409	7.4000e-004	0.0416		153.4993	153.4993	6.0100e-003		153.6497

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554504	0.041401	0.206771	0.110778	0.012413	0.005777	0.022517	0.035896	0.002189	0.001441	0.004853	0.000717	0.000741

5.0 Energy Detail

Historical Energy Use: N

Descanso 2D - South Coast Air Basin, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
NaturalGas Unmitigated	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394

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					
Arena	518.305	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
Total		5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394

Descanso 2D - South Coast Air Basin, Summer

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					
Arena	0.518305	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
Total		5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 2D - South Coast Air Basin, Summer

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	0.0266					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2070					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.0266					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2070					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 2D - South Coast Air Basin, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Descanso 2D - South Coast Air Basin, Winter

Descanso 2D
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	1.00	Acre	0.24	10,452.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2033
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - calculated

Construction Phase - approximate schedule- 18 mo

Off-road Equipment - no demolition

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no constr

Descanso 2D - South Coast Air Basin, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	150.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	2.00	60.00
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	1.00	80.00
tblConstructionPhase	PhaseEndDate	5/15/2020	10/7/2032
tblConstructionPhase	PhaseEndDate	5/1/2020	8/12/2032
tblConstructionPhase	PhaseEndDate	12/10/2019	7/3/2031
tblConstructionPhase	PhaseEndDate	12/13/2019	1/15/2032
tblConstructionPhase	PhaseEndDate	5/8/2020	9/23/2032
tblConstructionPhase	PhaseEndDate	12/11/2019	10/23/2031
tblConstructionPhase	PhaseStartDate	5/9/2020	9/24/2032
tblConstructionPhase	PhaseStartDate	12/14/2019	1/16/2032
tblConstructionPhase	PhaseStartDate	11/27/2019	5/23/2031
tblConstructionPhase	PhaseStartDate	12/12/2019	10/24/2031
tblConstructionPhase	PhaseStartDate	5/2/2020	8/13/2032
tblConstructionPhase	PhaseStartDate	12/11/2019	7/4/2031
tblGrading	AcresOfGrading	40.00	0.50
tblLandUse	LandUseSquareFeet	43,560.00	10,452.00
tblLandUse	LotAcreage	1.00	0.24

2.0 Emissions Summary

Descanso 2D - South Coast Air Basin, Winter

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	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
Mobile	0.0267	0.1551	0.2928	1.4200e-003	0.1529	8.0000e-004	0.1537	0.0409	7.4000e-004	0.0416		145.7767	145.7767	6.1100e-003		145.9296
Total	0.2658	0.2059	0.3355	1.7200e-003	0.1529	4.6600e-003	0.1575	0.0409	4.6000e-003	0.0455		206.7540	206.7540	7.2800e-003	1.1200e-003	207.2692

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	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
Mobile	0.0267	0.1551	0.2928	1.4200e-003	0.1529	8.0000e-004	0.1537	0.0409	7.4000e-004	0.0416		145.7767	145.7767	6.1100e-003		145.9296
Total	0.2658	0.2059	0.3355	1.7200e-003	0.1529	4.6600e-003	0.1575	0.0409	4.6000e-003	0.0455		206.7540	206.7540	7.2800e-003	1.1200e-003	207.2692

Descanso 2D - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/23/2031	7/3/2031	5	30	
2	Site Preparation	Site Preparation	7/4/2031	10/23/2031	5	80	
3	Grading	Grading	10/24/2031	1/15/2032	5	60	
4	Building Construction	Building Construction	1/16/2032	8/12/2032	5	150	
5	Paving	Paving	8/13/2032	9/23/2032	5	30	
6	Architectural Coating	Architectural Coating	9/24/2032	10/7/2032	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,678; Non-Residential Outdoor: 5,226; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Descanso 2D - South Coast Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	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	5	4.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Descanso 2D - South Coast Air Basin, Winter

3.1 Mitigation Measures Construction

3.2 Demolition - 2031

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	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.042 1	1,256.042 1	0.0491		1,257.270 5
Total	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.042 1	1,256.042 1	0.0491		1,257.270 5

Descanso 2D - South Coast Air Basin, Winter

3.2 Demolition - 2031

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
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
Worker	0.0263	0.0124	0.1709	7.5000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		75.3230	75.3230	1.1300e-003		75.3512
Total	0.0263	0.0124	0.1709	7.5000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		75.3230	75.3230	1.1300e-003		75.3512

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	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Winter

3.2 Demolition - 2031

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
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
Worker	0.0263	0.0124	0.1709	7.5000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		75.3230	75.3230	1.1300e-003		75.3512
Total	0.0263	0.0124	0.1709	7.5000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		75.3230	75.3230	1.1300e-003		75.3512

3.3 Site Preparation - 2031

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					6.6300e-003	0.0000	6.6300e-003	7.2000e-004	0.0000	7.2000e-004			0.0000			0.0000
Off-Road	0.4643	1.9529	3.8976	0.0119		0.0514	0.0514		0.0514	0.0514		1,128.1977	1,128.1977	0.0409		1,129.2198
Total	0.4643	1.9529	3.8976	0.0119	6.6300e-003	0.0514	0.0581	7.2000e-004	0.0514	0.0522		1,128.1977	1,128.1977	0.0409		1,129.2198

Descanso 2D - South Coast Air Basin, Winter

3.3 Site Preparation - 2031

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
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
Worker	0.0132	6.1800e-003	0.0854	3.8000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		37.6615	37.6615	5.7000e-004		37.6756
Total	0.0132	6.1800e-003	0.0854	3.8000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		37.6615	37.6615	5.7000e-004		37.6756

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					6.6300e-003	0.0000	6.6300e-003	7.2000e-004	0.0000	7.2000e-004			0.0000			0.0000
Off-Road	0.4643	1.9529	3.8976	0.0119		0.0514	0.0514		0.0514	0.0514	0.0000	1,128.1977	1,128.1977	0.0409		1,129.2198
Total	0.4643	1.9529	3.8976	0.0119	6.6300e-003	0.0514	0.0581	7.2000e-004	0.0514	0.0522	0.0000	1,128.1977	1,128.1977	0.0409		1,129.2198

Descanso 2D - South Coast Air Basin, Winter

3.3 Site Preparation - 2031

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
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
Worker	0.0132	6.1800e-003	0.0854	3.8000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		37.6615	37.6615	5.7000e-004		37.6756
Total	0.0132	6.1800e-003	0.0854	3.8000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		37.6615	37.6615	5.7000e-004		37.6756

3.4 Grading - 2031

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948		1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Winter

3.4 Grading - 2031

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
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
Worker	0.0263	0.0124	0.1709	7.5000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		75.3230	75.3230	1.1300e-003		75.3512
Total	0.0263	0.0124	0.1709	7.5000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		75.3230	75.3230	1.1300e-003		75.3512

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Winter

3.4 Grading - 2031

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
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
Worker	0.0263	0.0124	0.1709	7.5000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		75.3230	75.3230	1.1300e-003		75.3512
Total	0.0263	0.0124	0.1709	7.5000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		75.3230	75.3230	1.1300e-003		75.3512

3.4 Grading - 2032

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811		1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948		1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Winter

3.4 Grading - 2032

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
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
Worker	0.0245	0.0113	0.1607	7.4000e-004	0.1118	4.8000e-004	0.1123	0.0296	4.4000e-004	0.0301		73.8075	73.8075	1.0400e-003		73.8334
Total	0.0245	0.0113	0.1607	7.4000e-004	0.1118	4.8000e-004	0.1123	0.0296	4.4000e-004	0.0301		73.8075	73.8075	1.0400e-003		73.8334

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.5617	3.6786	7.4350	0.0133		0.0811	0.0811		0.0811	0.0811	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705
Total	0.5617	3.6786	7.4350	0.0133	0.7528	0.0811	0.8338	0.4138	0.0811	0.4948	0.0000	1,256.0421	1,256.0421	0.0491		1,257.2705

Descanso 2D - South Coast Air Basin, Winter

3.4 Grading - 2032

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
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
Worker	0.0245	0.0113	0.1607	7.4000e-004	0.1118	4.8000e-004	0.1123	0.0296	4.4000e-004	0.0301		73.8075	73.8075	1.0400e-003		73.8334
Total	0.0245	0.0113	0.1607	7.4000e-004	0.1118	4.8000e-004	0.1123	0.0296	4.4000e-004	0.0301		73.8075	73.8075	1.0400e-003		73.8334

3.5 Building Construction - 2032

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621		1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2D - South Coast Air Basin, Winter

3.5 Building Construction - 2032

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
Vendor	3.5200e-003	0.1279	0.0379	4.5000e-004	0.0128	1.4000e-004	0.0129	3.6800e-003	1.3000e-004	3.8200e-003		48.9331	48.9331	2.6800e-003		49.0001
Worker	9.7800e-003	4.5300e-003	0.0643	3.0000e-004	0.0447	1.9000e-004	0.0449	0.0119	1.8000e-004	0.0120		29.5230	29.5230	4.1000e-004		29.5334
Total	0.0133	0.1324	0.1022	7.5000e-004	0.0575	3.3000e-004	0.0578	0.0155	3.1000e-004	0.0159		78.4561	78.4561	3.0900e-003		78.5334

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	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451
Total	0.6099	3.2301	7.1570	0.0140		0.0621	0.0621		0.0621	0.0621	0.0000	1,322.7958	1,322.7958	0.0540		1,324.1451

Descanso 2D - South Coast Air Basin, Winter

3.5 Building Construction - 2032

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
Vendor	3.5200e-003	0.1279	0.0379	4.5000e-004	0.0128	1.4000e-004	0.0129	3.6800e-003	1.3000e-004	3.8200e-003		48.9331	48.9331	2.6800e-003		49.0001
Worker	9.7800e-003	4.5300e-003	0.0643	3.0000e-004	0.0447	1.9000e-004	0.0449	0.0119	1.8000e-004	0.0120		29.5230	29.5230	4.1000e-004		29.5334
Total	0.0133	0.1324	0.1022	7.5000e-004	0.0575	3.3000e-004	0.0578	0.0155	3.1000e-004	0.0159		78.4561	78.4561	3.0900e-003		78.5334

3.6 Paving - 2032

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	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529		1,211.7777	1,211.7777	0.0644		1,213.3888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529		1,211.7777	1,211.7777	0.0644		1,213.3888

Descanso 2D - South Coast Air Basin, Winter

3.6 Paving - 2032

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
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
Worker	0.0440	0.0204	0.2892	1.3300e-003	0.2012	8.7000e-004	0.2021	0.0534	8.0000e-004	0.0542		132.8535	132.8535	1.8600e-003		132.9001
Total	0.0440	0.0204	0.2892	1.3300e-003	0.2012	8.7000e-004	0.2021	0.0534	8.0000e-004	0.0542		132.8535	132.8535	1.8600e-003		132.9001

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	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529	0.0000	1,211.7777	1,211.7777	0.0644		1,213.3888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7200	4.1196	7.4869	0.0133		0.1529	0.1529		0.1529	0.1529	0.0000	1,211.7777	1,211.7777	0.0644		1,213.3888

Descanso 2D - South Coast Air Basin, Winter

3.6 Paving - 2032

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
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
Worker	0.0440	0.0204	0.2892	1.3300e-003	0.2012	8.7000e-004	0.2021	0.0534	8.0000e-004	0.0542		132.8535	132.8535	1.8600e-003		132.9001
Total	0.0440	0.0204	0.2892	1.3300e-003	0.2012	8.7000e-004	0.2021	0.0534	8.0000e-004	0.0542		132.8535	132.8535	1.8600e-003		132.9001

3.7 Architectural Coating - 2032

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	9.6890					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	9.8198	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328

Descanso 2D - South Coast Air Basin, Winter

3.7 Architectural Coating - 2032

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
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
Worker	2.4500e-003	1.1300e-003	0.0161	7.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	4.0000e-005	3.0100e-003		7.3808	7.3808	1.0000e-004		7.3833
Total	2.4500e-003	1.1300e-003	0.0161	7.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	4.0000e-005	3.0100e-003		7.3808	7.3808	1.0000e-004		7.3833

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	9.6890					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	9.8198	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328

Descanso 2D - South Coast Air Basin, Winter

3.7 Architectural Coating - 2032

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
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
Worker	2.4500e-003	1.1300e-003	0.0161	7.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	4.0000e-005	3.0100e-003		7.3808	7.3808	1.0000e-004		7.3833
Total	2.4500e-003	1.1300e-003	0.0161	7.0000e-005	0.0112	5.0000e-005	0.0112	2.9600e-003	4.0000e-005	3.0100e-003		7.3808	7.3808	1.0000e-004		7.3833

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Descanso 2D - South Coast Air Basin, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0267	0.1551	0.2928	1.4200e-003	0.1529	8.0000e-004	0.1537	0.0409	7.4000e-004	0.0416		145.7767	145.7767	6.1100e-003		145.9296
Unmitigated	0.0267	0.1551	0.2928	1.4200e-003	0.1529	8.0000e-004	0.1537	0.0409	7.4000e-004	0.0416		145.7767	145.7767	6.1100e-003		145.9296

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	33.33	0.00	0.00	51,388	51,388
Total	33.33	0.00	0.00	51,388	51,388

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
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554504	0.041401	0.206771	0.110778	0.012413	0.005777	0.022517	0.035896	0.002189	0.001441	0.004853	0.000717	0.000741

5.0 Energy Detail

Historical Energy Use: N

Descanso 2D - South Coast Air Basin, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
NaturalGas Unmitigated	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394

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					
Arena	518.305	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
Total		5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394

Descanso 2D - South Coast Air Basin, Winter

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					
Arena	0.518305	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394
Total		5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9770	60.9770	1.1700e-003	1.1200e-003	61.3394

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Descanso 2D - South Coast Air Basin, Winter

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	0.0266					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2070					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.0266					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2070					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	0.2335	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

Descanso 2D - South Coast Air Basin, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

Equipment Type	Number
----------------	--------

11.0 Vegetation

Appendix 8

Biological Resources Technical Report

DESCANSO GARDENS MASTER PLAN
BIOLOGICAL RESOURCES TECHNICAL REPORT

PREPARED FOR:

COUNTY OF LOS ANGELES DEPARTMENT OF PARKS AND RECREATION
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OCTOBER 2, 2019

SECTION ES

EXECUTIVE SUMMARY

This Biological Resource Technical Report (BRTR) documents the results of an evaluation of the existing conditions associated with the Descanso Gardens Master Plan area as they pertain to sensitive biological resources in accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Presented here is the regulatory framework applicable to the Master Plan area; a characterization of the existing conditions for biological resources in relation to listed and sensitive species, sensitive plant communities, Waters of the United States, migratory corridors and nursery sites, local plans and policies, and Habitat Conservation Plans (HCP) and Natural Community Conservation Plans (NCCP); and conclusions, recommendations, and considerations for the Master Plan area as it pertains to biological resources.

Based on the results of the preliminary evaluation of biological resources conducted by Sapphos Environmental, Inc., the Master Plan area has significant biological resources that could pose constraints to future activities; however, the Descanso Gardens Guild's mission of stewardship—cultivating an understanding of the natural world through inspiration, education and example—offers unique opportunities for stewardship of biological resources while still allowing visitors a close experience to nature.

Listed, Sensitive, and Locally Important Species

Listed, sensitive, and locally important plant and wildlife species are present within the Master Plan area. Opportunities for management of non-native plant and animal species within the Master Plan could encourage native populations to increase and create more suitable habitat within the Master Plan area.

Riparian and State Sensitive Plant Communities

No state sensitive plant communities are present within the Master Plan area. Riparian habitat is present around The Lake, and adoption of the Master Plan could increase the quality of this riparian habitat through restoration and stewardship consistent with Descanso Gardens' mission and goals.

Federally Protected Wetlands and Waterways

Wetlands and waterways that have the potential to be federally and state-protected are present within the Master Plan area. The Master Plan seeks to improve the water quality, habitat value, and aesthetics of the waterways within the Master Plan area while also ensuring wise water use.

Migratory Corridors and Nursery Sites

The Master Plan area is located within the San Rafael Hills, a pocket of native open space in an otherwise urbanized surrounding. No wildlife movement corridors or native wildlife nursery sites have been recorded in the area. However, the Master Plan area does contain suitable nesting habitat for a variety of bird species as well as areas suitable for bat roosting and foraging. Within the Master Plan area, maintained and natural areas alike create a refuge for native plants and animals.

Habitat Conservation Plans and Natural Community Conservation Plans

The National Park Service has included the Master Plan area in its proposed boundary adjustment for the Santa Monica Mountains National Recreation Area as a result of the 2016 Rim of the Valley Corridor Special Resource Study, which provides a potential opportunity for cooperative conservation efforts with the National Park Service towards enhancing and maintaining habitat connectivity and protecting significant resources.

Oak and Native Woodlands and General Plans and Policies

Oak and other native woodlands are present throughout the Master Plan area. The Master Plan will seek to ensure the continued protection and stewardship of these woodlands. It is anticipated that the Master Plan would not conflict with any local policies or ordinances protecting biological resources. The application of these plans and policies to the Master Plan would accomplish the objectives within these plans of minimizing impacts to the natural environment. Any future Master Plan projects should be designed to avoid the removal or disturbance of any protected oak trees and would be required to comply with the Los Angeles County Oak Tree Removal Permit and La Canada Flintridge Municipal code application process should tree removal be necessary, including mandatory replacement of any protected oak trees. There are no HCPs or NCCPs with boundaries that intersect the Master Plan area. The Master Plan area provides opportunities for citizen science, research, and education about urban nature and wildlife.

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SECTION 1.0 INTRODUCTION

This Biological Resource Technical Report (BRTR) has been prepared for the County of Los Angeles (County) Department of Parks and Recreation (DPR) in support of the development of the Descanso Gardens Master Plan, located in the City of La Canada Flintridge, Los Angeles County, California. This BRTR documents the methods and results of an evaluation of biological resources in support of an opportunities/constraints analysis for the Descanso Gardens Master Plan Area.

1.1. CEQA COMPLIANCE

DPR proposes to adopt a comprehensive 15-year Master Plan (proposed project) to guide the development of Descanso Gardens between 2020 and 2035. The proposed project would ultimately result in the construction of improvement projects on public lands, some of which may involve the expenditure of public funds, and thus constitutes a project pursuant to the California Environmental Quality Act (CEQA). Descanso Gardens is owned by the County who is the Lead Agency pursuant to CEQA.

1.2. PURPOSE

This BRTR documents the methods and results of an evaluation of biological resources: (1) to provide information regarding biological resources to inform the Master Plan planning process; and (2) to provide the substantial evidence required with respect to biological resources for consideration of the potential for environmental effects under CEQA. The BRTR supports the planning process by providing information regarding sensitive biological resources that need to be protected direct impacts to individuals of a species or indirect impacts, such as loss of natural habitat for special status species. Furthermore, the BRTR provides information in relation to the biological resource areas identified in Appendix G of the State CEQA Guidelines.

1.3. INTENDED AUDIENCE

This BRTR provides information for consideration by DPR, Descanso Gardens, and the design team, led by Rios Clementi Hale Studios, engaged in the development of the Master Plan. The substantial evidence will be available for the responsible and trustee agencies, and the public during circulation of the draft environmental document for public review. Ultimately, the BRTR will be used by the County Board of Supervisors to support their decision-making process related to the proposed project. The BRTR will also inform the County and private parties in the ultimate development, operation, and maintenance of individual projects in the Master Plan area.

1.4. SCOPE

This assessment is based on literature and database review to determine rare and threatened species, as well as locally important species that have the potential to be present within or adjacent to the project area, state-designated sensitive habitats, wetlands and other Waters of the United States, migratory corridors, resources afforded additional protection pursuant to the County General Plan 2035, and Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) areas.

1.5. SOURCES OF RELEVANT INFORMATION

Information used in the preparation of this BRTR was derived from the California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS), National Wetlands Inventory (NWI) database, California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), County 2035 General Plan, and California Regional Conservation Plans. Sources of relevant information are cited in footnotes and compiled in Section 6.0, *References*. Additionally, Sapphos Environmental, Inc. biologists conducted surveys of the Master Plan area in the fall of 2018 (November 27–29, 2018) and spring of 2019 (April 17 and 19, 2019) to determine the presence of special status species, potential suitable habitat, presence of sensitive communities and to map habitat types.

1.6. WORKING DEFINITIONS

There are a number of technical terms used in the characterization of baseline conditions and assessment of the potential for the project to affect biological resources.

Federal Wetlands are defined by the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) as: “Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”¹

Federally Listed Species are those provided with special legal protection under the federal Endangered Species Act (ESA). A federally listed endangered species is a species that is in danger of extinction throughout all, or a significant portion, of its range. A federally threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal government for listing as endangered or threatened.

Habitat Conservation Plans are required by the USFWS as part of an application for an incidental “take” permit for species listed pursuant to the federal ESA. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded.

Natural Community Conservation Plans are defined by CDFW as plans for the conservation of natural communities that identify and provide for the regional or area-wide protection and perpetuation of plants, animals, and their habitats.

Nursery Sites are considered habitat in which native wildlife may establish nests, maternity roosts, dens, or otherwise engage in breeding and/or the rearing of offspring.

Sensitive Plant Communities are native plant communities listed on the CDFW Natural Communities List as being rare within California or threatened by human actions.

Sensitive Species are those not listed by the state government as endangered, threatened, or candidate species but categorized by the state as a species of special concern or fully protected species. A California species of special concern is defined by the CDFW as being a wildlife species

¹ U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*. Vicksburg, MS.

that has declining population levels, a limited range, and/or continuing threats that have made it vulnerable to extinction. For the purpose of this BRTR, those plant species recognized by the CNPS are considered sensitive species (Rare Plant Rank 1A, 1B, 2A, 2B, 3, or 4).² This designation also includes those species listed on the California Special Animals list that are not otherwise covered by other regulations.³ It also includes species afforded protection by the County General Plan, such as some native oak trees.

Special Status Species are those afforded special recognition by federal, state, and/or local resource agencies or jurisdictions, or recognized resource conservation organizations. Special status plant and wildlife species include those federally listed or state listed as endangered, threatened, or candidate species pursuant to the federal ESA, the California ESA, or other regulations enforced by a federal or state agency (such as the Bureau of Land Management [BLM] or U.S. Forest Service [USFS]); or those considered by the scientific community to be rare. For this BRTR, special status species include listed, sensitive, and locally important species.

Species of Special Concern are species, subspecies, or distinct population of an animal (bird, mammal, fish, reptile, and amphibian) native to California that currently satisfies one or more of the following criteria: (1) is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role; (2) is listed as federally, but not State-, threatened or endangered; (3) meets the State definition of threatened or endangered but has not formally been listed; (4) is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; (5) has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

State Wetlands/Streams are defined by the California Fish and Game Code. A “stream” is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. “Wetlands” are defined as areas having riparian vegetation, without regard to wetland vegetation, soils, or hydrology.

State-listed Species are those provided with special legal protection under the California ESA. A state-listed endangered species is a species that is in danger of extinction throughout all, or a significant portion, of its range. A state-listed threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal or state government for listing as endangered or threatened.

Waters of the United States are defined as surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters. On April 21, 2014, the EPA proposed to refine the definition of Waters of the United States to include all tributaries of traditional navigable waters, interstate waters, territorial seas, and impoundments of such tributaries; wetlands adjacent to the foregoing; and waters other than wetlands that are adjacent to other jurisdictional waters.⁶

² California Native Plant Society (CNPS). 2014. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Available at: <http://www.rareplants.cnps.org>

³ California Department of Fish and Game, Biogeographic Data Branch. Accessed November 2018 and April 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Database. Sacramento, CA.

⁶ *Federal Register*. Vol. 79, No. 76, Monday April 21, 2014. Proposed Rules. Available at: <http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf>

Wildlife Movement Corridors are characterized as areas of habitat that are used by wildlife for the purpose of moving between locations.

SECTION 2.0

PROJECT DESCRIPTION

2.1. PROJECT LOCATION

Descanso Gardens is an approximately 149-acre property (139 acres owned by the County), jointly operated by the County DPR and the nonprofit 501 (c) (3) Descanso Gardens Guild, Inc., and located within the corporate boundary of the City of La Canada Flintridge at 1418 Descanso Drive, La Canada Flintridge, California 91011 (Figure 2-1, *Regional Vicinity Map*). Approximately 10 acres of the property, including the picnic area and portions of the Main Lawn, are part of a utility corridor that passes through the recreational facility and is owned by Southern California Edison (SCE). The Descanso Gardens property is roughly bound to the north by Verdugo Hills Hospital, single-family residences, and Descanso Drive; to the east by single-family residences along Encinas Drive; and to the south and west by a ridgeline traversed by Descanso Motorway (designated as the Descanso Trail in the City of La Canada Flintridge Trails Master Plan) and Flint Canyon Trail. The Master Plan area is traversed by the Winery Canyon Channel, a flood control channel managed by the County Department of Public Works, and SCE's utility corridor (Figure 2-2, *Local Vicinity Map*).

2.2. STUDY AREA

The Master Plan area appears on the U.S. Geological Survey (USGS) 7.5-minute series Pasadena topographic quadrangle located in the center of Township 1 N, Range 13 W, Section 2 (Figure 2-3, *Topographic Map with USGS 7.5-Minute Quadrangle Index*). The Master Plan area is generally concave, sloping down from west to east with the elevation ranging from 554.736 meters above mean sea level (MSL) at the southern property boundary near the Descanso Motorway trail, to 381.305 meters above MSL at the eastern property boundary near Winery Canyon Channel.

The scope of structures, buildings, and gardens currently within the Master Plan area includes the Boddy House (circa 1939) and Boddy Lodge constructed for "Rancho del Descanso" property owner E. Manchester Boddy before he sold the property to the County of Los Angeles in 1953, the Gardens' signature camellia collection (circa 1942), a native garden developed in collaboration with Theodore Payne with two shade structures (1959), a Japanese-style stroll garden and teahouse (1966), a complex of buildings at the Gardens' entrance (1982), a 5-acre Rose Garden with event pavilion and gazebo (1994), the Enchanted Railroad (a one-eighth scale replica of a diesel train), the Harvest Garden and Nature's Table edible gardens, the Sturt Haaga Gallery renovation to the Boddy Garage (2011), the Oak Woodland garden (2014), the periodically updated Promenade and Center Circle, a septic system, the Ancient Forest garden (2015), and a Bird Observation Station (dedicated by the San Fernando Audubon Society in 1961 and revitalized in 2017).^{7,8,9,10,11}

⁷ Descanso Gardens Guild. "Descanso Gardens: Our History." Accessed December 5, 2018. Available at: <https://www.descansogardens.org/about/history/>

⁸ Descanso Gardens Guild. "Descanso Gardens: What to See and Do." Accessed December 5, 2018. Available at: <https://www.descansogardens.org/visit/what-to-see-and-do/>

⁹ Descanso Gardens Guild. "Descanso Gardens: Gardens." Accessed December 5, 2018. Available at: <https://www.descansogardens.org/visit/gardens/>

¹⁰ Descanso Gardens Guild. "Descanso Gardens: Revitalizing the Lakeside Lookout." Accessed December 5, 2018. Available at: <https://www.descansogardens.org/visit/habitat/lake/>

¹¹ Hemmerlein, Sandi. KCET. 13 July 2017. *History and Society: A Guide to Five Hidden Treasures at Descanso Gardens*. Available at: <https://www.kcet.org/shows/lost-la/a-guide-to-five-hidden-treasures-at-descanso-gardens>

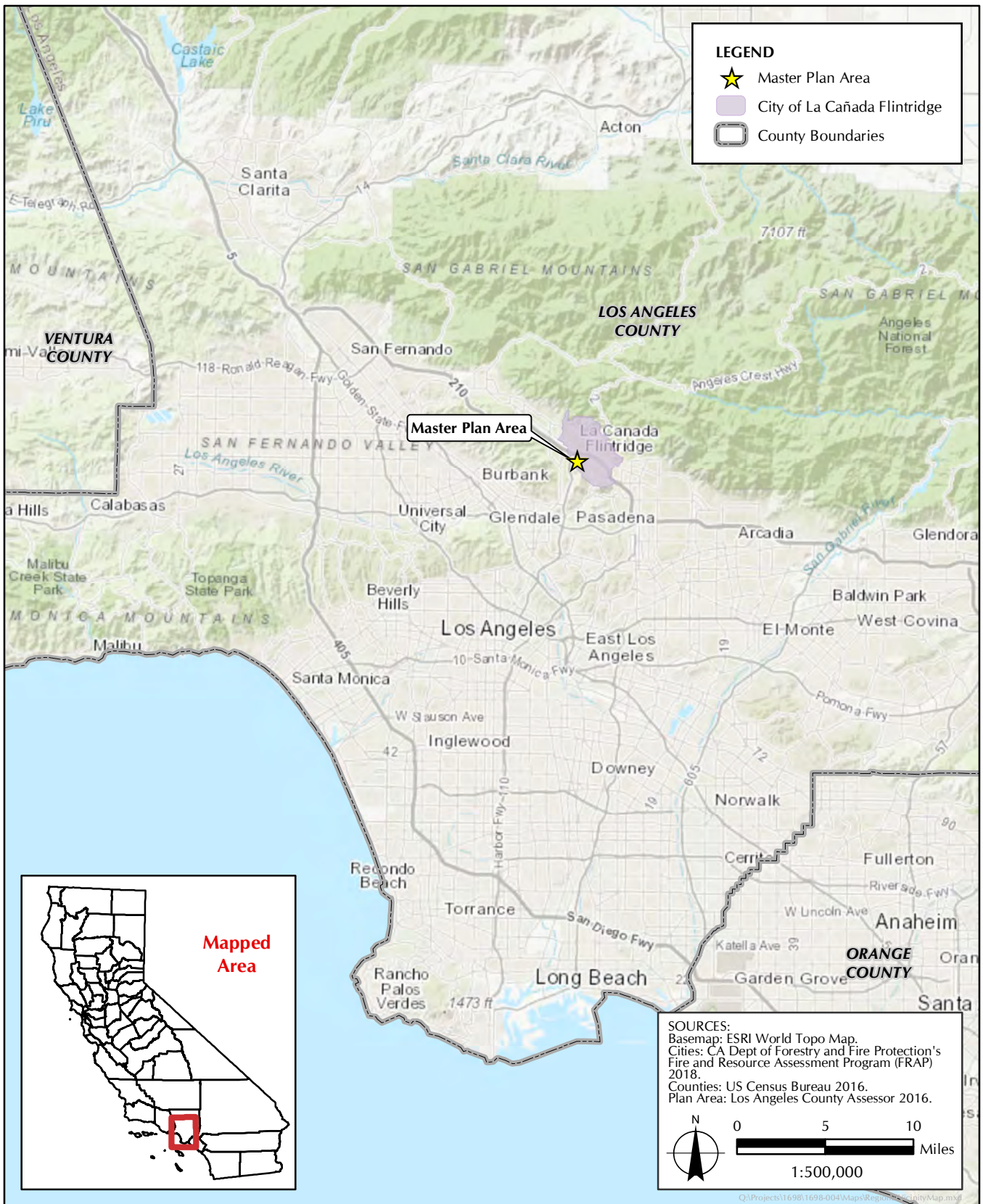


FIGURE 2-1
 Regional Vicinity Map

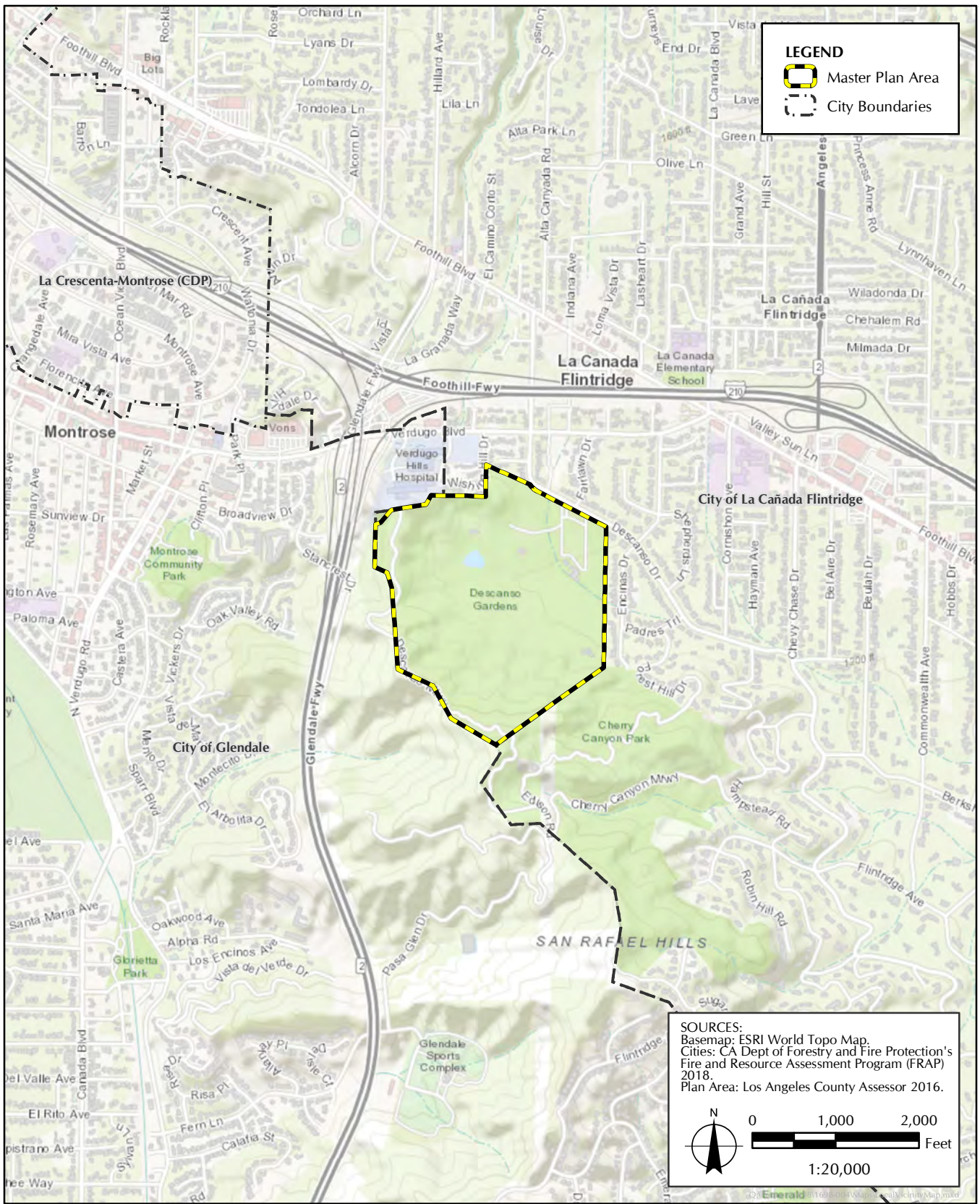


FIGURE 2-2
 Local Vicinity Map

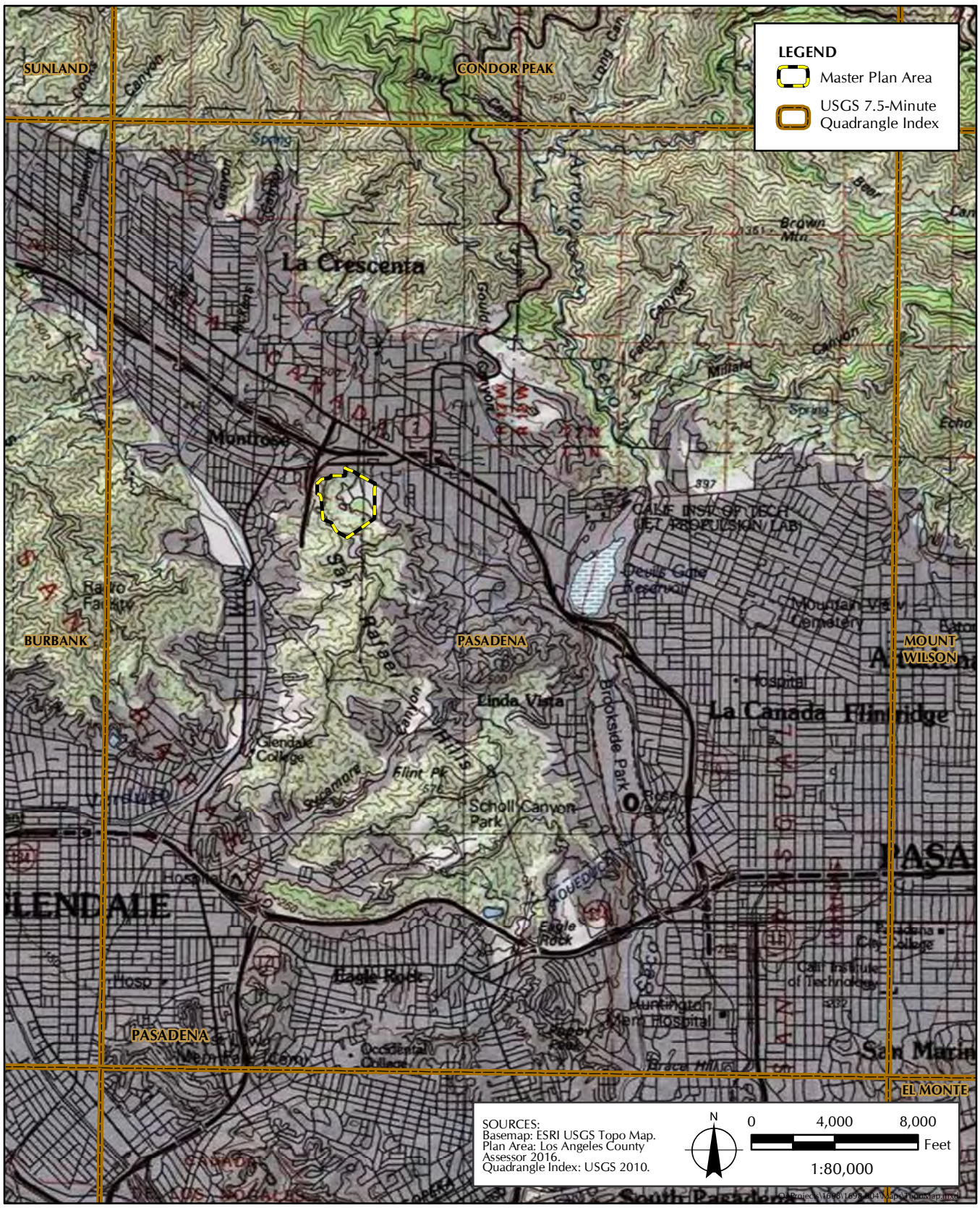


FIGURE 2-3

Topographic Map with USGS 7.5-Minute Quadrangle Index

Descanso Gardens is accredited by the American Association of Museums as a museum of living collections, with nationally recognized botanical collections including camellias, California native plants, roses, and one of the few existing oak woodlands in greater Los Angeles.

2.3. PROJECT DESCRIPTION

The Descanso Gardens Guild is seeking to prepare a 15-year Master Plan and supporting environmental analysis to support the decision-making process to be undertaken by the County, in their role as the Lead Agency pursuant to CEQA for consideration of the Descanso Gardens Master Plan for approval. The Master Plan will build upon past planning efforts and guide the Gardens' development over the next 15 years, consistent with Descanso Gardens' mission and the five goals established in the Descanso Gardens Strategic Plan 2018–2020:¹²

***Mission:** Descanso Gardens is a unique Southern California landscape distinguished by its specialized botanic collections, historical significance, and rare natural beauty. Their mission is to practice exemplary stewardship of Descanso's distinctive character and assets; offer people an experience close to nature; and cultivate understanding of the natural world and people's place in it through inspiration, education and example.*

Descanso Gardens Strategic Plan 2018–2020 Goals:

- **Goal 1:** Create fulfilling, “close to nature” experiences for our guests that encourage engagement with Descanso's unique landscape and botanical collections.
- **Goal 2:** Display, maintain, and enhance our collections in ways that protect our assets and consider the needs and interests of a growing and diverse set of guests.
- **Goal 3:** Engage in planning and fundraising necessary to sustain operations and invest in major garden improvement projects.
- **Goal 4:** Establish the Gardens as an important community resource for understanding nature in Los Angeles and people's relationship to natural spaces.
- **Goal 5:** Strengthen our infrastructure and organization.

The goals and objectives of the Master Plan have also been developed in consideration of regulations, planning documents, agreements, and ordinances including the Public Park Preservation Act of 1971 (Descanso Gardens is a public garden),¹³ the Americans with Disabilities Act (ADA) of 1990 (Descanso Gardens is open to the general public),¹⁴ the Parks and Recreation Element of the County General Plan 2035 (Descanso Gardens is classified as a regional recreational special use facility [botanical garden]),¹⁵ the County's current operating agreement with the Descanso Gardens

¹² Descanso Gardens Guild. 2018. Descanso Gardens Strategic Plan 2018–2020.

¹³ State of California. *Public Resources Code, Division 5, Chapter 2.5: Preservation of Public Parks*. Accessed September 25, 2019. Available at: https://leginfo.ca.gov/faces/codes_displayText.xhtml?lawCode=PRC&division=5.&title=&part=&chapter=2.5.&article=

¹⁴ U.S. Department of Labor. *Americans with Disabilities Act*. Accessed September 25, 2019. Available at: <https://www.dol.gov/general/topic/disability/ada>

¹⁵ Los Angeles County Department of Regional Planning. Adopted October 6, 2015. “Chapter 10: Parks and Recreation Element.” *Los Angeles County General Plan 2035*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

Guild, the National Historic Preservation Act of 1966,¹⁶ California Public Resources Code Section 5020-5029.6 (Historic Resources),¹⁷ the County's Historic Preservation Ordinance No. 2015-0033,¹⁸ the County's Low Impact Development Standards Ordinance No. 2008-0063,¹⁹ the County's Hillside Management Area (HMA) Ordinance,²⁰ and the County's Tree Planting Ordinance No. 2016-0016.²¹

Master Plan Goals

Six goals relate to the proposed project:

1. World-Class Collections: Preserve Descanso Gardens' unique landscape and botanical collections by enhancing horticultural operations and engaging framing and displays.
2. Seamless Visitor Experience: Create a seamless visitor experience through improved amenities and circulation.
3. Exemplary Stewardship: Protect and enhance Descanso's natural assets through ecological restoration, water conservation, and habitat considerations.
4. Resilient Infrastructure: Enhance the long-term resilience of Descanso by optimizing botanical relationships and reducing off-site dependency of water and energy.
5. Revealing Stories: Celebrate the rich cultural and ecological assets through meaningful storytelling.
6. Operational Excellence: Create streamlined operations to enable a more efficient and productive team.

Master Plan Objectives

There are 14 objectives that are important to achieving the proposed project goals:

1. Improve the overall function of operations and maintenance of the property consistent with the mission of Descanso, 2014 operating agreement with the County, and goals identified in the Descanso Gardens Strategic Plan 2018-2020.
2. Continue to provide horticultural curation as a botanic garden.
3. Provide ADA access to all existing destinations at Descanso Gardens.
4. Retain the historical significance of the two nominated Historic Districts and eligible contributing elements at Descanso Gardens, including five protected heritage oak trees.

¹⁶ Department of Homeland Security, FEMA. Amended 2000. *National Historic Preservation Act of 1966*. Available at: <https://www.fema.gov/media-library/assets/documents/12524>

¹⁷ State of California. *Public Resources Code, Division 5, Chapter 1, Article 2: Historic Resources*. Accessed September 25, 2019. Available at: http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PRC&division=5.&title=&part=&chapter=1.&article=2.

¹⁸ Los Angeles County Department of Regional Planning. Adopted September 1, 2015. *Historic Preservation Ordinance*. Available at: <http://planning.lacounty.gov/preservation/ordinance>

¹⁹ Los Angeles County Department of Regional Planning. Effective January 1, 2009. *Ordinance No. 2008-0063: Low Impact Development Standards*. Available at: http://planning.lacounty.gov/view/green_building_program

²⁰ Los Angeles County Department of Regional Planning. Effective November 5, 2015. *Hillside Management Area (HMA) Ordinance*. Available at: <http://planning.lacounty.gov/hma>

²¹ Los Angeles County Department of Regional Planning. Adopted March 29, 2016. *Ordinance No. 2016-0016: Tree Planting Ordinance*. Available at: <http://planning.lacounty.gov/tree>

5. Reduce per capita consumption of water through lake improvements (storage), stormwater capture, improved irrigation efficiency, and wastewater recycling.
6. Provide a minimum of 750 vehicular parking spaces, 5 bus parking spaces, and one drop-off location.
7. Enhance the ecological function of the property.
8. Improve educational opportunities at the gardens regarding gardening, ecology, and hydrology.
9. Maintain a nursery climate above freezing to facilitate on-site plant propagation.
10. Provide lighting and power access to enable nighttime events.
11. Provide adequate restrooms to support visitors along major circulation paths.
12. Avoid or minimize environmental impacts.
13. Develop a strategy to implement and maintain projects identified within the Master Plan.
14. Develop a plan consistent with relevant County plans and policies.

Master Plan Strategies and Tactics

The proposed project is discussed in consideration of circulation, gardens, and the built environment as they relate to the existing conditions of the Master Plan area and the four overarching master plan strategies & tactics for the proposed Master Plan:

1. A New Circulation Framework to improve wayfinding, create gateway moments at garden thresholds, and increase accessibility.
2. Activating the Gardens with new and improved gardens and facilities to create new experiences and lasting activation of the gardens.
3. Weaving Water and Ecology to intersect the site's water and ecology with the gardens and circulation in celebratory, educational, and performative ways.
4. Organizing Operations with new buildings, structures, and infrastructure to create new efficiencies in garden operations and vehicular circulation.

Within each of these four categories are various project elements. The table below (Tables 2-1A–D, *Project Elements and Impacts*) provides a summary of these proposed projects, potential impacts and the significance of those impacts to biological resources. General maps of these proposed project can be found in Figure 2-4.1, *New and Improved Gardens and Facilities*; Figure 2-4.2, *New Circulation Framework*; and Figure 2-4.3, *Existing Paths to be Removed, Existing Paths to Remain or be Resurfaced, and New Paths*.

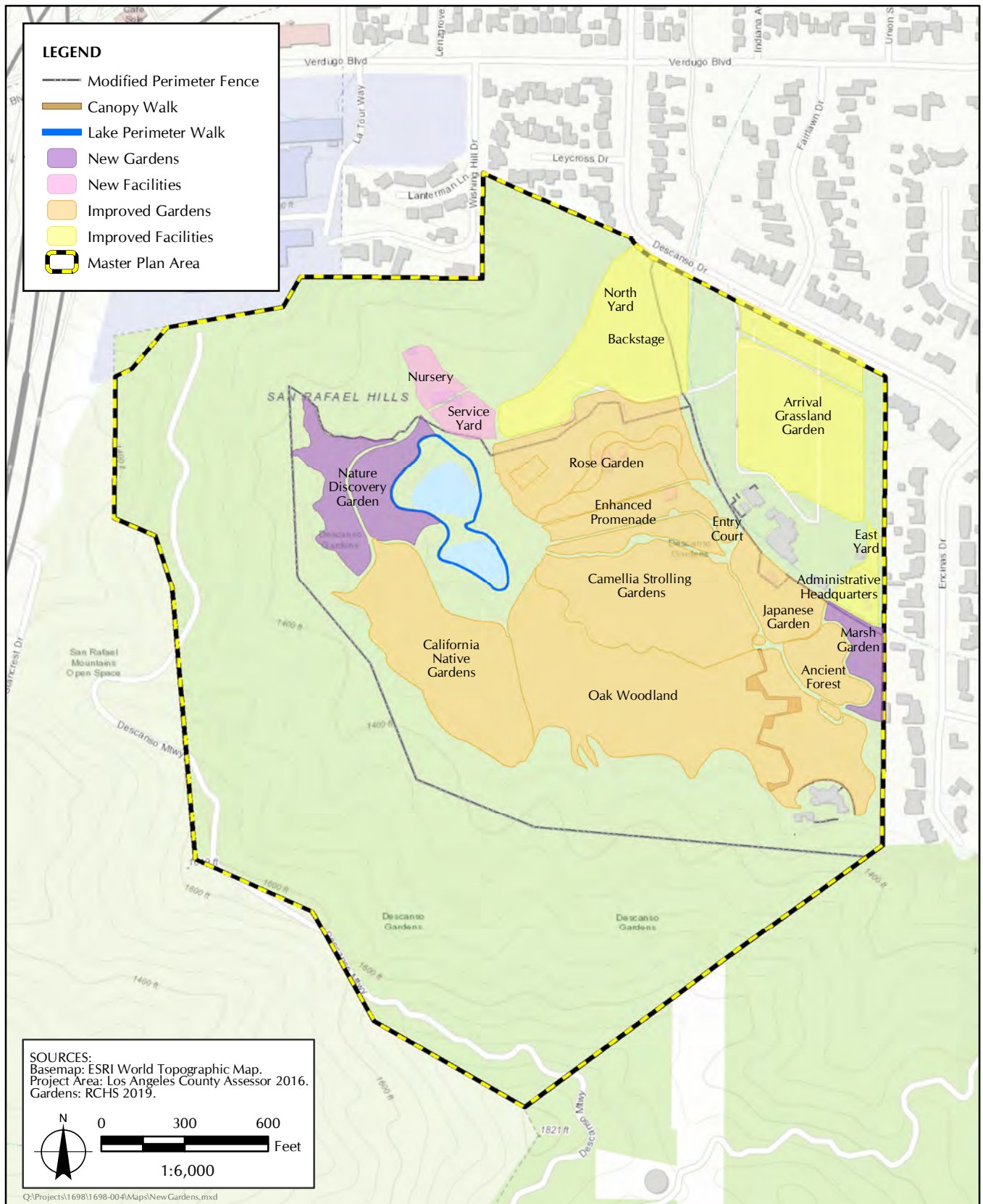


FIGURE 2-4.1
 New and Improved Gardens and Facilities

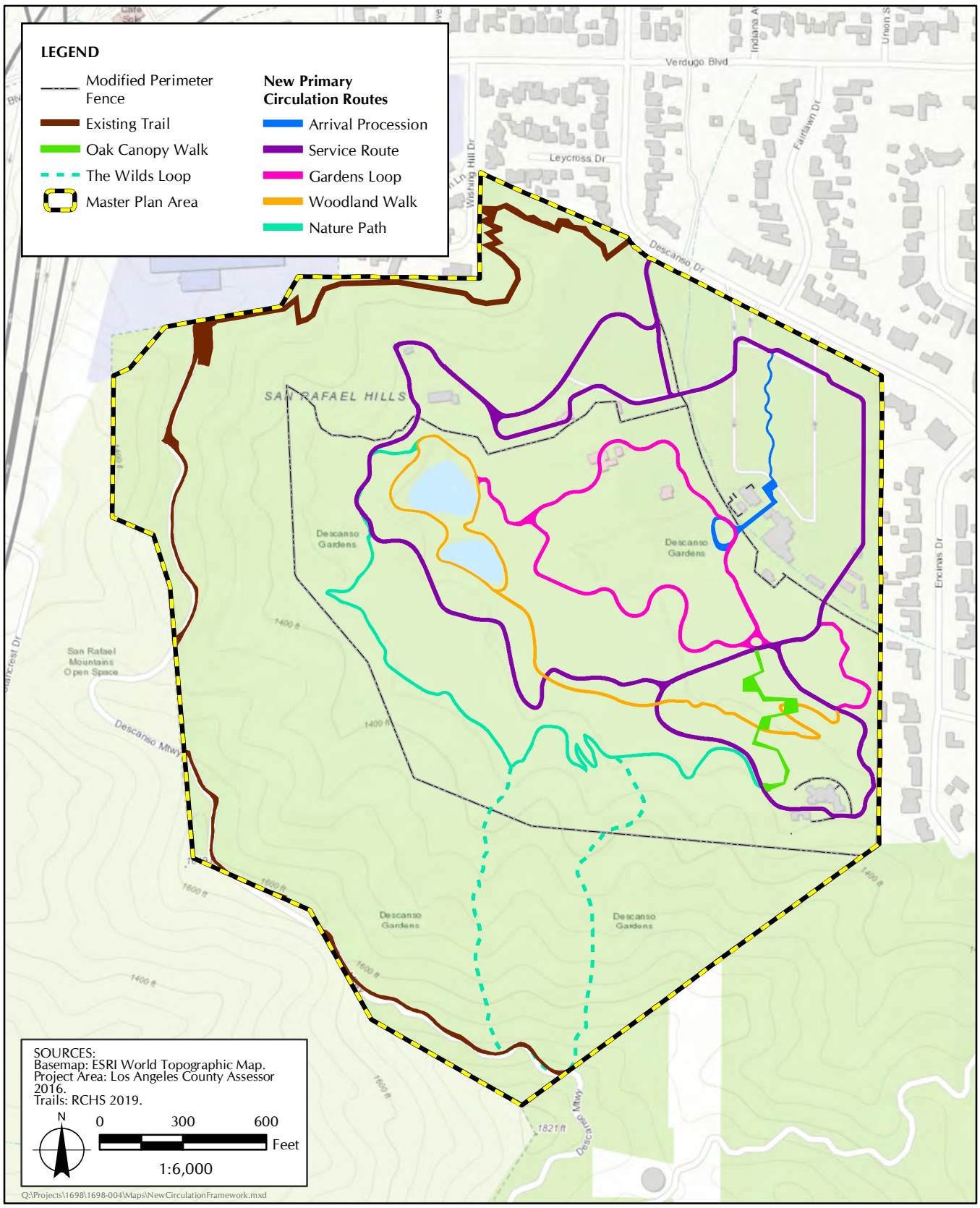


FIGURE 2-4.2
 New Circulation Framework

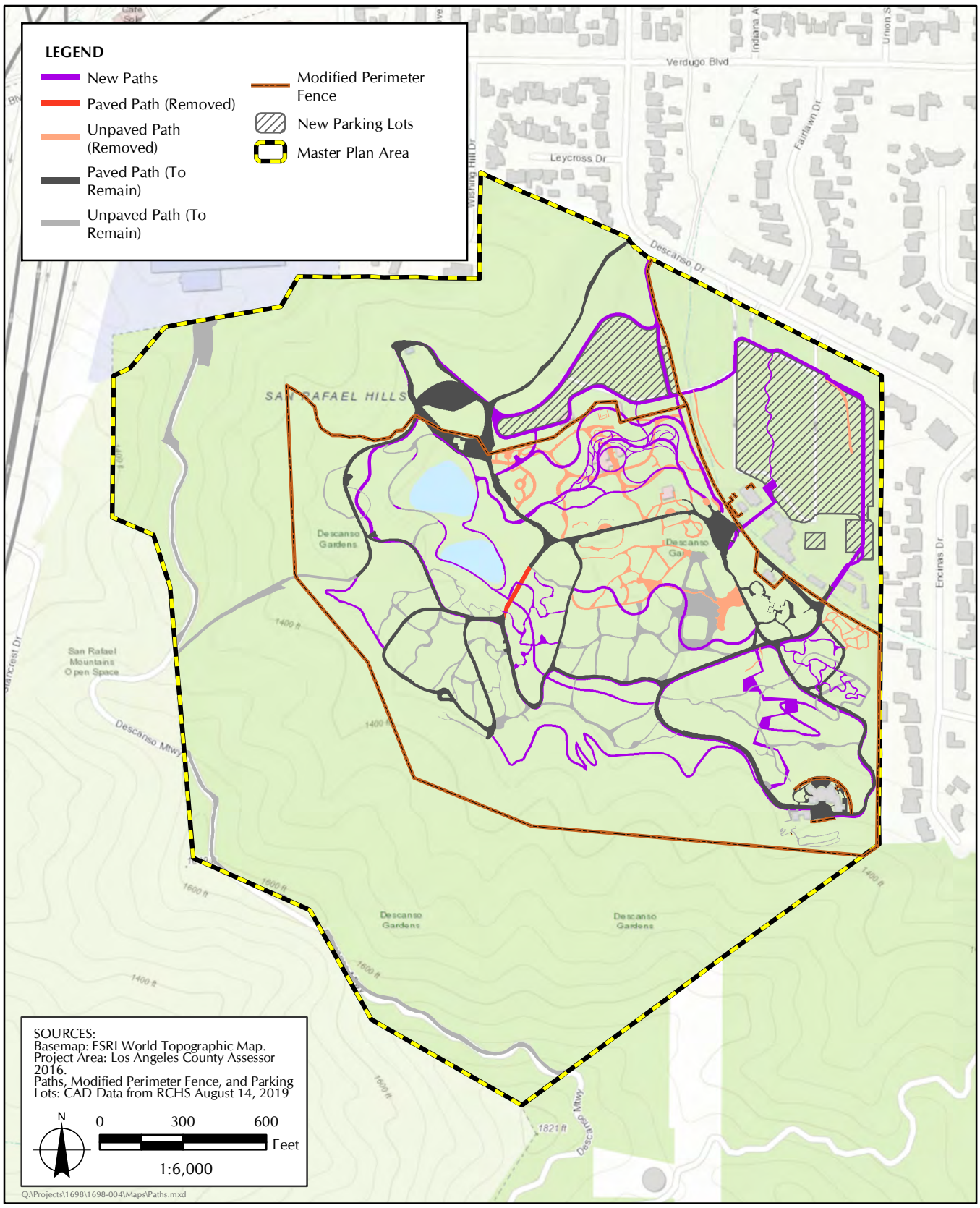


FIGURE 2-4.3
 Existing Paths to be Removed, Existing Paths to Remain or be Resurfaced, and New Paths

**TABLE 2-1A
PROJECT ELEMENTS AND IMPACTS: A NEW CIRCULATION FRAMEWORK**

Project	Summary	Potential Impacts	Level of Significance
Arrival Procession (Blue route)	Approximately 0.2 mile long. Through the paved Main Parking Lot to the front entrance. Includes a new decorative paved path and a new series of bridges over bioswales and new trees for shade.	<ul style="list-style-type: none"> No impact to existing natural habitat NBS* for construction within nesting bird season.** Installation of bioswales offer a potential benefit by adding vegetation to a previously barren area. 	Not significant with implementation of Mitigation Measures
Gardens Loop (Pink route)	Approximately 0.8 mile long. This route runs through the developed portions of the gardens and composed of primarily new unpaved paths, with the exception of the existing paved paths at the western end of the Promenade, between the Oak Grove and the Camellia Forest – West, and between the Main Lawn and Japanese Garden.	<ul style="list-style-type: none"> Heavy equipment used for construction of new paths could cause an impact to nesting birds within the garden. NBS for construction within nesting bird season 	Not significant with implementation of Mitigation Measures
Woodland Walk (Orange route)	Approximately 0.7 mile long. This route is through the developed portions of the gardens. The Woodland Walk would be composed primarily new unpaved paths, except for the existing unpaved paths in the Oak Woodland and an existing unpaved path in the Camellia Forest – East.	<ul style="list-style-type: none"> NBS for construction within nesting bird season Direct impact to oak trees through removal or trimming for construction 	Not significant with implementation of Mitigation Measures Design of route can avoid impacts to oaks
Nature Walk (Teal route)	Approximately 0.6 to 1.3 miles long. The Nature Walk would be composed of primarily new unpaved paths and the Elevated Oak Canopy Walk, except for the existing paved paths in the Oak Woodland and California Garden. The Nature Walk includes the optional The Wilds (Chaparral) & Wilds Loop past the existing fence line to the south.	<ul style="list-style-type: none"> NBS for construction within nesting bird season Direct impact to oak trees through removal or trimming for construction 	Not significant with implementation of Mitigation Measures
The Wilds Loop Extension	The Wilds Loop would be 0.5 mile long, composed of a 4- to 5-foot-wide natural	<ul style="list-style-type: none"> Construction of trail will impact natural habitat 	Not significant with implementation of

**TABLE 2-1A
PROJECT ELEMENTS AND IMPACTS: A NEW CIRCULATION FRAMEWORK, *Continued***

Project	Summary	Potential Impacts	Level of Significance
(Teal route)	trail with wood decking (over arroyo crossings) would provide an opportunity for visitors to explore the Master Plan Area beyond the existing fence line. The Wilds Loop would lead along a ridgeline to a new security gate, then to an Overlook area with seating at the connection point to the existing public Descanso Loop hiking trail.	<ul style="list-style-type: none"> • NBS for construction within nesting bird season • Trail will increase interaction between people and wildlife 	Mitigation Measures
Elevated Oak Canopy Walk (Green Route)	This 0.2-mile route would provide an opportunity to visitors to walk on an elevated structure under the tree canopies between the Garden Loop and the Nature Path and paved western driveway near the Boddy House. This elevated walk would be ADA accessible.	<ul style="list-style-type: none"> • Direct impact to oak trees through removal or trimming for construction Birds and Bats during construction 	Not significant with implementation of Mitigation Measures
Service Route (Purple route)	This 20-foot wide asphalt road would use the existing asphalt circulation as much as possible to provide a loop for vehicular access. New paved paths would be developed along the new road to clarify the vehicle hierarchy of the Service Route. The eastern driveway leading to the Boddy House would be widened and regraded to a minimum 20-foot width in order to provide adequate fire/emergency access.	<ul style="list-style-type: none"> • Direct impact to oak trees through removal or trimming • NBS for construction within nesting bird season 	Not significant with implementation of Mitigation Measures
<p>NOTE: *NBS = Nesting Bird Survey ** Nesting season generally occurs between February 15 and September 1.</p>			

The proposed project would include the development of two new gardens (plus a new nursery and storage yard), one new temporary overflow parking area, major improvements to several existing gardens, and improvements to the entrance complex and the two existing parking lots.

**TABLE 2-1B
PROJECT ELEMENTS AND IMPACTS: ACTIVATING THE GARDENS**

Project	Summary	Impacts	Level of Significance
New and Improved Gardens			
Marsh Garden	The existing Lilac Garden would be replaced along the Promenade, and the area would be repurposed as a stormwater detention garden, capturing water from Winery Canyon Channel for lake refill and irrigation. The water treatment wetland would function as a stormwater detention garden and provide an opportunity for ecological interpretive exhibits.	<ul style="list-style-type: none"> • No impact to existing natural habitat • NBS for construction within nesting bird season 	<p>Not significant with implementation of Mitigation Measures.</p> <p>Potential to create new habitat for species (i.e. bat foraging).</p>
Nature Discovery Garden	The Harvest Garden (including an outdoor kitchen, restroom, and learning pavilion) would be relocated from the eastern edge of the property to west of the Boddy Lodge. The northern portion of the Oak Woodland would become Outdoor Classrooms & Junior Ranger Stations, an Interpretive & Interactive Water Zone would be installed along the northwestern edge of the Lake, and a Get Dirty & Active Zone would extend beyond the Oak Woodland.	<ul style="list-style-type: none"> • NBS for construction within nesting bird season • Water Zone potential impact to lake though disturbance of sediments that flow downstream. 	Not significant with implementation of Mitigation Measures.
Major Improvements to Gardens and Facilities			
Main Parking Lot	<i>Arrival Grassland Garden</i> The Main Parking Lot would be redesigned and expanded to provide a new arrival garden between the reconfigured rows of parking stalls Expansion from 428 to 506 parking stalls.	<ul style="list-style-type: none"> • No impact to existing natural habitat • NBS for construction within nesting bird season • Bioswales are potential benefit 	Not significant with implementation of Mitigation Measures.
Entrance Visitor Center, Courtyard, & Van de Kamp Hall	New queuing plaza and ticket windows for the visitor center The existing Maple Restaurant would be converted to multi-purpose spaces for meetings, Van de Kamp Hall would be developed into an approximately 4,000 square-foot restaurant, and the courtyard	<ul style="list-style-type: none"> • NBS for construction within nesting bird season 	Not significant with implementation of Mitigation Measures.

TABLE 2-1B
PROJECT ELEMENTS AND IMPACTS: ACTIVATING THE GARDENS, *Continued*

Project	Summary	Impacts	Level of Significance
	would be improved and expanded to provide seating on the southwest side of Van de Kamp Hall. The southeastern portion of Van de Kamp Hall would be converted to an enhanced kitchen, near an improved back-of-house and loading area. A Cafe Kiosk or Information Stand would be installed in the western corner of the courtyard to orient visitors before they walk under a new pergola gateway to the ticketed guest entry point.		
Auxiliary Parking Lot Backstage	This project includes an expansion from 146 to 252 parking stalls.	<ul style="list-style-type: none"> • No impacts 	None.
River of Roses, Gathering Lawn, and New	The Rose Garden would be redesigned by consolidating the flower beds and replace the existing Rose Pavilion and cottage with a new approximately 9,200-square-foot Meeting Pavilion and Event Terrace near the western edge of the garden, and consolidating the lawn into a centrally located Gathering Lawn that would accommodate large programs with better access and infrastructure than the existing Main Lawn	<ul style="list-style-type: none"> • NBS for construction within nesting bird season 	Not significant with implementation of Mitigation Measures.
Enhanced Promenade & Entry Court.	The Promenade would be repaved in a straight line to create only linear path to Descanso Gardens. An arrival plaza would replace the center circle, a rotating garden installation would replace the former Nature's Table garden, queuing for the Enchanted Railroad would be shifted from the center of the Promenade to the southeastern edge near the new arrival plaza, the restrooms would be renovated, and the Promenade would become a flexible exhibit grounds that could support temporary exhibits and fairs.	<ul style="list-style-type: none"> • No impacts 	None.
Magnolia Lawn	Train Gathering Lawn	<ul style="list-style-type: none"> • No impacts 	None.
Camellia Stroll Gardens	2,470 camellias in excellent, good, and fair conditions would be consolidated from a 9-acre area to a 3-acre area in development of the Camellia Stroll. A new Camellia Labyrinth would replace the Children's Maze in the Rose Garden. The Under the Oaks Theater would be enhanced and expanded.	<ul style="list-style-type: none"> • If heavy equipment is used to relocated camellias it could cause impacts to oak trees. • Existing camellias that are too close to oak root zones would be transplanted, and the 	Not significant with implementation of Mitigation Measures.

TABLE 2-1B
PROJECT ELEMENTS AND IMPACTS: A NEW CIRCULATION FRAMEWORK, *Continued*

Project	Summary	Impacts	Level of Significance
		oak understory would be restored where camellias have been removed.	
Japanese Garden	Additional lighting would be provided to support evening events in the garden	<ul style="list-style-type: none"> • No impacts 	Not significant with implementation of Mitigation Measures.
Ancient Forest	Ancient Forest Expansion with new specimens to bolster the collection and new pathways to meander through the garden.	<ul style="list-style-type: none"> • NBS for construction within nesting bird season 	Not significant with implementation of Mitigation Measures.
Camellia Forest New Elevated Canopy Walk	Elevated Oak Canopy Walk in the existing Camellia Forest. The existing Camellia Forest – East would provide ADA access to the Boddy House.	<ul style="list-style-type: none"> • Potential impact to nesting and roosting by increasing proximity of human interaction with areas that were previously inaccessible • NBS for construction within nesting bird season 	Not significant with implementation of Mitigation Measures.
	Camellia Strolling Gardens Restored Oak Woodland (see above)	<ul style="list-style-type: none"> • See above 	See above.
California Native Gardens	Native plant collection would be expanded to feature the following native plant communities: <ul style="list-style-type: none"> • California Buckwheat • Chaparral/Shrub Restoration • Shady Southern Woodland • Channel Island • Eriogonum/Artemesia/Sage Collection • Mixed Manzanita Forest • Baja California Collection • Valley Grassland/Open Sage Bank • Redwood Forest Floor and Stream • San Gabriel High Country 	<ul style="list-style-type: none"> • Potential environmental benefit by increasing native plant cover and potential habitat 	None.

TABLE 2-1B
PROJECT ELEMENTS AND IMPACTS: ACTIVATING THE GARDENS, *Continued*

Project	Summary	Impacts	Level of Significance
	Gardens would also feature Climate Change Gardens. Additionally, an Ethnobotanical Garden would be installed near the northeastern portion of the gardens to support interpretive experiences and programming.		
Oak Woodland & Meadow	Existing camellias that are too close to oak root zones would be transplanted into the Camellia Stroll Garden, after which the oak understory would be restored where camellias have been removed. Additionally, the understory of the existing Oak Grove would be replaced with meadow plantings and mowed lawn as secondary circulation. To encourage the long-term health of the oak woodland ecosystem, diverse understory treatments would be planted. An Oak Savannah/Meadow understory would be planted in the more open and sunnier areas featuring perennial grasses, sedges, and flowers. An Oak Woodland/Savanna Ecotone would feature a more natural understory towards The Wilds Loop, featuring taller perennial grass and shrub species. The Oak Woodland understory would be featured in the uppermost and densest areas of the Oak Canopy, leaving the understory to its own devices to encourage the establishment of oak seedlings on either side of the drip line of the oaks.	<ul style="list-style-type: none"> • Encourage long term health of oak woodland • Increase natural biodiversity in understory • NBS for construction within nesting bird season 	Not significant with implementation of Mitigation Measures.
Lake & Surroundings	Lake Perimeter Walk an improved boardwalk circulation would be installed around and across the Lake, and an observation deck would be installed from Boddy Lodge. There would be an opportunity for ecological interpretive exhibits along the improved boardwalk circuit. A water play area would be designated in the northwestern portion of the Lake, the manmade Lake would be relined and regraded to create shallow shelves for planting soil, wetland shelves would be installed along the western and eastern edges of the Lake, a floating wetland would be installed immediately west of the bird observation station (Lakeside Lookout), and a marsh/riparian area would be installed along the southwestern edge of the Lake.	<ul style="list-style-type: none"> • NBS for construction within nesting bird season • Proposed project will permanently alter jurisdictional features and potentially alter existing hydric vegetation that provides habitat for species 	Not significant with implementation of Mitigation Measures.
Oak Woodland	Nature Discovery Gardens	<ul style="list-style-type: none"> • No impacts 	None.
Harvest Garden	Relocated on western side of developed gardens (as part of the new Nature Discovery Gardens)	<ul style="list-style-type: none"> • If relocation done with hand tools no 	None.

TABLE 2-1B
PROJECT ELEMENTS AND IMPACTS: A NEW CIRCULATION FRAMEWORK, *Continued*

Project	Summary	Impacts	Level of Significance
		impacts anticipated	
Undeveloped Area west of Oak Woodland	Nature Discovery Gardens and Irrigation expansion	<ul style="list-style-type: none"> If heavy equipment will be used could cause impacts to existing vegetation NBS for construction within nesting bird season 	Not significant with implementation of Mitigation Measures.
New Facilities			
Temporary Overflow Parking	SCE Utility Corridor near Descanso Drive The decomposed granite path from the existing picnic area would be expanded north to connect to the parking overflow area. This would include ~ 70 new spaces.	<ul style="list-style-type: none"> If expansion done with hand tools or small equipment no impacts anticipated 	None.
Entrance	New Cafe Kiosk or Information Stand New restaurant in Van de Kamp Hall New queuing plaza Relocated walkway from parking lot Courtyard improvements	<ul style="list-style-type: none"> NBS for construction within nesting bird season 	Not significant with implementation of Mitigation Measures.
Undeveloped Area Northwest of Auxiliary Parking Lot	New Nursery would include a shade house and greenhouse in addition to the grounds for plant propagation	<ul style="list-style-type: none"> No impacts 	None.
Undeveloped Area Northwest of Auxiliary Parking Lot	Due to the proposed expanded parking lot the west service yard would be relocated to the west of the Auxiliary Parking Lot.	<ul style="list-style-type: none"> No impacts 	None.
Auxiliary Parking Lot & North Yard	The existing Auxiliary Parking Lot would be reconfigured from 146 existing parking spaces to 252 spaces and trees would be installed between the rows of parking stalls. The North Yard would include space for storage trailers, a shop, and an electric vehicle charging area to support garden operations.	<ul style="list-style-type: none"> See table above 	See table above.
Administrative Trailers / Harvest Garden	(East Yard & Administrative Headquarters Building) New 20,500-square-foot administrative center would replace the five existing administrative office trailers, supported by staff parking, electric	<ul style="list-style-type: none"> NBS for construction within nesting bird season due to 	Not significant with implementation of Mitigation Measures.

TABLE 2-1B
PROJECT ELEMENTS AND IMPACTS: ACTIVATING THE GARDENS, *Continued*

Project	Summary	Impacts	Level of Significance
	vehicle charging stations, a new multipurpose meeting room, and an operations staging area.	proximity to oaks	

TABLE 2-1C
PROJECT ELEMENTS AND IMPACTS: WEAVING WATER AND ECOLOGY

Project	Summary	Impacts	Level of Significance
Wildlife Management	Exclusion fencing around the perimeter of the ticketed entry area would be improved and upgraded to protect the developed garden and would be removed in the undeveloped portions of the property to allow for a wildlife corridor.	<ul style="list-style-type: none"> Physical barrier to deer and other wildlife to garden Removing the existing fencing northwest and north of the ticketed entry area will allow for increased wildlife movement in the San Rafael Hills 	<p>Not significant with implementation of Mitigation Measures.</p> <p>Potential to increase movement in the upper area by removing the fence, decrease the potential for negative interactions within the garden.</p>
Wastewater Management	In Early 2019, the County approved installation of an upgraded septic system, new membrane bioreactor (MBR). The MBR is beyond the scope of the proposed project. After installation of the MBR is completed, five of the six existing bathrooms open to visitors would be upgraded for function and aesthetics, and six new bathrooms would be installed in the developed portions of the gardens.	<ul style="list-style-type: none"> NBS for construction within nesting bird season due to proximity to oaks 	Not significant with implementation of Mitigation Measures.
Water Quality & Quantity Improvements	This project would include stormwater capture and treatment improvements. These features include harvesting stormwater from Winery Creek Channel for treatment in the Marsh Garden, installed wetlands around the Lake edge, a bioswale in the picnic grove, and recirculation of water using pumps from the	<ul style="list-style-type: none"> Potential to enhance the ecological performance of main water features and optimize the lake for stormwater capture for non-potable use 	Not significant with implementation of Mitigation Measures.

**TABLE 2-1C
PROJECT ELEMENTS AND IMPACTS: WEAVING WATER AND ECOLOGY, *Continued***

Project	Summary	Impacts	Level of Significance
	Marsh Garden to the Lake in the winter.		

To refine programs and events at Descanso Gardens, the proposed project would involve upgrades to event centers, the Boddy Lodge & Lake Terrace, the Boddy House & Sturt Haaga Gallery, and Van de Kamp Hall. Event spaces would be re-positioned along the perimeter of the gardens to improve service access for set up and take down and minimize interruption to the general visitors' experience. To refine operations activities at Descanso Gardens, the proposed project would involve upgrades to the existing Visitor Center, five-trailer Administrative Headquarters complex, Nursery & Maintenance Areas, and parking in the Master Plan Area.

**TABLE 2-1D
PROJECT ELEMENTS AND IMPACTS: ORGANIZING OPERATIONS**

Project	Summary	Impacts	Level of Significance
Entrance Complex / Van De Kamp building	The VDK Complex would be remodeled and a kiosk for a pop-up gift store or cafe stand would be installed in the courtyard. Simple aesthetic improvements to gift store and ticket windows.	<ul style="list-style-type: none"> NBS for construction within nesting bird season due to proximity to oaks 	Not significant with implementation of Mitigation Measures
Boddy Lodge	Boddy Lodge <ul style="list-style-type: none"> Convert Boddy Lodge into a catering/prep kitchen for catered events Consider additional infrastructure to enable a pop-up cafe to provide revenue generation on peak days and large programming Provide new potable water connection Upgrade electrical/power service Upgrade existing restroom (for staff) Lake Terrace <ul style="list-style-type: none"> Expand and enhance outdoor area to accommodate small-medium sized private events or public programming Terrace to extend out into lake for immersive lake experience 	Boddy Lodge <ul style="list-style-type: none"> None Lake Terrace <ul style="list-style-type: none"> NBS for construction within nesting bird season due to proximity to potential nesting habitat 	Not significant with implementation of Mitigation Measures

**TABLE 2-1D
PROJECT ELEMENTS AND IMPACTS: ORGANIZING OPERATIONS, *Continued***

Project	Summary	Impacts	Level of Significance
Descanso Creek Features (ponds and waterfall)	The manmade stream would be improved as part of the overall improvements to hydrologic function of the gardens.	<ul style="list-style-type: none"> NBS for construction within nesting bird season due to proximity to potential nesting habitat 	Not significant with implementation of Mitigation Measures
Promenade Comfort Station (restroom)	Replacement with new restroom	<ul style="list-style-type: none"> NBS for construction within nesting bird season due to proximity to potential nesting habitat 	Not significant with implementation of Mitigation Measures
Rose Garden Comfort Station (cottage)	Replacement with new restroom		
Rose Garden Pavilion	Replacement with new pavilion		
Children's Maze	Replacement with a labyrinth in the Camellia Stroll		
Victorian Gazebo	Removal		
Mission Fountain	Removal		
5 Administrative Office Trailers	<p>New Administration Facility</p> <ul style="list-style-type: none"> New administration center to house staff in one centralized location accommodating current and future staffing needs, approx. 20,500 square feet Parking for senior staff, guests and EV cart stations <p>New Service Yard</p> <ul style="list-style-type: none"> New service corridor to the east reduces congestion at pinch point at kitchen loading dock East side service yard for EV maintenance or other maintenance/horticulture staging and storage needs <p>Location of existing horticulture trailer would become multipurpose meeting room</p>	<ul style="list-style-type: none"> NBS for construction within nesting bird season due to proximity to potential nesting habitat 	Not significant with implementation of Mitigation Measures

Construction Scenario will be detailed in an Initial Study.

SECTION 3.0

REGULATORY FRAMEWORK

This regulatory framework identifies the federal, state, and local statutes, ordinances, policies, and guidelines that govern the conservation and protection of biological resources for the proposed project. During the decision-making process, the City of La Canada Flintridge and other regulatory agencies will utilize the regulatory framework discussed in this section to consider the potential for the proposed project to result in significant impacts to biological resources.

3.1. FEDERAL

Federal Endangered Species Act

The federal ESA defines listed species as “endangered” or “threatened” and provides regulatory protection for listed species. The federal ESA provides a program for conservation and recovery of threatened and endangered species; it also ensures the conservation of designated critical habitat that the USFWS has determined is required for the survival and recovery of these listed species. Section 9 of the federal ESA prohibits the “take” of species listed by USFWS as threatened or endangered. Take is defined as follows: “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in such conduct.” In recognition that take cannot always be avoided, Section 10(a) of the federal ESA includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. Section 10(a)(1)(B) permits (incidental take permits) may be issued if take is incidental and does not jeopardize the survival and recovery of the species. An HCP must accompany an application for an incidental take permit. The purpose of the HCP planning process associated with the permit is to ensure there is adequate minimizing and mitigating of the effects of the authorized incidental take. As defined in the federal ESA, individuals, organizations, states, local governments, and other nonfederal entities are affected by the designation of critical habitat only if their actions occur on federal lands; require a federal permit, license, or other authorization; or involve federal funding.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) makes it unlawful to pursue, capture, kill, or possess any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and Russia (formerly the Soviet Union).

Bald and Golden Eagle Protection Act

The purpose of the federal Bald and Golden Eagle Protection Act (BGEPA) (16 U.S. Code 668–668c, as amended), administered by the USFWS, is to protect bald and golden eagles, their nests, eggs, and parts.²² The BGEPA prohibits the “take” of bald and golden eagles unless pursuant to regulations. Take is defined by the BGEPA as an action “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb (i.e., agitate or bother to a degree that causes injury, decreased productivity, or nest abandonment).” In addition, the *National Bald Eagle Management Guidelines* were published by the USFWS in May 2007 in conjunction with delisting the bald

²² U.S. Fish and Wildlife Service. “Bald Eagle Management Guidelines and Conservation Measures: Bald and Golden Eagle Protection Act.” Available at: <http://www.fws.gov/midwest/Eagle/guidelines/bgepa.html>

eagle to provide provisions to continue to protect bald eagles from harmful actions and impacts.²³ Under the BGEPA, a final rule was published in May 2008 in the *Federal Register* that proposed authorization for take of bald eagles for those with existing authorization under the federal ESA where the bald eagle is covered in an HCP or the golden eagle is covered as a non-listed species.²⁴

Section 404 of the Federal Clean Water Act

Section 404 of the federal Clean Water Act (CWA), which is administered by the USACE, regulates the discharge of dredged and fill material into Waters of the United States, which include surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters. USACE has established a series of nationwide permits that authorize certain activities in Waters of the United States, provided that a proposed activity can demonstrate compliance with standard conditions. Projects that result in the loss of less than the acreage specified by the applicable nationwide permit can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. If the conditions of a nationwide permit cannot be met, or the project results in more than minimal adverse environmental impact, an individual permit may be required.

3.2. STATE

State Fish and Game Code

Sections 1600 through 1603, Notification to CDFW of Lake or Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of the CDFW (California Fish and Game Code Sections 1600–1603) and require preparation of a Streambed Alteration Agreement. Pursuant to the Code, a *stream* is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that support or have supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial waterways valuable to fish and wildlife are subject to CDFW jurisdiction.

Sections 1900–1913—Native Plant Protection Act

The Native Plant Protection Act includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection pursuant to the Native Plant Protection Act includes those listed as rare and endangered under the California ESA. The Native Plant Protection Act provides limitations that no person would import into this State—or take, possess, or sell within the State of California—any rare or endangered native plant, except in compliance with provisions of the Act. Where individual landowners have been notified by the CDFW that rare or native plants are growing on their land, the landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.

²³ U.S. Fish and Wildlife Service. May 2007. “National Bald Eagle Management Guidelines.” Available at: <http://www.fws.gov/pacific/eagle/NationalBaldEagleManagementGuidelines.pdf>

²⁴ Federal Register. 20 May 2008. Notices. 73(98): 29075–29084.

Sections 2080 and 2081—California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050 et seq.) prohibits the take of listed species, except as otherwise provided in State law. The “take” for the California ESA is defined as it is in the federal ESA; however, unlike the federal ESA, the California ESA also applies the take prohibitions to species petitioned for listing as State candidates rather than only those listed species. State lead agencies are required to consult with CDFW to ensure that any actions undertaken by the lead agency are not likely to jeopardize the continued existence of any State-listed species or result in destruction or degradation of required habitat. CDFW is authorized to enter into Memoranda of Understanding (MOUs) with individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess listed species for scientific, educational, or management purposes. Permits for incidental take of species protected pursuant to the California ESA are available under certain circumstances as described in Sections 2080 and 2081 of the California Fish and Game Code described below.

Section 2080 of the CESA states,

No person shall import into this state [California], 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 [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act (DNPA).

Pursuant to Section 2081 of the Fish and Game Code, CDFW may authorize individuals or public agencies to import, export, take, or possess, any State-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or MOUs as follows: (1) if the take is incidental to an otherwise lawful activity, (2) if impacts of the authorized take are minimized and fully mitigated, (3) if the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and (4) if the applicant ensures adequate funding to implement the measures required by CDFW. CDFW shall make this determination based on available scientific information and shall include consideration of the ability of the species to survive and reproduce.

Section 2800–2835, Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991, as amended in 2003 (California Fish and Game Code Section 2800–2835) established the Natural Community Conservation Planning Program for the protection and perpetuation of the State’s biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the California ESA.

Sections 3503 and 3503.5 State Protection for Birds

Sections 3503 and 3503.5 of the State Fish and Game Code provide regulatory protection to resident and migratory birds and all birds of prey within the State of California, including the prohibition of the taking of nests and eggs, unless otherwise provided for by the Code. Specifically,

these sections of the Code make it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code.

Section 3511, 4700, 5050, and 5515 State Fully Protected Species

The state of California classifies certain animals as “Fully Protected,” in Section 3511 of the State Fish and Game Code. This classification was the State’s initial effort in the 1960s to identify and provide additional protection to certain species that were rare or faced possible extinction. Lists were made for fish, mammals, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under the California and/or federal ESAs. Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code state that Fully Protected species (birds, mammals, fish, reptiles, amphibians) or parts thereof may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Section 4150—Non-Game Mammal or Furbearing Mammal

All mammals occurring naturally in California that are not game mammals, fully protected mammals, or fur-bearing mammals are nongame mammals. Nongame mammals or parts thereof may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission. The regulations of take of furbearing mammals are established within the California Code of Regulations (CCR), Title 14, Division 1 (Subdivision 2), Chapter 5. Take is prohibited for several furbearing mammals under Title 14, § 460 of the CCR, including but not limited to desert kit fox (*Vulpes macrotis arsipus*), coyote (*Canis latrans*), and American badger (*Taxidea taxus*). Title 14 § 460 is supported by Sections 200, 202, 203, and 4009.5 of the Fish and Game Code.

3.3. LOCAL

Los Angeles County General Plan 2035

The project area is located within the City of La Canada Flintridge and is subject to the County General Plan 2035. The Conservation and Natural Resources Element of the General Plan 2035 has established 2 goals and 12 policies related to biological resources:²⁵

Goal C/NR 3: Permanent, sustainable preservation of genetically and physically diverse biological resources and ecological systems including: habitat linkages, forests, coastal zone, riparian habitats, streambeds, wetlands, woodlands, alpine habitat, chaparral, shrublands, and Significant Ecological Areas (SEA).

- *Policy C/NR 3.1:* Conserve and enhance the ecological function of diverse natural habitats and biological resources.
- *Policy C/NR 3.2:* Create and administer innovative County programs incentivizing the permanent dedication of SEAs and other important biological resources as open space areas.
- *Policy C/NR 3.3:* Restore upland communities and significant riparian resources,

²⁵ County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. “Chapter 9: Conservation and Natural Resources Element.” *Los Angeles County 2035 General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf

such as degraded streams, rivers, and wetlands to maintain ecological function—acknowledging the importance of incrementally restoring ecosystem values when complete restoration is not feasible.

- *Policy C/NR 3.4:* Conserve and sustainably manage forests and woodlands.
- *Policy C/NR 3.5:* Ensure compatibility of development in the National Forests in conjunction with the USFS Land and Resource Management Plan.
- *Policy C/NR 3.6:* Assist state and federal agencies and other agencies, as appropriate, with the preservation of special status species and their associated habitat and wildlife movement corridors through the administration of the SEAs and other programs.
- *Policy C/NR 3.7:* Participate in inter-jurisdictional collaborative strategies that protect biological resources. Site Sensitive Design
- *Policy C/NR 3.8:* Discourage development in areas with identified significant biological resources, such as SEAs.
- *Policy C/NR 3.9:* Is considered in the design of a project that is located within an SEA.
- *Policy C/NR 3.10:* Require environmentally superior mitigation for unavoidable impacts on biologically sensitive areas, and permanently preserve mitigation sites.
- *Policy C/NR 3.11:* Discourage development in riparian habitats, streambeds, wetlands, and other native woodlands in order to maintain and support their preservation in a natural state, unaltered by grading, fill, or diversion activities.

Goal C/NR 4: Conserved and sustainably managed woodlands.

- *Policy C/NR 4.1:* Preserve and restore oak woodlands and other native woodlands that are conserved in perpetuity with a goal of no net loss of existing woodlands.

County Municipal Code Title 22, § 22.56.215 – Significant Ecological Areas

Title 22, Section 22.56.215 of the County Municipal Code regulates development within SEAs. Conditional use permits are required prior to granting a building permit or grading permit within an SEA and must be approved to allow development within SEAs, subject to review by the Significant Ecological Areas Technical Advisory Committee (SEATAC) and a public hearing.

County Municipal Code Title 22, § Chapter 22.44, Part 6 – Sensitive Environmental Resource Areas

Sensitive Environmental Resource Areas (SERAs) are located within the Santa Monica Mountains Coastal Zone area only. SERAs contain biological resources that, because of their special characteristics and/or vulnerability, require greater protection, and development in a SERA requires a heightened level of review to ensure that protection. Projects in a SERA are subject to review by the County Department of Regional Planning Environmental Review Board.

County Municipal Code Sections 22.56.2050 – 22.56.2260 – Oak Tree Ordinance

The County Oak Tree Ordinance requires a permit prior to the cutting, removing, destroying, relocating, inflicting damage on, or encroaching into a protected zone of any tree within the oak genus. The Ordinance regulates only oak trees (genus *Quercus*) located within unincorporated areas of Los Angeles County. In addition, the circumference of an oak tree with one trunk must be

25 inches (8 inches in diameter) or more. For oak trees with multiple trunks, any two trunks must have a circumference of 38 inches (12 inches in diameter) or more. Measurements must be recorded at 4.5 feet above mean natural grade.

La Canada Flintridge General Plan § 3 – Open Space and Recreation Element (OSRE) and § 4 Conservation Element (CNE)

The goals, objectives, and policies in the Open Space and Recreation Element and the Conservation Element, promote the preservation and enhancement of La Canada Flintridge open space, recreation, and trails resources. It emphasizes and supports the interrelationship between all the La Canada Flintridge General Plan elements to achieve a community whose parkland resources also support land use, circulation, conservation, and safety goals, objectives, and policies. The La Canada Flintridge General Plan establishes 4 goals, 3 objectives, and 24 policies related to biological resources.²⁶

OSRE Goal 1: Create an integrated park, recreation, open space, and trail (parkland) system within the City that meets the needs of a full range of community interests.

- OSRE Policy 1.1.4: Encourage and, where appropriate, require the inclusion of recreation facilities, permanently dedicated open space, and/or trails within new residential land divisions and residential and commercial developments.

OSRE Goal 2: Preserve, protect, and enhance open space areas within and adjacent to the City.

OSRE Objective 2.1: Preserve or enhance open space for preservation of natural resources.

- OSRE Policy 2.1.1: All publicly owned open space committed to open space land or utility right-of-way should be preserved and designated Open Space on the Land Use Policy Map.
- OSRE Policy 2.1.2: Reasonable efforts should be made to acquire from willing sellers undeveloped properties that contain significant community features and resources, such as natural chaparral and wildlife habitat, watersheds, areas of passive recreation, settings for riding and hiking trails and outdoor education, and other community-wide hillside amenities. Open space areas of particular value include Cherry Canyon, Webber Canyon, Gould Canyon, Winery Canyon, Hall Beckley Canyon, Snover Canyon, Hay Canyon, and their surrounding hillsides.
- OSRE Policy 2.1.3: The semi-rural, hillside character of the community should be maintained by regulation and development control, thus preserving the unique setting and significant resources in the San Gabriel Mountains and San Rafael Hills.
- OSRE Policy 2.1.4: Privately owned recreational and open space areas designed as an integral part of a land use development will be designated Open Space on the Land Use Policy Map.
- OSRE Policy 2.1.5: Preserve and expand non-vehicular access to the Angeles National Forest trails and open lands remaining in the San Rafael Hills and San Gabriel Mountains, in coordination with the federal Angeles Forest Plan.
- OSRE Policy 2.1.7: Encourage the dedication of additional lands to public open space, in cooperation with the Santa Monica Mountains Conservancy, Rim of the

²⁶ City of La Canada Flintridge. 2013. *La Canada Flintridge General Plan Segment 3; Open Space and Recreation. Segment 4; Conservation Element*. Available at: <http://www.lcf.ca.gov/planning/general-plan>

Valley Corridor Special Resource Study, and other partners and open space conservation efforts.

- OSRE Policy 2.1.8: Cooperate regionally with other municipalities and Los Angeles County to preserve natural open space corridors for wildlife.
- OSRE Policy 2.1.9: Consider the enhancement of the property currently used for utility transmission lines for use as community gardens or other complementary open space uses, within the constraints of the utility's requirements.

OSRE Objective 2.2: Provide and preserve open space areas for the protection of public health and safety

- OSRE Policy 2.2.3: Provide a combination of brush clearance, irrigated areas, and fire-resistant planting adjacent to large areas of native vegetation to serve as a buffer between highly hazardous natural fuels and developed areas. Ensure that the buffers will be completed in a manner that is sensitive to plant and animal habitats and will promote erosion control.

OSRE Goal 4: Preserve, improve, and expand existing trails and promote coordinated and comprehensive trail systems for hikers, bicyclists, and equestrians

- OSRE Policy 4.1.1: The Trails Master Plan is the implementation document for the General Plan regarding trails and trail-related issues.
- OSRE Policy 4.1.4: Use the Community Development Department Project Review Procedure: Trails (Appendix 7 in the Trails Master Plan, or as modified by the Community Development Director) when reviewing proposed development that is located adjacent to or within current trails, existing trail easement (s or proposed trail location(s), to evaluate and require mitigation of potential impacts on the trail system.
- OSRE Policy 4.1.5: Implement the Trails ordinance (Chapter 4.64 of the La Canada Flintridge Municipal Code) to regulate conduct on a City-owned trail, on a non-City-owned trail, and on property adjoining and abutting all trails.

CNE Objective 1.5: Preserve biological resources, including vegetative communities and wildlife and its habitat, subject to the safety of residents and property.

- CNE Policy 1.5.1: Retain publicly owned open space land as such. Make reasonable efforts to acquire from willing sellers large portions of hillside and other properties that contain significant biological resources, such as coastal sage scrub–chaparral, oak woodlands, riparian communities, and wildlife habitat. Open space areas of particular value include Cherry Canyon, Weber Canyon, Gould Canyon, Winery Canyon, Hall-Beckley Canyon, Snover Canyon, Hay Canyon, and their surrounding hillsides.
- CNE Policy 1.5.2: Consider conducting evaluations and mapping all vegetation and habitat communities on vacant and undeveloped land that is 0.5 acre or greater in area property.
- CNE Policy 1.5.3: Require development proposals in areas expected to contain important vegetation and wildlife communities to conduct biological assessments and mitigate impacts, as appropriate.
- CNE Policy 1.5.4: In areas that are adjacent to sensitive vegetation and/or wildlife

communities and/or open spaces, require new development to employ site design techniques that provide buffers between the development and the biological resources and to landscape their sites with vegetation that is consistent with the adjacent resources.

- CNE Policy 1.5.5: Preserve and protect the city's urban forest, which contributes to clean air, soil conservation, shade and windbreak protection, moderation of climatic extremes, and reduction of flood hazards and risk of landslides.
- CNE Policy 1.5.6: Encourage alternative subdivision design, such as clustering, to preserve sensitive habitat.

CNE GOAL 2: Preserve the remaining natural ridgelines, canyons, streams, springs, urban forest, and other natural resources and attributes which contribute to the aesthetic and scenic qualities of the community.

CNE Objective 2.1: Require new development to be compatible with the natural and existing human-made resources that make the community special.

- CNE Policy 2.1.1: Protect natural and aesthetic resources through continued implementation of the Hillside Development Ordinance.
- CNE Policy 2.1.2: Maintain prominent landforms within the community in their natural state to the maximum extent feasible, including but not limited to: ridges, knolls, waterways, creeks (either dry or active), canyons, or other unique topographic features or view scapes. The most significant landforms are identified on Figure CNE-3 in the Conservation Element.
- CNE Policy 2.1.3: Protect major hillside views capes visible from points within the City from detrimental alteration by the intrusion of highly visible cuts and/or fill slopes, building lines, and/or road surfaces.
- CNE Policy 2.1.4: Minimize the visual impact of grading. Irrigate and landscape human-made slopes to prevent erosion and soften the visual appearance of the finished slope.
- CNE Policy 2.1.5: Preserve and protect the city's urban forest in order to maintain the community's wooded character and protect the scenic beauty of the area, through continued implementation of the City's Preservation, Protection, and Removal of Trees Ordinance.
- CNE Policy 2.1.6: Pursue opportunities to acquire undeveloped land that includes prominent landforms and other natural and scenic resources.
- CNE Objective 2.2: Preserve the scenic beauty of views capes as seen from public vantage points and designated streets and locations.
- CNE Policy 2.2.2: Preserve the unique views of the mountains and foothills as seen from Foothill Boulevard by continuing to implement the development standards and design guidelines in the Hillside Development Ordinance and DVSP.

The Oak Woodlands Conservation Management Plan Guide

The Oak Woodlands Conservation Management Plan Guide was prepared by the County Oak Woodlands Strategic Alliance in March 18, 2014. The Guide implements portions of the Oak Woodlands Conservation Management Plan and is a resource for assisting County staff when processing development applications that are not exempt from CEQA and may impact oak woodlands. The Guide includes definitions, application procedures, case processing, project mitigation and mitigation monitoring.

Chapters 4.24 and 11.40 La Canada Flintridge Municipal Code

The goal of these portions of the municipal code is to "...preserve and protect the trees that are of historic or aesthetic importance, and to provide for the protection and replacement of trees in order to maintain the community's wooded character; protect the scenic beauty of the area; reduce erosion of top soil...and to address fire concerns by discouraging the planting of...highly flammable trees." The intent is to preserve and encourage the regeneration of a healthy urban forest. Protected private property trees may only be removed by the actual homeowner or an arborist authorized by the City after approval of a Tree Removal Permit (La Canada Flintridge Municipal Code Title 4 and Title 11). Chapter 4.24 regulates trees and shrubs in the "public right-of-way", whereas Chapter 11.40 is in regard to "Preservation, Protection and Removal of Trees" on private property. Specifically, Chapter 11.40 states,

"On private property, no native oak, sycamore, deodar cedar, (in the historic deodar district) tree with a trunk measuring twelve (12) inches or more in diameter (as measured at a point 54 inches from the ground surface at the natural grade) shall be removed without a tree removal permit issued by the Planning Division of the Community Development Department. Where a tree trunk is divided below 54 inches above grade, the diameter of all trunks (as measured 54 inches from the natural grade) shall be summed to determine tree diameter. Topping of protected trees is prohibited."

SECTION 4.0 METHODS

This section describes the methods employed in the characterization and evaluation of biological resources at the Master Plan area. The potential for the projects proposed in the Master Plan to result in impacts to biological resources was evaluated pursuant to the seven thresholds articulated in Appendix G of the State CEQA Guidelines and the County DPR's Environmental Checklist Form, as well as the Conservation and Natural Resources Element of the County General Plan 2035 and the County Code of Ordinances – Title 22 Planning and Zoning goals and policies related to biological resources.

The methods used for the characterization and evaluation of biological resources consider the County General Plan 2035 and La Canada Flintridge General Plans goals and policies related to biological resources, areas potentially subject to the jurisdiction of the USACE pursuant to Section 404 of the federal CWA, riparian and other State-designated sensitive habitats including those requiring a Streambed Alteration Agreement pursuant to Section 1600 of the State Fish and Game Code, special-status species and designated critical habitat, native resident or migratory species of fish and wildlife, and any federal, State, and regional conservation plans.

Sapphos Environmental, Inc. qualified biologists (Ms. Paulette Loubet, Mr. Malek Al-Marayati, and Dr. Jolene Mason) conducted fall and spring desktop reviews as well as fall and spring surveys of the Master Plan area in support of the biological inventory and assessment (Appendix A, *Resumes of Key Personnel*).

Listed, Sensitive, and Locally Important Species

Records of listed and sensitive plants and animals were reviewed to determine which federally and State-listed species and other special status species have the potential to occur within the limits of the Master Plan area. For the purposes of this BRTR, sensitive species were given additional consideration for potential to be present within the project site if there were recent occurrences (less than 25 years old) for them within a 5-mile radius of the Master Plan area.

The CNDDDB, CNPS Electronic Inventory, and USFWS databases were queried November 2018 and April 2019 to determine special status plant and wildlife species with the potential to occur within the vicinity of the Master Plan area. Results were obtained as lists and downloaded as spreadsheets for analysis (Appendix B, *CNDDDB, CNPS, USFWS Species Lists*). The CNDDDB query was supplemented with information from published and unpublished literature, including program- and project-level environmental documents prepared pursuant to CEQA and the National Environmental Policy Act (NEPA) in the vicinity of the Master Plan area. The CNDDDB database and the CNPS Online Inventory query for occurrence data within and surrounding the Master Plan area included nine USGS 7.5-minute series topographic quadrangles: Sunland, Condor Peak, Chilao Flat, Burbank, Pasadena, Mt. Wilson, Hollywood, Los Angeles, and El Monte.

Critical habitat data, as determined by the USFWS, was searched to determine the proximity of critical habitat to the Master Plan area. The list of species was evaluated with respect to the habitats present. *The Jepson Manual* was consulted for detailed biological, distributional, and phenological information of plants and used as a standard for nomenclature.²⁷ A desktop analysis, including

²⁷ Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*. 2nd ed. Berkeley, CA: University of California Press.

aerial imagery habitat and land use assessments, and review of existing data indicative of the presence of wildlife movement corridors and nursery sites in the Master Plan area was conducted.

A complete list of flora and fauna observed by Sapphos Environmental, Inc. and Descanso Gardens and verified citizen science records from iNaturalist.com and ebird.com was compiled for baseline species data within the Master Plan area (Appendix C, *Floral and Faunal Compendium*).

Although the Master Plan area was surveyed, protocol-level surveys would need to be undertaken to assess the presence or absence of sensitive special status species and make a determination as to whether or not permits would be required pursuant to Section 10(a)(1) of the federal ESA or Section 2081 of the California ESA.

Riparian and State Sensitive Plant Communities

The desktop evaluation of riparian and state sensitive plant communities for the project area was undertaken using data from the Natural Heritage Division of CDFW via a query of the CNDDDB, which identifies special-status natural communities. The Natural Heritage Division is currently in the process of classifying and mapping vegetation in California. Consequently, these CNDDDB records date back only as recently as 1993. The project site was also reviewed in Google Earth maps and visited in the fall and spring by a Sapphos Environmental, Inc. biologist to assess presence or absence of riparian or other state-designated sensitive plant communities.

Federally Protected Wetlands and Waterways

Current National Wetlands Inventory (NWI) maps and USGS blueline drainage data for the Master Plan area were reviewed for potential wetlands and waterways subject to protection under Section 404 of the federal CWA. Sapphos Environmental, Inc. used the NWI database and USGS topographical maps to determine if federal wetlands may be present within the Master Plan area. For the purpose of this evaluation, all NWI wetlands are assumed to be USACE jurisdictional wetlands, but these wetlands may also fall under other jurisdictions. In addition, Sapphos Environmental, Inc. used USGS maps and blueline drainage data to find navigable water bodies and blueline features that may be considered federal waterways.

A formal jurisdictional delineation at the Lake would be required to assess the presence or absence of Waters of the United States and whether it is subject to Section 404 of the federal CWA, requiring either a pre-construction notification pursuant to a Nationwide Permit or an individual permit from USACE.

Migratory Corridors and Nursery Sites

Sapphos Environmental, Inc. used geographic information systems (GIS) to overlay the project area with topographic, plant community, and published data for migratory corridors and nursery sites for wildlife species to characterize the baseline conditions for these resources within the Master Plan area. The County has established SEAs primarily with the goal of protecting plants and animals and their corridors. Sapphos Environmental, Inc. used the SEAs in the vicinity of the project area as indicators of the presence of wildlife corridors.

Oak and Native Woodlands

The evaluation of oak and native woodlands for the Master Plan area was undertaken using data from the Natural Heritage Division of CDFW via a query of the CNDDDB, which identifies special-status natural communities. The Natural Heritage Division is currently in the process of classifying and mapping vegetation in California. Consequently, these CNDDDB records date back only as recently as 1993.

In 2018, Descanso Gardens conducted tree mapping efforts of coast live oak trees within the Main Parking Lot and developed portions of the gardens (Figure 4-1, *Existing Native Coast Live Oak Trees*). Mapping of coast live oak trees in the Auxiliary Parking Lot and the undeveloped slopes surrounding the developed gardens would need to be undertaken to assess full extent of oak and native woodland communities as well as individual oak and native trees.

General Plans and Policies

Sapphos Environmental, Inc. reviewed the County General Plan 2035 and La Canada Flintridge General Plan, to determine if the Master Plan area has the potential to conflict with adopted goals, policies, and ordinances related to conservation of biological resources that are applicable to the plan. The County Oak Tree Ordinance, Wildflower Reserve Ordinance, SEA Ordinance, and SERA Ordinance and the La Canada Flintridge Municipal Code were also evaluated to determine its applicability to the Master Plan area.

Habitat Conservation Plans and Natural Community Conservation Plans

Any adopted and proposed HCPs and NCCPs within and adjacent to the Master Plan area were mapped using data obtained from the USFWS and CDFW. The boundaries of any HCP or NCCP were compared to the Master Plan area boundaries using CDFW's NCCP California Regional Conservation Plans Map, which features all NCCPs and HCPs in the state of California. All applicable HCPs and NCCPs were intensively reviewed to identify provisions for the management of biological resources that are applicable to the Master Plan area.



LEGEND

- ▲ Existing Coast Live Oak Trees
- ▲ Existing Heritage Oak Trees
- Perimeter Fence
- ▭ Master Plan Area

SOURCES:
 Basemap: ESRI World Imagery (Clarity).
 Project Area: Los Angeles County Assessor 2016.
 Trees: Descanso Gardens 2018.

N
 0 300 600
 Feet
 1:6,000

Note: Only coast live oak trees within the Main Parking Lot and developed portions of the gardens are included in this map. Coast live oak trees in the Auxiliary Parking Lot and the undeveloped slopes surrounding the developed gardens are beyond the scope of the 2018 tree mapping efforts by Descanso Gardens.



FIGURE 4-1
 Existing Native Coast Live Oak Trees

SECTION 5.0 RESULTS

This section provides the characterization and evaluation of the potential for the proposed Master Plan to affect biological resources within the Master Plan area. The results described in this section provide the substantial evidence required to address the CEQA scope of analysis, related to biological resources.

5.1 EXISTING CONDITIONS

The Master Plan area is made up of approximately 70 acres of botanical gardens and associated facilities and approximately 80 acres of native habitat stretching from the ridgeline down to the developed gardens. Native habitat types classified by alliance, as defined by the *Manual of California Vegetation*²⁸ within the Master Plan area include California Buckwheat Scrub, Laurel Sumac Scrub, Lemonade Berry Scrub, Mixed Riparian, Mulefat Thickets, Oak Woodland and Scrub Oak Chaparral (Figure 5-1, *Survey Map*). The developed botanical garden contains areas of maintained Oak Woodland, which includes in the understory the Camellia Forest, the Theater Under the Oaks; as well as planted areas, which include the Rose Garden, Ancient Forest, Japanese Garden, Native Garden, Harvest Garden, Plant Propagation Nursery, front entrance promenade, and other buildings. There are also Developed/Disturbed portions within the Master Plan area such as parking lots, buildings, walkways and maintenance facilities.

Listed, Sensitive, and Locally Important Species

Listed and Candidate Species and Critical Habitat

The literature reviews identified 18 species that are listed or candidate species under protection of the federal ESA or California ESA that are known from the region, including 8 plant species and 10 wildlife species (Table 5-1, *Listed Plant and Wildlife Species with the Potential to Occur in the Master Plan Area*). Special consideration was given to species within a 5-mile radius of the project, including 5 plant species and 15 wildlife species. Species status, habitat, and potential to occur is summarized in Table 2 below.

²⁸ Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation*. Second Edition. California Native Plant Society.

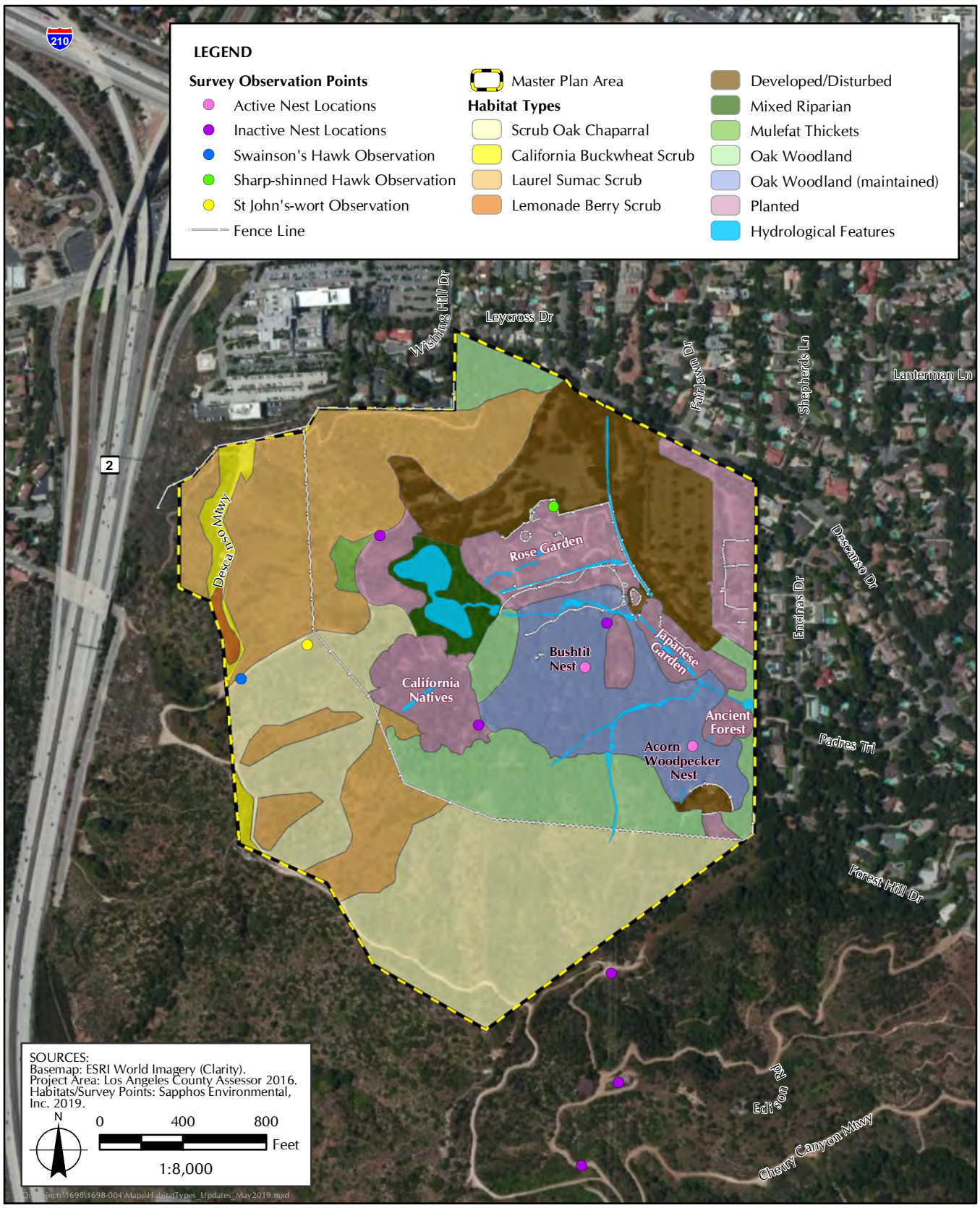


FIGURE 5-1
 Survey Map

**TABLE 5-1
LISTED PLANT AND WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE MASTER PLAN AREA**

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
Plants				
marsh sandwort	<i>Arenaria paludicola</i>	FE, SE, 1B.1	Coastal scrub, valley and foothill grassland. Sandy soils. 15–1,015 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Braunton's milk-vetch	<i>Astragalus brauntonii</i>	FE, CRPR: 1B.1	Chaparral, closed-cone coniferous forest, coastal scrub, limestone, valley and foothill grassland; often in recent burned or disturbed areas; usually in sandstone soil with carbonate layers; occurs between 4 and 640 m above MSL.	Low. The Master Plan area contains some suitable habitat for this species, however the nearest record is more than 10 miles away and listed as Possibly Extirpated (Occurrence #1).
Ventura marsh milk-vetch	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	FE, SE, 1B.1	Marshes and swamps, coastal dunes, coastal scrub. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs. Occurs from 1 to 35 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Nevin's barberry	<i>Berberis nevinii</i>	FE, SE, 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub, in sandy or gravelly soils; occurs 274–825 m above MSL.	Low. CNDDDB records for this species exist within 1.5 miles of the Master Plan area, however the Master Plan area is outside of the elevation range for this species. This species has been planted in the botanical garden.
San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	FPT, SE, 1B.1	Coastal scrub in sandy soil, valley and foothill grassland; occurs 150–1,220 m above MSL.	Low. All CNDDDB records for this species within the 9-quad search are possibly extirpated.
slender-horned spineflower	<i>Dodecahema leptoceras</i>	FE, 1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes; associates include <i>Encelia</i> , <i>Dalea</i> , <i>Lepidospartum</i> , etc. Usually in sandy soils between 200 and 765 m above MSL.	None. The Master Plan area is outside of the elevation range for this species.
Gambel's water cress	<i>Nasturtium gambelii</i>	FE, ST, 1B.1	Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. 5–305 m.	None. There is no suitable habitat for this species within the Master Plan area.
Fish				
Santa Ana sucker	<i>Catostomus santaanae</i>	FT	Aquatic, south coast flowing waters; clear cool ponds, creeks, small to medium rivers with generally coarse substrates; benthic, freshwater.	None. There is no suitable habitat for this species within the Master Plan area.
Amphibians				
arroyo toad	<i>Anaxyrus californicus</i>	FE	Desert wash, riparian scrub, riparian woodland, south coast flowing waters, south coast standing waters; mating and egg-laying at shallow stream margins from March to July; adults require overflow pools adjacent to the inflow channel of third- to greater-order streams that are free of predatory fishes in which to breed; occurs between 0 and 900 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area and is out of range for the species.
southern mountain yellow-legged frog	<i>Rana muscosa</i>	FE, SE	Aquatic; eggs usually laid in shallow water attached to gravel or rocks; associated with streams lakes and ponds in montane riparian habitat; occurs between 370 and 2,290 m above MSL.	Low. Master Plan area does not contain suitable mountain riparian habitat. CNDDDB records for this species exist within the San Gabriel Mountains however none of these tributaries connect or flows through the area.
Birds				
Swainson's hawk	<i>Buteo swainsoni</i>	ST	Riparian, cropland/hedgerow, desert, grassland/herbaceous, savanna, mixed woodland; may be found in grasslands and other open habitats in winter and migration.	Very High. Species was observed during fall site surveys in 2018. CNDDDB records for this species exist within 10 miles of the project area, which contains suitable nesting and foraging habitat.
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT, SE	Riparian forest; dense riparian understory important for nest site selection; cottonwood trees important foraging habitat; nests in dense trees, shrubs, vines.	None. There is no suitable habitat for this species within the Master Plan area.
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE, SE	Riparian woodland; breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs; habitat patches must be at least 0.25 acre in size and at least 30 feet wide.	None. No suitable habitat for this species exists within the Master Plan area. CNDDDB record within Master Plan area is historic and exact location of record is not known and has been mapped in general area of Pasadena.
California condor	<i>Gymnogyps californianus</i>	FE, SE	Chaparral, coniferous forests, and oak savannah in Southern and Central California.	Low to None. No CNDDDB records for this species exist within 10 miles of the Master Plan area, which contains suitable foraging habitat.
coastal California gnatcatcher	<i>Polioptila californica californica</i>	FT	Coastal bluff scrub, coastal scrub; dry coastal slopes, washes, and mesas; cone-shaped nests built in shrubs; areas of low plant growth (about 1 m high); strongly associated with sage scrub; generally avoids crossing unsuitable habitat.	Low to None. Some marginally suitable habitat exists within the Master Plan area, however there are no CNDDDB records for this species within 6 miles and the Master Plan area is mostly isolated by highways and urban sprawl.
bank swallow	<i>Riparia riparia</i>	ST	Riparian scrub, riparian woodland; nests in steep sand, dirt, or gravel banks, in burrows dug near the top of the bank, along the edge of inland water, along coast, in	None. There is no suitable habitat for this species within the Master Plan area.

TABLE 5-1
LISTED PLANT AND WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE MASTER PLAN AREA, *Continued*

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
			gravel pits, or road embankments; diet primarily flying insects.	
least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, SE	Riparian forest, riparian scrub, riparian woodland; forages exclusively in riparian habitats primarily on insects; dense riparian understory shrubbery required for nesting; nests usually 1 m off ground.	Low. CNDDDB records for this species exist within 1.5 miles of the Master Plan area, however the Master Plan area does not contain suitable habitat.
<p>KEY: FE = federal endangered FPE = Proposed Threatened FT = federal threatened SE = State endangered SR = State Rare ST = State threatened CRPR = California Rare Plant Rank m = meter MSL = mean sea level</p> <p><i>CNPS categories:</i> California Rare Plant Rank: List 1B: Rare, threatened, or endangered in California and elsewhere (0.1: Seriously endangered in California, 0.2: Fairly endangered in California.</p>				

5.2 FIELD SURVEYS

Site surveys of the 149-acre Master Plan area were conducted on November 27–29, 2018, and April 17 and 19, 2019 by Dr. Mason, Ms. Loubet and Mr. Al-Marayati to determine the presence of special status species, potential suitable habitat and sensitive communities identified in the desktop reviews. A Garmin handheld global positioning system (GPS) map 60CSx was used to ensure location accuracy and to mark any biological resources of interest. The site visit included walking throughout the Master Plan area to ensure thorough coverage of the site. Site photos were taken to document site conditions, and observations of biological resources such as plants, animals, nesting birds or signs thereof (Appendix D, *Site Photographs*).

Sapphos Environmental, Inc. biologists observed 88 plant species and 57 wildlife species, which, along with Descanso Gardens' 2014 and 2016 species lists compiled by Ms. Rachel Young (prior Director of Horticulture and Garden Operations), and verified citizen science records from iNaturalist.com and ebird.com, comprise the baseline species data within the Master Plan area.

Listed, Sensitive, and Locally Important Species

Listed and Candidate Species and Critical Habitat

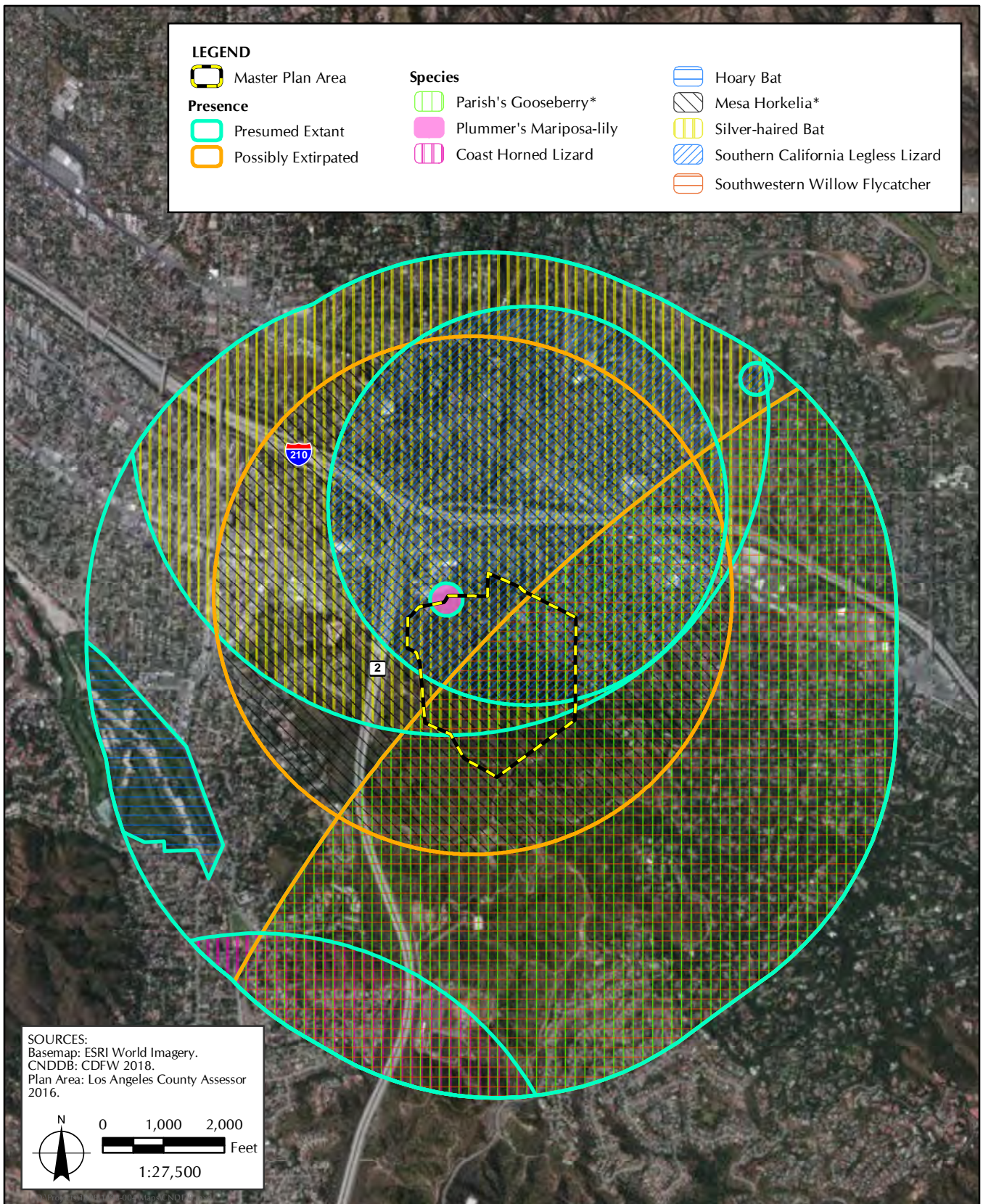
Sapphos Environmental, Inc. biologists did not identify any federal or state listed plant species during the fall or spring survey efforts, except Nevin's barberry (*Berberis nevinii*), a federally endangered and a state endangered species, which was planted and is maintained by the botanical garden (Appendix C; Appendix E, *2016 Descanso Gardens Species Data [Oak Woodlands]*; Appendix F, *2014 Descanso Gardens Species Data*). No naturally occurring Nevin's barberry were observed.

On November 28, 2018, while conducting the fall survey Sapphos Environmental, Inc. biologists observed an adult Swainson's hawk (*Buteo swainsoni*), a species listed as Threatened by the State of California, flying over the Master Plan area. No other federal or state listed wildlife species identified in the desktop search were observed. These species were determined to have low to no potential to occur within the Master Plan area (Table 1).

Critical habitat is designated by the USFWS and defined as being important for the survival of species listed pursuant to the federal ESA. The USFWS evaluates the suite of environmental conditions (i.e., plant communities, range, elevation, food source, etc.) essential to the continued conservation and preservation of each species listed as federally threatened or endangered. The Master Plan area does not contain any designated critical habitat.

Sensitive Wildlife Species

A total of 29 wildlife species that are considered sensitive in the State of California were identified during the nine-quadrangle records search for the Master Plan area (Table 5-2, *Sensitive Wildlife Species with the Potential to Occur in the Master Plan Area*; Appendix C). This includes 2 invertebrates, 2 fish, 1 amphibian, 7 reptiles, 5 birds, and 12 mammals. Wildlife species with moderate to high potential to occur within 1 mile of the Master Plan area include American peregrine falcon (*Falco peregrinus anatum*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), and southern California legless lizard (*Anniella* sp.) (Figure 5-2, *CNDDDB Records within 1 Mile of the Master Plan Area*).



LEGEND

Master Plan Area
 Master Plan Area

Presence
 Presumed Extant
 Possibly Extirpated

Species

Parish's Gooseberry*	Coast Horned Lizard	Hoary Bat
Plummer's Mariposa-lily	Mesa Horkelia*	Silver-haired Bat
Southern California Legless Lizard	Southwestern Willow Flycatcher	

SOURCES:
 Basemap: ESRI World Imagery.
 CNDDDB: CDFW 2018.
 Plan Area: Los Angeles County Assessor 2016.

0 1,000 2,000 Feet
 1:27,500



*Record indicates species is possibly extirpated

FIGURE 5-2
 CNDDDB Records within 1 Mile of the Master Plan Area

**TABLE 5-2
SENSITIVE WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE MASTER PLAN AREA**

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
Invertebrates				
Crotch bumble bee	<i>Bombus crotchii</i>	CSA	Warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Low. CNDDDB records for this species exist within 3 miles of the Master Plan area, which may contain suitable habitat, but are more than 25 years old.
desert cuckoo wasp	<i>Ceratochrysis longimale</i>	CSA	No description available; record from Hungry Valley, 5 miles south of Gorman.	Unknown. Species habitat description is unknown.
Fish				
arroyo chub	<i>Gila orcuttii</i>	SSC, FSS	Aquatic, south coast flowing waters; freshwater; benthic; headwaters, creeks, intermittent streams, small to medium rivers; spawns in stream pools; diet primarily aquatic invertebrates.	None. There is no suitable habitat for this species within the Master Plan area
Santa Ana speckled dace	<i>Rhinichthys osculus</i> ssp. 3	SSC, FSS	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17–20 degrees Celsius. Usually inhabits shallow cobble and gravel riffles.	None. There is no suitable habitat for this species within the Master Plan area
Amphibians				
Coast Range newt	<i>Taricha torosa</i>	SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow-moving streams.	None. There is no suitable habitat for this species within the Master Plan area. Some suitable upland and breeding habitat exist within the Master Plan area.
Reptiles				
California legless lizard	<i>Anniella</i> sp.	SSC	Contra Costa County south to San Diego, within a variety of open habitats. This element represents California records of <i>Anniella</i> not yet assigned to new species within the <i>Anniella pulchra</i> complex. Variety of habitats; generally, in moist, loose soil. They prefer soils with a high moisture content.	Moderate. A new occurrence (#89) was added to CNDDDB on 01/02/19. One individual was observed on 07/14/2018 at the base of the Verdugo Mountains located approximately 3.6 miles away from the Master Plan area.
southern California legless lizard	<i>Anniella stebbinsi</i>	SSC, FSS	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Moderate. CNDDDB records for this species exist the Master Plan area, and within the immediate vicinity of the Master Plan area. Suitable habitat for this species exists within the Master Plan area.
California glossy snake	<i>Arizona elegans occidentalis</i>	SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Low. CNDDDB records for this species are over 3 miles away from the Master Plan area.
coastal whiptail	<i>Aspidoscelis tigris stejnegeri</i>	SSC	Occurs in habitats that are primarily hot and dry open areas with sparse foliage. Found in chaparral, woodland, and riparian areas.	Very high. Research grade and verified iNaturalist records document this species four times within the Master Plan area, as recently as September 2018.
western pond turtle	<i>Emys marmorata</i>	BLM_S, SSC, FSS	Aquatic, artificial flowing waters, marsh and swamp, south coast flowing waters, south coast standing waters, wetland; habitat includes permanent and intermittent waters of rivers, creeks, small lakes and ponds, man-made stock ponds and sewage-treatment ponds; nesting sites on sandy banks and bars, in fields, or sunny spots up to a few hundred feet from water.	None. Closest CNDDDB records for this species have been extirpated.
coast horned lizard	<i>Phrynosoma blainvillii</i>	BLM_S, SSC	Found in a variety of vegetation types, including coastal scrub, coastal bluff scrub, valley and foothill grassland, chaparral, cismontane woodland, pinyon and juniper woodlands, riparian scrub, riparian woodland and desert wash; in inland areas, this species is restricted to areas with pockets of open microhabitat, created by disturbance.	None. There is no suitable habitat for this species within the Master Plan area.
two-striped garter snake	<i>Thamnophis hammondi</i>	BLM_S, SSC, FSS	Marsh and swamp, riparian scrub, riparian woodland, wetland; generally found in or near permanent fresh water, often along streams with rocky beds bordered by willows and other riparian vegetation, including mountain slopes and desert oases; requires dense riparian vegetation; burrowing in or using soil.	None. There is no suitable habitat for this species within the Master Plan area.
Birds				
burrowing owl	<i>Athene cunicularia</i>	BLM_S, SSC, BCC	Found in open grasslands, agricultural and range lands, and desert habitats and often are associated with burrowing animals, specifically the California ground squirrel; can also inhabit grass, forbs, and shrub stages of pinyon and ponderosa pine habitats.	None. Topography of Master Plan area is not suitable for this species. CNDDDB record within 3 miles is historic.
Cooper's hawk	<i>Accipiter cooperii</i>	CSA	Cismontane woodland, riparian forest, riparian woodland, upper montane coniferous forest, urban areas; nests in tall trees; usually builds new nest on horizontal limb near trunk or in crotch, 20–59 feet above ground; may use virtually all habitats for foraging.	Very High. This species has been observed and documented twice (in 2010 and 2017) by research grade and verified iNaturalist observers.
southern California	<i>Aimophila ruficeps</i>	CDFW_WL	Shrubland/chaparral, coastal sage dominated by sagebrush, coastal bluff scrub. Nests on the ground or low in the branches	Moderate. CNDDDB records for this species exist within 10

**TABLE 5-2
SENSITIVE WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE MASTER PLAN AREA, *Continued***

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
rufous-crowned sparrow	<i>canescens</i>		of trees or shrubs.	miles of the Master Plan area, which contains suitable habitat.
yellow rail	<i>Coturnicops noveboracensis</i>	SSC, FSS, BCC	Summer resident in Freshwater marshlands. Occurs in the eastern Sierra Nevadas in Mono County.	None. There is no suitable habitat for this species within the Master Plan area.
black swift	<i>Cypseloides niger</i>	SSC, BCC	Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea bluffs above the surf; forages widely.	None. There is no suitable habitat for this species within the Master Plan area.
American peregrine falcon	<i>Falco peregrinus anatum</i>	CDFW_FP, BCC	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Moderate. There is no suitable habitat for this species within the Master Plan area, may forage overhead.
Mammals				
pallid bat	<i>Antrozous pallidus</i>	BLM_S, SSC, FSS, WBWG_H	Occurs throughout the American west; chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley and foothill grassland; roosts in rock crevices, caves, mineshafts, under bridges, in buildings, and within hollow trees; consumes insects and other invertebrates; roosts in small colonies of 10 to 100 and emerges late at night to forage on the ground.	Moderate. CNDDDB records for this species exist within the immediate vicinity of the Master Plan area.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	BLM_S, SSC, FSS, WBWG_H	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Prefers rock crevices in cliffs or caves for roosting.	Moderate. No suitable roosting habitat but may forage within the Master Plan area.
western mastiff bat	<i>Eumops perotis californicus</i>	BLM_S, SSC, WBWG_H	Found in the southwestern United States, generally away from human development; this species can utilize a variety of habitat types including chaparral, oak woodland, pine forests, agricultural areas, and desert washes; roosts primarily in vertical rock crevices on cliffs; common in open habitats when foraging.	Low. The Master Plan area is surrounded by development and does not contain any roosting habitat.
silver-haired bat	<i>Lasionycteris noctivagans</i>	WBWG_M	Primarily a coastal and montane forest dweller, feeding over streams, ponds & open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	Moderate. The Master Plan area contains suitable habitat for this species.
hoary bat	<i>Lasiurus cinereus</i>	SSC, WBWG_M	Forages over a wide range of habitats but prefers open habitats with access to trees for roosting, and water. Primarily roosts in trees and foliage. Ranges throughout most of California.	Very high. This species has been observed within the Master Plan area, which contains suitable habitat.
western yellow bat	<i>Lasiurus xanthinus</i>	SSC, WBWG_H	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Low. The Master Plan area contains some suitable habitat for this species.
western red bat	<i>Lasiurus blossevillii</i>	SSC, WBWG_H	Roosts primarily in trees, 2–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Moderate. The Master Plan area contains suitable habitat for this species.
San Diego black-tailed jackrabbit	<i>Lepus californicus bennettii</i>	SSC	Coastal scrub; open country with scattered thickets or patches of shrubs. Rests by day in shallow depression.	Low. The closest CNDDDB records for this species occur more than 9 miles from the Master Plan area, which may contain suitable habitat.
south coast marsh vole	<i>Microtus californicus stephensi</i>	SSC	Tidal marshes in Los Angeles, Orange and southern Ventura Counties.	None. There is no suitable habitat for this species within the Master Plan area.
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	SSC	Coastal scrub; sagebrush scrub; chaparral; often associated with large cactus patches; also found in rocky outcroppings and boulder hillsides within chaparral and oak woodland habitats.	Low. CNDDDB records for this species exist within 10 miles of the Master Plan area. No patches of cactus were observed within Master Plan area.
big free-tailed bat	<i>Nyctinomops macrotis</i>	SSC, WBWG_MH	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	Moderate. The Master Plan area contains suitable foraging habitat for this species, but no suitable roosting sites.
southern grasshopper mouse	<i>Onychomys torridus ramona</i>	SSC	Chenopod scrub; consumes soft-bodied insects including cutworms and grasshoppers; lives in arid habitats but requires no open water sources; the species forages under and within shrubs and crosses open areas.	Low. CNDDDB records for this species exist within the immediate vicinity of the project area, however the record is historic.
American badger	<i>Taxidea taxus</i>	SSC	Found in arid, open habitats, particularly grasslands, savannahs, mountain meadows, and desert scrub openings; needs friable soils for digging and open, uncultivated ground; occurs at low to moderate slopes; has been associated with Joshua tree woodland and pinyon-juniper habitats.	Very high. This species has been observed within the Master Plan area, which contains suitable habitat.

**TABLE 5-2
SENSITIVE WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE MASTER PLAN AREA, *Continued***

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
<p>KEY: BCC = USFWS Bird of Conservation Concern; BLM_S = BLM designated Sensitive; FSS = Forest Service Sensitive; CDFW_WL = CDFW watch list species, CDFW_FP = Fully Protected species SSC = CDFW Species of Special Concern; WBWG_LM = Western Bat Work Group Low-Medium Priority; WBWG_M = Western Bat Work Group Medium Priority; WBWG_H = Western Bat Work Group High Priority, (CSA) California Special Animal; km = kilometer</p> <p>SOURCE: California Department of Fish and Wildlife. 2018. <i>Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base</i>. Sacramento, CA.</p> <p>NOTE: California Special Animal (CSA) is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. The California Department of Fish and Wildlife considers the taxa on this list to be those of greatest conservation need. For those species with statuses identified by USFWS and/or CDFW, the status is noted. Those species included on the list due to identification by other governmental agencies and/or non-governmental conservation organizations are listed as CSA.</p>				

During the fall survey, Sapphos Environmental, Inc. biologists observed one adult sharp-shinned hawk (*Accipiter striatus*), a CDFW Watch List species; and several oak titmouse (*Baeolophus inornatus*), a USFWS Bird of Conservation Concern (BCC), within the Master Plan area. Sapphos Environmental, Inc. biologists did not identify any new federal or state listed species during the desktop review for the spring survey efforts or observe any new protected species during for the spring survey.

Fifteen (15) sensitive species have been previously identified within the Master Plan area by Descanso Gardens or recorded on ebird. These species include Long eared owl (*Asio otus*) a CDFW Species of Special Concern (SSC); coastal whiptail (*Aspidoscelis tigris stejnegeri*) SSC; Ringtailed cat (*Bassariscus astutus octavus*) a CDFW fully protected species; Costa's hummingbird (*Calypte costae*) aBCC; northern flicker (*Colaptes auratus*), an SSC; Vaux's swift (*Chaetura vauxi*), a SSC; merlin (*Falco columbarius*) a CDFW Watch List species (WL); willow flycatcher (*Empidonax traillii*) a USFS Sensitive species (FSS) and BCC; yellow warbler (*Dendroica petechia*) an SSC and BCC; San Bernardino ring-necked snake (*Diadophis punctatus modestus*), an FSS species; osprey (*Pandion haliaetus*) a WL species; double-crested cormorant (*Phalacrocorax auratus*) and Cooper's hawk (*Accipiter cooperii*), both WL species as well as Rufous hummingbird (*Selasphorus rufus*) a BCC; and badger (*Taxidea taxus neglecta*), an SSC. Additionally, four CDFW Special Animals; black crowned night heron (*Nycticorax nycticorax*), great blue heron (*Ardea Herodias*), great egret (*Ardea alba*), and red breasted sapsucker (*Sphyrapicus ruber*), were previously identified during survey efforts conducted by the Garden in 2014 and during the Woodland Survey in April 2016 (Appendices E and F).

Rare and Locally Important Plant Species

A total of 70 plant species that are considered rare in the State of California or are locally important to the region were identified from the records search (Table 5-3, *Rare and Locally Important Plant Species with the Potential to Occur in the Master Plan Area*). Of these species, four have suitable habitat within the Master Plan area and high to moderate potential to be present. Three plant species, Plummer's mariposa-lily (*Calochortus plummerae*), Mesa horkelia (*Horkelia cuneata* var. *puberula*), and Parish's gooseberry (*Ribes divaricatum* var. *parishii*), were documented within a mile of the Master Plan area. Plummer's mariposa-lily has a moderate to high potential to occur within one mile of the Master Plan area. Mesa horkelia and Parish's gooseberry have likely been extirpated.

During the fall survey, Sapphos Environmental, Inc. biologists did not observe any naturally occurring rare plant species. Focused botanical surveys were conducted during spring when plant species were more likely to be vegetative or in bloom and identifiable. Several rare and locally important species have been planted within the botanical garden but may not occur naturally within the Master Plan area (see Appendices C, E, and F).

**TABLE 5-3
RARE AND LOCALLY IMPORTANT PLANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE MASTER PLAN AREA**

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
Parish's oxytheca	<i>Acanthoscyphus parishii</i> var. <i>parishii</i>	4.2	Chaparral, lower montane coniferous forest. Sandy or gravelly places between 1,220 and 2,600 m above MSL.	Low. CNPS records for this species exist within Mt. Wilson quad of the Master Plan area which contains some suitable habitat within the upper elevations.
San Gabriel manzanita	<i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i>	1B.2	Chaparral. Rocky outcrops; can be dominant shrub where it occurs, between 960 and 2,015 m above MSL.	Low. CNDDDB and CNPS records for this species occur mostly within the San Gabriel mountains.
interior manzanita	<i>Arctostaphylos parryana</i> ssp. <i>tumescens</i>	4.3	Chaparral, cismontane woodland. Montane chaparral or foothill woodland between 2,100 and 2,310 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
western spleenwort	<i>Asplenium vespertinum</i>	4.2	Chaparral, cismontane woodland, coastal scrub. Rocky sites between 180 and 1,000 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
Parish's brittlescale	<i>Atriplex parishii</i>	1B.1	Vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils. 5–1,420 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Davidson's saltscale	<i>Atriplex serenana</i> var. <i>davidsonii</i>	1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil between 0 and 480 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area and is outside the elevation range for this species.
Catalina mariposa lily	<i>Calochortus catalinae</i>	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; occurs between 15 and 700 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
slender mariposa-lily	<i>Calochortus clavatus</i> var. <i>gracilis</i>	1B.2	Chaparral, coastal scrub, valley and foothill grassland. Shaded foothill canyons; often on grassy slopes within other habitat. 210–1,815 m above MSL.	Low. The Master Plan area contains some suitable habitat for this species however the closest CNDDDB records are over 6 miles away within the Verdugo hills.
Palmer's mariposa-lily	<i>Calochortus palmeri</i> var. <i>palmeri</i>	1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernal moist places in yellow-pine forest, chaparral. 195–2,530 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Plummer's mariposa-lily	<i>Calochortus plummerae</i>	4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60–2,500 m above MSL.	High. CNDDDB records from 2009 occur within the Master Plan area which contains suitable habitat for this species.
alkali mariposa-lily	<i>Calochortus striatus</i>	1B.2	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps. Alkaline meadows and ephemeral washes. 70–1,600 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
intermediate mariposa-lily	<i>Calochortus weedii</i> var. <i>intermedius</i>	1B.2	Coastal scrub, chaparral, valley and foothill grassland. Dry, rocky calcareous slopes and rock outcrops between 60 and 1,575 m above MSL.	None. The Master Plan area does not contain suitable soil requirements for this species.
lucky morning-glory	<i>Calystegia felix</i>	1B.1	Meadows and seeps, riparian scrub. Sometimes alkaline, alluvial between 9 and 205 m.	Low. The Master Plan area is outside of the elevation range for this species.
Lewis' evening-primrose	<i>Camissoniopsis lewisii</i>	3	Valley and foothill grassland, coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub. Sandy or clay soil between 0 and 300 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Mt. Gleason paintbrush	<i>Castilleja gleasoni</i>	1B.2	Lower montane coniferous forest, chaparral, pinyon and juniper woodland. On open flats or slopes in granitic soil. Restricted to the San Gabriel Mountains between 975 and 1,950 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area and is outside the elevation range for this species.
Mojave paintbrush	<i>Castilleja plagiotoma</i>	4.3	Great Basin scrub, pinyon and juniper woodland, Joshua tree woodland, lower montane coniferous forest. Alluvial fans between 300 and 2,500 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
southern tarplant	<i>Centromadia parryi</i> ssp. <i>australis</i>	1B.1	Marshes and swamps (margins), valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins between 0 and 975 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area and is outside the elevation range for this species.
smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places between 5 and 1,170 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	1B.1	Sandy or rocky openings, chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; occurs 902–4,003 feet above MSL.	Low. The Master Plan area contains suitable habitat for this species however, CNDDDB records within the vicinity are historic.
California saw-grass	<i>Cladium californicum</i>	2B.2	Meadows and seeps, marshes and swamps (alkaline or freshwater). Freshwater or alkaline moist habitats between 20 and 2,135 m.	None. There is no suitable habitat for this species within the Master Plan area.
monkey-flower savory	<i>Clinopodium mimuloides</i>	4.2	North coast coniferous forest, chaparral Streambanks, mesic sites. 305–1,800 m.	None. There is no suitable habitat for this species within the Master Plan area.

**TABLE 5-3
RARE AND LOCALLY IMPORTANT PLANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE MASTER PLAN AREA, *Continued***

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
small-flowered morning-glory	<i>Convolvulus simulans</i>	4.2	Clay soils and serpentinite seeps; chaparral (openings), coastal scrub, valley and foothill grassland; occurs between 30 and 700 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species
Peruvian dodder	<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	2B.2	Marshes and swamps (freshwater). Freshwater marsh between 15 and 280 m.	None. There is no suitable habitat for this species within the master plan.
Johnston's monkeyflower	<i>Diplacus johnstonii</i>	4.3	Lower montane coniferous forest. On scree, in rocky or gravelly sites. Also in disturbed areas between 975 and 2,920 m.	None. There is no suitable habitat for this species within the master plan.
many-stemmed dudleya	<i>Dudleya multicaulis</i>	1B.2	Chaparral, coastal scrub, valley and foothill grassland, often clay; occurs between 50 and 790 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
Palomar monkeyflower	<i>Erythranthe diffusa</i>	4.3	Chaparral, lower montane coniferous forest. Sandy or gravelly soils between 1,220 and 1,830 m.	Low. The Master Plan area contains some suitable habitat however closest CNPS records are within the Chilao Flat quad located in the San Gabriel mountains.
pine green-gentian	<i>Frasera neglecta</i>	4.3	Lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest. Dry, open woodlands between 1,400 and 2,500 m.	None. There is no suitable habitat for this species within the master plan.
San Antonio Canyon bedstraw	<i>Galium angustifolium</i> ssp. <i>gabrielense</i>	4.3	Chaparral, lower montane coniferous forest. Dry rocky or sandy granitic slopes and ridges, occurs between 1,200 and 2,650 m	None. There is no suitable habitat for this species within the master plan.
San Gabriel bedstraw	<i>Galium grande</i>	1B.2	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest; occurs between 425 and 1,500 m above MSL.	Low. The Master Plan area contains some suitable habitat however closest CNDDDB records are within in the San Gabriel mountains.
Jepson's bedstraw	<i>Galium jepsonii</i>	4.3	Upper montane coniferous forest, lower montane coniferous forest. On granite; gravelly hillsides and slopes between 1,540 and 2,500 m.	None. There is no suitable habitat for this species within the master plan.
Johnston's bedstraw	<i>Galium johnstonii</i>	4.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland, riparian woodland. Open, mixed forest between 1,650 and 2,300 m.	Low. The Master Plan area is outside of the elevation range for this species.
Los Angeles sunflower	<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	1A	Freshwater marsh, marsh and swamp, salt marsh, wetlands; occurs between 10 and 1,675 m above MSL.	None. There is no suitable habitat for this species within the master plan.
vernal barley	<i>Hordeum intercedens</i>	3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools; occurs between 5 and 1,000 m above MSL.	None. There is no suitable habitat for this species within the master plan.
mesa horkelia	<i>Horkelia cuneata</i> var. <i>puberula</i>	1B.1	Chaparral, cismontane woodland, coastal shrub; occurs between 70 and 810 m above MSL.	Low. CNDDDB records for this species within and in vicinity of the Master Plan area are Extirpated however it does contain some suitable habitat.
San Gabriel Mountains sunflower	<i>Hulsea vestita</i> ssp. <i>gabrielensis</i>	4.3	Lower montane coniferous forest, upper montane coniferous forest. Rocky sites. 1,500–2,500 m.	None. There is no suitable habitat for this species within the master plan.
California satintail	<i>Imperata brevifolia</i>	2B.1	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. Occurs between 3 and 1,495 above MSL.	None. There is no suitable habitat for this species within the master plan
Southern California black walnut	<i>Juglans californica</i>	4.2	Chaparral, coastal dunes, coastal scrub, marshes and swamps (coastal salt), found in sandy sometimes rocky soils; occurs between 5 and 300 m above MSL.	Very High. This species was observed by SEI biologists within the fenced portion of the Master Plan area.
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1–1,375 m.	None. There is no suitable habitat for this species within the master plan.
San Gabriel Mountains sunflower	<i>Hulsea vestita</i> ssp. <i>gabrielensis</i>	4.3	Lower montane coniferous forest, upper montane coniferous forest. Rocky sites occur between 1,500 and 2,500 m above MSL.	None. There is no suitable habitat for this species within the master plan.
fragrant pitcher sage	<i>Lepechinia fragrans</i>	4.2	Chaparral; occurs between 20 and 1,310 m above MSL.	Moderate. Habitat is present within the Master Plan area.
Robinson's pepper-grass	<i>Lepidium virginicum</i> var. <i>robinsonii</i>	4.3	Chaparral, coastal scrub. Dry soils, shrubland; occurs between 4 and 1,435 m above MSL.	Low. Some habitat is present within the Master Plan area; however, the closest records are 5 miles away and more than 25 years old.
ocellated Humboldt lily	<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	4.2	Found in openings; chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland; occurs between 30 and 1,800 m above MSL.	None. There is no suitable habitat for this species within the master plan.
San Gabriel linanthus	<i>Linanthus concinnus</i>	1B.2	Lower montane coniferous forest, upper montane coniferous forest, chaparral. Dry rocky slopes, often in Jeffrey pine/canyon oak forest occurs between 1,310 and 2,560 m above MSL.	None. There is no suitable habitat for this species within the master plan.
Orcutt's linanthus	<i>Linanthus orcuttii</i>	1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Sometimes in disturbed areas; often in gravelly clearings, occurs between 915 and 2,145 m above	Low. CNPS records are Presumed Extirpated or Unknown near the Master Plan area.

**TABLE 5-3
RARE AND LOCALLY IMPORTANT PLANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE MASTER PLAN AREA, *Continued***

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
			MSL.	
Peirson's lupine	<i>Lupinus peirsonii</i>	1B.3	Joshua tree woodland, pinyon and juniper woodland, lower montane coniferous forest, upper montane coniferous forest. Decomposed granite slide and talus, on slopes and ridges; occurs between 1,400 and 2,380 m.	None. There is no suitable habitat for this species within the Master Plan area.
Davidson's bush-mallow	<i>Malacothamnus davidsonii</i>	1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland; occurs 185 to 855 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
gray monardella	<i>Monardella australis</i> ssp. <i>cinerea</i>	4.3	Lower montane coniferous forest, upper montane coniferous forest, subalpine coniferous forest between 1,800 and 3,050 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
California muhly	<i>Muhlenbergia californica</i>	4.3	Coastal scrub, chaparral, lower montane coniferous forest, meadows and seeps. Usually found near streams or seeps between 100 and 2,000 m above MSL.	Low. CNDDDB records within 5 miles of the Master Plan area are historic (1890).
prostrate vernal pool navarretia	<i>Navarretia prostrata</i>	1B.1	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites between 3 and 1,235 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
short-joint beavertail	<i>Opuntia basilaris</i> var. <i>brachyclada</i>	1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodlands, riparian woodland; occurs 425 to 1,800 m above MSL.	Low. CNDDDB records are mostly located north of the San Gabriel Mountains.
Rock Creek broomrape	<i>Orobanche valida</i> ssp. <i>valida</i>	1B.2	Chaparral, pinyon-juniper woodland. On slopes of loose decomposed granite; parasitic on various chaparral shrubs. 1,250 and 2,000 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Hubby's phacelia	<i>Phacelia hubbyi</i>	4.2	Chaparral, coastal scrub, valley and foothill grassland in gravelly, rocky, and talus soils; occurs between 0 and 1,000 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
Mojave phacelia	<i>Phacelia mohavensis</i>	4.3	Sandy or gravelly soil. Cismontane woodland, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland; occurs 1,400–2,500 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Brand's star phacelia	<i>Phacelia stellaris</i>	1B.1	Upper montane coniferous forest between 1,795 and 2,135 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
woolly chaparral-pea	<i>Pickeringia montana</i> var. <i>tomentosa</i>	4.3	Chaparral. Gabbroic or granitic substrates; usually clay. Occurs between 0 and 1,700 m above MSL.	None. The Master Plan area does not contain suitable soils for this species.
white rabbit-tobacco	<i>Pseudognaphalium leucocephalum</i>	2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35–515 m above MSL.	Moderate. CNPS records for this species exist within 10 miles of the Master Plan area which contains suitable habitat.
Nuttall's scrub oak	<i>Quercus dumosa</i>	1B.1	Closed-cone coniferous forest, chaparral, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. Occurs between 15 and 640 m above MSL.	Moderate. CNPS records for this species exist within 10 miles of the Master Plan area which contains suitable habitat.
San Gabriel oak	<i>Quercus durata</i> var. <i>gabrielensis</i>	4.2	Chaparral, cismontane woodland between 450 and 1,000 m above MSL	Low. The Master Plan area is within the elevation range for this species, however, no records within 1 mile of Master Plan Area.
Engelmann oak	<i>Quercus engelmannii</i>	4.2	Cismontane woodland, chaparral, riparian woodland, valley and foothill grassland.	High. This species has been observed and documented twice (in 2017 and 2018) within the Master Plan area, by research grade and verified Naturalist observers.
Parish's gooseberry	<i>Ribes divaricatum</i> var. <i>parishii</i>	1A	Riparian woodland and Salix swales in riparian habitats; occurs between 65 and 300 m.	None. There is no suitable habitat for this species within the Master Plan area.
Coulter's matilija poppy	<i>Romneya coulteri</i>	4.2	Coastal scrub, chaparral. In washes and on slopes; also after burns between 20 and 1,200 m.	Low. This species was observed within the Master Plan area but has been planted. Does not usually occur locally.
Parish's rupertia	<i>Rupertia rigida</i>	4.3	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland between 425 and 2,000 m above MSL.	Moderate. CNPS records for this species exist within the immediate vicinity of the Master Plan area which contains suitable habitat.
southern mountains skullcap	<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland between 425 and 2,000 m above MSL.	Low. CNDDDB Records for this species occurs over 10 miles from the Master Plan area.
chaparral ragwort	<i>Senecio aphanactis</i>	2B.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline soils; occurs between 15 and 800 m above MSL.	Low. The Master Plan area is within the elevation range for this species however closest record is more than 20 miles away.
salt spring checkerbloom	<i>Sidalcea neomexicana</i>	2B.2	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes between 3 and 2,380 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
chickweed oxytheca	<i>Sidotheca caryophylloides</i>	4.3	Lower montane coniferous forest. Sandy sites between 1,115 and 2,600 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.

**TABLE 5-3
RARE AND LOCALLY IMPORTANT PLANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE MASTER PLAN AREA, *Continued***

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
western bristly scaleseed	<i>Spermolepis lateriflora</i>	2A	Sonoran Desert scrub. Rocky or sandy between 365 and 670 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Greata's aster	<i>Symphyotrichum greatae</i>	1B.3	Occurs in chaparral, broadleaf upland forest, cismontane woodland, lower montane coniferous forest, and riparian woodland on mesic soils; occurs 300 to 2,010 m above MSL.	Low. Extant CNDDDB records for this species within 3 miles of the Master Plan area occur within the San Gabriel mountains.
Sonoran maiden fern	<i>Thelypteris puberula</i> var. <i>sonorensis</i>	2B.2	Meadows and seeps. Along streams, seepage areas between 60 and 930 m above MSL.	Low. Some suitable habitat exists for this species, and the Master Plan area is within the elevation range for this species.
<p>KEY: California Native Plant Society: California Rare Plant Rank (CRPR) 1A = Plants Presumed Extinct in California; CRPR: 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution; m = meter; MSL = mean sea level</p> <p><i>Threat Rank:</i> 0.1: Seriously endangered in California. 0.2: Fairly endangered in California. 0.3: Not very endangered in California</p>				

Riparian and State Sensitive Plant Communities

The Natural Heritage Division of CDFW identifies special-status natural communities. A record search of the CNDDDB reported no state sensitive or riparian natural communities within the Master Plan area. Sensitive communities reported adjacent to the Master Plan area include Southern Coast Live Oak Riparian Forest and Southern Sycamore Alder Riparian Woodland; however, these communities are presumed extirpated, likely due to development in the area. The Natural Heritage Division is currently in the process of reclassifying and mapping vegetation in California. Consequently, CNDDDB records have not been updated since 1993.

No sensitive riparian or state sensitive plant communities were observed within the Master Plan area during the surveys (Table 5-4, *Sensitive Plant Communities Reported in the Nine-Quadrangle Search Area*) Communities reported in the records searches include California Walnut Woodland, Open Engelmann Oak Woodland, Riversidian Alluvial Fan Sage Scrub, Southern California Arroyo Chub/Santa Ana Sucker Stream, Southern Coast Live Oak Riparian Forest, Southern Cottonwood, Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Sycamore Alder Riparian Woodland, and Walnut Forest. While no sensitive plant communities are present, approximately 3.963 acres of riparian habitat are present around The Lake.

TABLE 5-4
SENSITIVE PLANT COMMUNITIES REPORTED IN THE
NINE-QUADRANGLE SEARCH AREA

Plant Community	Rarity Rank	Habitat	Within Project Area
Walnut Forest	G1 S1.1	Corresponds to California walnut groves (<i>Juglans californica</i> Woodland Alliance). <i>Juglans californica</i> dominant or co-dominant. Riparian corridors; hillsides and canyons; Elevation: 150–900 m. Same as California Walnut Woodland.	No
Riversidian Alluvial Fan Sage Scrub	G1 S1.1	Corresponds to California buckwheat – white sage scrub (<i>Eriogonum fasciculatum</i> – <i>Salvia apiana</i> Shrubland Alliance) or scale broom scrub (<i>Lepidospartum squamatum</i> Shrubland Alliance). <i>L. squamatum</i> or <i>E. fasciculatum</i> and <i>S. apiana</i> are dominant, co-dominant, or conspicuous in the shrub canopy. Shrubs < 2.5 m; canopy is open to continuous. Herbaceous layer is variable. Intermittently or rarely flooded, low-gradient alluvial deposits along streams, washes, and fans.	No
Southern California Arroyo Chub/ Santa Ana Sucker Stream	GNR SNR	Habitat for various fish species.	No
Southern Coast Live Oak Riparian Forest	G4 S4	Corresponds to coast live oak woodland (<i>Quercus agrifolia</i> Woodland Alliance). <i>Q. agrifolia</i> is dominant or co-dominant in the tree canopy. Canopy is open to continuous; shrub layer is sparse to intermittent. Alluvial terraces, canyon bottoms, stream banks, slopes, flats. Soils are deep, sandy or loamy with high organic matter. Elevation: < 1,200 m.	No

TABLE 5-4
SENSITIVE PLANT COMMUNITIES REPORTED IN THE
NINE-QUADRANGLE SEARCH AREA, *Continued*

Plant Community	Rarity Rank	Habitat	Within Project Area
Open Engelmann Oak Woodland	G2 S2.2	<i>Quercus engelmannii</i> is dominant or co-dominant in the tree canopy with <i>Juglans californica</i> , <i>Quercus agrifolia</i> and <i>Quercus kelloggii</i> . Trees < 18 m tall; canopy is open to closed. Shrub layer is sparse to intermittent. Herbaceous layer is sparse or grassy. On raised stream terraces along stream corridors, valley bottoms, and gentle lower slopes. Elevation: 50–1,220 m.	No
Southern Cottonwood Willow Riparian Forest	G3 S3.2	Corresponds to Fremont cottonwood forest (<i>Populus fremontii</i> Forest Alliance) as well as other mixed willow series such as arroyo willow thickets (<i>Salix lasiolepis</i> Shrubland Alliance). <i>Populus fremontii</i> is dominant or co-dominant in the tree canopy. Trees < 25 m; canopy is continuous to open. On floodplains, along low-gradient rivers, perennial or seasonally intermittent streams, springs, in lower canyons in desert mountains, in alluvial fans, and in valleys with a dependable subsurface water supply that varies considerably during the year. Elevation: < 2,400 m.	No
Southern Sycamore Alder Riparian Woodland	G4 S4	Corresponds to California sycamore woodlands (<i>Platanus racemosa</i> Woodland Alliance) and white alder groves (<i>Alnus rhombifolia</i> Forest Alliance). <i>Platanus racemosa</i> and/or <i>Alnus rhombifolia</i> are dominant or co-dominant in the tree canopy with <i>Fraxinus latifolia</i> . Trees < 35 m; canopy is open to continuous. Riparian corridors, incised canyons, seeps, stream banks, mid-channel bars, floodplains, and terraces. Elevation: < 2,500 m.	No
Southern Mixed Riparian Forest	G2 S2.1	CNDDDB does not provide a description of this habitat type; the closest record to Master plan area (Occurrence #11) is described as closed canopy White Alder (<i>Alnus rhombifolia</i>) and willow (<i>Salix</i> Spp.)	No
<p>KEY: CNDDDB Global and State ranks: G1 S1: fewer than 6 viable occurrences; G2 S2: 6-20 viable occurrences worldwide/statewide; G3 S3: 21-100 viable occurrences worldwide/statewide; G4 S4: greater than 100 viable occurrences worldwide/statewide; G5 S5: demonstrably secure because of its worldwide/statewide abundance; NR: not ranked. Additional threat ranks: 0.1: very threatened; 0.2 threatened; 0.3 no current threat known; m = meter</p>			

Mapped vegetation was classified by alliance, as defined by the *Manual of California Vegetation*.²⁹ Native habitat types identified within the Master Plan area were California buckwheat scrub, laurel sumac scrub, lemonade berry scrub, mulefat thickets, oak woodland and scrub oak chaparral (Figure 4-1). These natural communities are protected under the goals and policies of the Conservation and Natural Resources Element of the County General Plan 2035 and the La Canada Flintridge Municipal Code. The quality of each of these habitats is addressed in Table 5-5, *Habitat Types within the Master Plan Area*.

**TABLE 5-5
HABITAT TYPES WITHIN THE MASTER PLAN AREA**

Habitat Type	Area (Acres)	Quality of Habitat*
California Buckwheat Scrub	2.740	Moderate quality. Somewhat disturbed by previous clearing by fire maintenance crews and public hiking trail.
Developed/Disturbed	17.884	Poor quality. Includes most urbanized areas.
Laurel Sumac Scrub	31.978	Moderate quality. Somewhat disturbed by nonnative plant species.
Lemonade Berry Scrub	0.505	Moderate quality. Somewhat disturbed by nonnative plant species.
Mixed Riparian	3.963	Moderate quality. The vegetation around the lakes is mostly planted, maintained and not a native vegetation community, however the structure (levels of canopy, midlayer and understory) provides good habitat for wildlife.
Mulefat Thickets	0.669	Moderate quality. This area was created by restoration and therefore planted and maintained. Once it matures it could provide habitat for wildlife.
Oak Woodland	15.967	Moderate quality. Area within and outside of the garden is disturbed by nonnative plant species.
Oak Woodland (maintained)	15.205	Moderate quality. Midlayer of planted camellia trees, and routinely maintained. However mature oak trees provide suitable habitat for squirrels and avian species.
Planted	22.492	Poor quality. Includes mostly ornamental and garden variety plants.
Scrub Oak Chaparral	37.277	Moderate quality. Somewhat disturbed by nonnative plant species.
Grand Total	148.680	N/A
*Quality is defined as “the resources and conditions present in an area that produce occupancy, including survival and reproduction, by a given organism.” ³⁰ Habitat quality is the ability of the environment to provide conditions appropriate for individual and population persistence.		

Within the developed botanical garden are vegetation communities that are not classifiable under the *Manual of California Vegetation*. These areas were termed Developed/Disturbed, Mixed Riparian, Planted and Oak Woodland (maintained) and include the Camellia Forest, Theater Under the Oaks, Rose Garden, Ancient Forest, Japanese Garden, Native Garden, Harvest Garden, Plant Propagation Nursery, Center Circle, and promenade. The Developed/Disturbed portions within the Master Plan include parking lots, buildings, walkways and maintenance facilities that mostly lack vegetation.

²⁹ Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation*. Second Edition. California Native Plant Society.

³⁰ Hall, L.S., P.R. Krausman, and M.L. Morrison. 1997. The habitat concept and a plea for standard terminology. *Wildl. Soc. Bull.* 25:173–82.

Federally Protected Wetlands and Waterways

Current NWI³¹ maps and USGS blue-line drainage data for the project area were reviewed for potential wetlands and waterways subject to protection under Section 404 of the federal CWA. Wetlands and waterways potentially subject to the jurisdiction of the USACE were determined to be present within the project area. The distribution of federally protected wetlands and waterways in the project area are shown on Figure 5-3, *Federally Protected Wetlands in the Master Plan Area*; Table 5-6, *Federally Protected Wetlands and Waterways Reported in the Master Plan Area*. Additionally, approximately 3.963 acres of riparian vegetation communities that may be under CDFW jurisdiction is present around The Lake.

**TABLE 5-6
FEDERALLY PROTECTED WETLANDS AND WATERWAYS REPORTED
IN THE MASTER PLAN AREA**

Wetland Type	National Wetlands Inventory (acres)
Freshwater Forested/Shrub Wetland	0.26
Freshwater Pond	1.39
Riverine	0.58
Total	2.23

One blueline drainage, Winery creek, runs through the northeast corner of the Master Plan area. This concrete-lined box drainage channel is classified by NWI as R4SBAx; riverine, intermittent, temporarily flooded and excavated. The Master Plan area includes two water features, a small recirculating stream system, and a 2-acre lake (The Lake). The Lake is a manmade freshwater pond, previously used to water livestock, and is now fed partially by stormwater from the adjacent hillsides and from an offsite water source, Hall Beckley Creek, through senior water rights. The northern portion of the lake is cement lined, whereas the southern area is rubber lined. The NWI classifies The Lake as PUBHx (Palustrine, Unconsolidated Bottom, Permanently Flooded and Excavated). The Lake is surrounded by willows, sycamore, and oaks, with planted papyrus (*Cyperus papyrus*) and bulrush (*Schoenoplectus* spp.). The southwest side of the southern portion is classified as Freshwater Forested/Shrub Wetland; however, a formal wetland delineation would need to be conducted in order to accurately classify this feature as a jurisdictional wetland.

The Master Plan will be subject to CEQA review. A formal jurisdictional delineation would be required to be undertaken to assess the presence or absence of Waters of the United States and the potential for any projects included in the Master Plan resulting in dredge or fill within any features subject to Section 404 of the federal CWA and requiring either a pre-construction notification pursuant to a Nationwide Permit or an individual permit from USACE.

³¹ U.S. Fish and Wildlife Service. n.d. National Wetlands Inventory Map. Available at: <http://www.fws.gov/wetlands/Wetlands-Mapper.html>

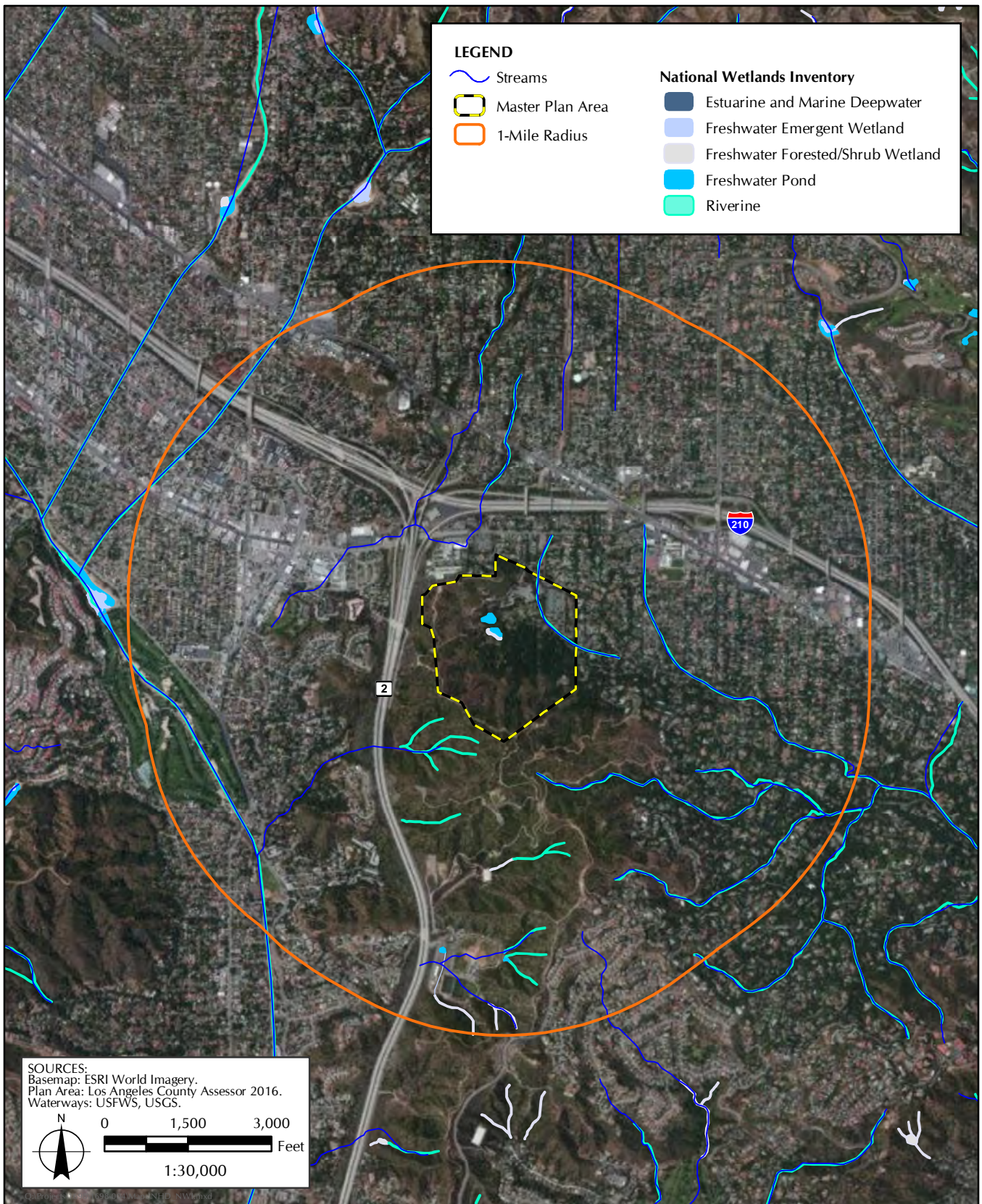


FIGURE 5-3
 Federally Protected Wetlands in the Master Plan Area

Migratory Corridors and Nursery Sites

A desktop analysis, including aerial imagery habitat and land use assessments, and review of existing data indicative of the presence of wildlife movement corridors and nursery sites in the project area was conducted. SEAs are areas that have been determined by the County to contain sensitive biological resources based on the criteria of sensitive plants and animals, plant communities, and corridors. Often, these SEAs can be indicators of the presence of wildlife movement corridors. There are no SEAs within the project area. The Altadena Foothills and Arroyos SEA is located approximately 1.7 miles northeast and the Verdugo Mountains SEA is approximately 1.5 miles west of the Master Plan area (Figure 5-4, *Significant Ecological Areas Present in the Vicinity of the Descanso Gardens*).

Connectivity and linkage

There are no established fish or wildlife movement corridors present within the Master Plan area. The Master Plan area is approximately 149 acres, 80 acres of which is open space within the San Rafael Hills. However, the San Rafael Hills, including the Master Plan area, are surrounded by large highway systems (CA-2, I-210, and CA-134), residential communities, and urban sprawl that isolates it from the San Gabriel Mountains to the north and the Verdugo Mountains to the west. Three underpasses located at Stancrest Drive, Fern Lane and Sherer Lane pass under CA-2 and could potentially offer opportunities for wildlife movement between the Verdugo mountains and the San Rafael Hills and eventually the Master Plan area. However, there is not continuous habitat to any of these locations to provide connectivity for the unrestricted movement of wildlife species.

Therefore, the Master Plan area does not currently offer direct connection or wildlife movement corridors to the Verdugo Mountains or San Gabriel Mountains.

Nursery Sites

There are no previously recorded nursery sites within the Master Plan area. Although there are no known bird rookeries in the Master Plan area, many species of birds are known to breed and nest within the Master Plan area. During the site surveys, Sapphos Environmental, Inc. biologists identified five inactive nests as well as many areas of suitable nesting habitat for avian species. Nesting birds protected under the MBTA have the potential to be present throughout the Master Plan area.

The developed garden portion of the Master Plan area contains suitable roosts and foraging habitat for several bat species, however most of the upper native areas only contain foraging habitat. No bat roosts were identified during the fall surveys, although one man made bat box was observed.

Oak and Native Woodlands

No Oak or Native Woodlands were reported within the Master Plan area from the records search. However, the site surveys identified several areas of Oak Woodland (maintained and naturally occurring) within the Master Plan area (Figure 5-1).

The Master Plan area contains approximately 31 acres of native and maintained Oak Woodland as well as approximately 37 acres of Scrub Oak Chaparral. Besides containing numerous protected oak trees, the Master Plan area has six documented heritage oak trees (Figure 4-1). The County Oak Tree ordinance defines a heritage oak as either of the following: any oak tree measuring 36 inches

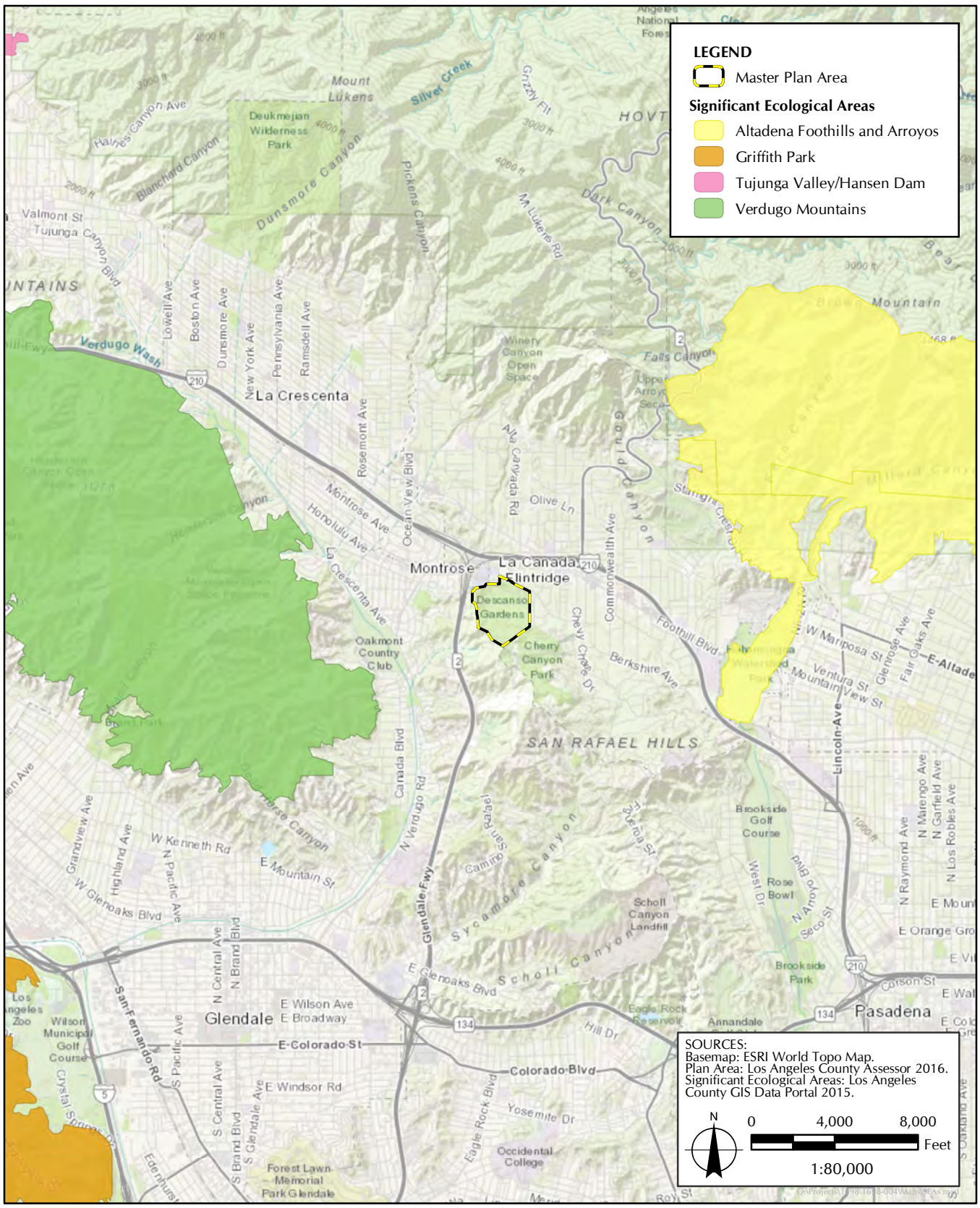


FIGURE 5-4
 Significant Ecological Areas Present in the Vicinity of the Descanso Gardens

or more in diameter, measured 4.5 feet above the natural grade; any oak tree having significant historical or cultural importance to the community, notwithstanding that the tree diameter is less than 36 inches.

In 2018, Descanso Gardens conducted tree mapping efforts of coast live oak trees within the Main Parking Lot and developed portions of the gardens (Figure 4-1). Mapping of coast live oak trees in the Auxiliary Parking Lot and the undeveloped slopes surrounding the developed gardens would need to be undertaken to assess the full extent of oak and native woodland communities as well as individual oak and native trees.

5.3 GENERAL PLANS AND POLICIES

County General Plan 2035

Of the 2 goals and 11 policies established in the Conservation and Natural Resources Element of the County General Plan 2035, 2 goals (C/NR 3 and C/NR 4) and 8 policies (C/NR 3.1, C/NR 3.3, C/NR 3.4, C/NR 3.8, C/NR 3.10, C/NR 3.11, and C/NR 4.1) are applicable to the proposed project.

County Municipal Code Title 12, Chapter 12.36 – Wildflower Reserves

The Master Plan area does not contain any designated Wildflower Reserve Areas. Therefore, this ordinance is not applicable.

County Municipal Code Title 22, § 22.56.215 – Significant Ecological Areas

There are no SEAs within the Master Plan area. Therefore, this ordinance is not applicable.

County Municipal Code Title 22, § Chapter 22.44, Part 6 – Sensitive Environmental Resource Areas

The Master Plan area is not located within the Santa Monica Mountains Coastal Zone area and does not contain any SERAs. Therefore, this ordinance is not applicable.

La Canada Flintridge General Plan; Open Space and Recreation Element and Conservation Element

All three of the Open Space and Recreation Element and Conservation Element goals, objectives and policies within the La Canada Flintridge General Plan related to biological resources are relevant to the proposed project. This includes; *Open Space and Recreation Element - Goal 1: Policy 1.1, Goal 2: Policies: 2.1.2, 2.1.3, 2.1.42.1.5, 2.1.7, 2.1.8, 2.1.9, 2.2, 2.2.3, and Goal 4: Policies 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5 and Conservation Element Objective 1.5, Policy 1.5.1, 1.5.2, 1.5.3, 1.5.4, 1.5.5, 1.5.6. GOAL 2: CNE Objective 2.1: 2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5, 2.1.6 Objective 2.2, Policy 2.2.*

The Oak Woodlands Conservation Management Plan Guide

This Plan pertains to the protection of Oak Woodlands are therefore is relevant to the Master Plan area.

La Canada Flintridge Municipal Code Chapter 4 and 11

There are many protected oak trees on and within the vicinity of the Master Plan area. Oak trees are typically found in oak woodlands and other indigenous woodlands but may also be found in urban areas as planted trees. The municipal codes pertain to the protection of native and historically important trees and are therefore relevant to the Master Plan area.

Habitat Conservation Plans and Natural Community Conservation Plans

There are no HCPs or NCCPs with boundaries that intersect the Master Plan area (Figure 5-5, *HCPs and NCCPs Present in the Vicinity of the Master Plan Area*). Therefore, there are no HCPs or NCCPs with provisions applicable to the Master Plan area.

5.4 IMPACT ANALYSIS

Proposed projects within the Master Plan area are conceptual and therefore, impact analysis for biological resources was based on a worst-case scenario of direct and indirect impacts as a result of the construction disturbances for each proposed project.

The potential for the proposed project to result in impacts related to biological resources was analyzed in relation to the questions in Appendix G of the State CEQA Guidelines,³² as modified for the County. 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 CDFW or USFWS?
- Have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFW or USFWS?
- Have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by § 404 of the federal CWA or California Fish & Game code § 1600, et seq. through direct removal, filling, hydrological interruption, or other means?
- 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?
- Convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10 percent canopy cover with oaks at least 5 inches in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshuas, southern California black walnut, etc.)?

³² California Code of Regulations. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

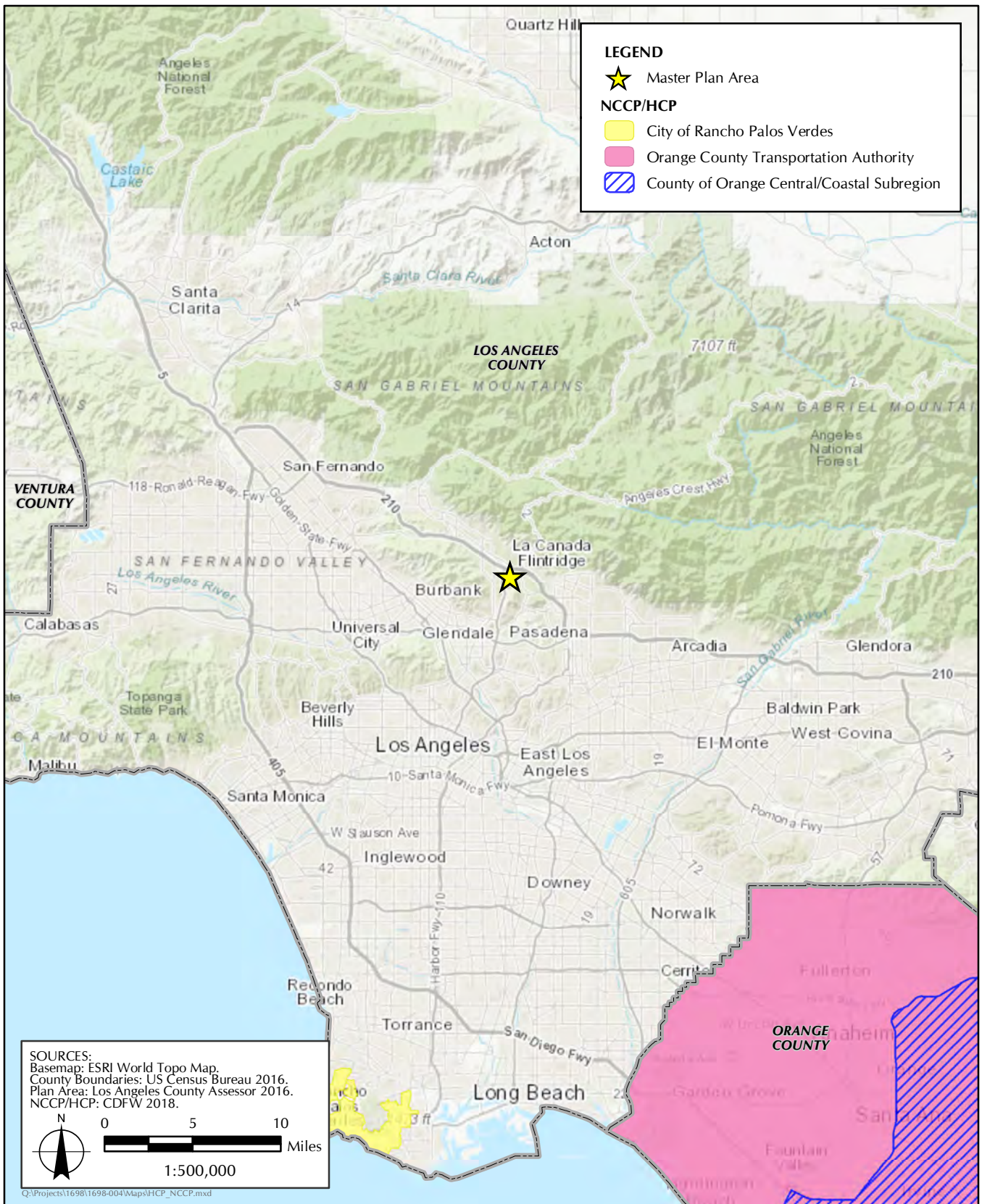


FIGURE 5-5
 HCPs and NCCPs Present in the Vicinity of the Master Plan Area

- Conflict with any local policies or ordinances protecting biological resources, including, but not limited to, Wildflower Reserve Areas (County Code, Title 12, Ch. 12.36), the County Oak Tree Ordinance (County Code, Title 22, Ch. 22.56, Part 16), the SEAs (County Code, Title 22, § 22.56.215), and SERAs (County Code, Title 22, Ch. 22.44, Part 6)?
- Conflict with the provisions of an adopted state, regional, or local habitat conservation plan?

The level of significance of potential impacts related to each proposed project can be found in Table 1.

Listed, Sensitive, and Locally Important Species

No critical habitat for listed species occurs within the Master Plan area. There are CNDDDB records and suitable habitat for the state-listed threatened Swainson's hawk and sensitive wildlife species including, coastal whiptail, Cooper's hawk, hoary bat, and American badger; as well as CNPS rare plants Plummer's mariposa-lily, Engelmann oak, and California black walnut within the Master Plan area.

This analysis of impacts of proposed projects to sensitive plant and wildlife species and their habitats and designated critical habitat is programmatic, within the Master Plan area pertaining to sensitive plant and wildlife species, their habitats, and designated critical habitat is programmatic and conservatively assumes that all species with critical habitat and/or CNDDDB records in the project area are present if determined highly likely to occur. The level of impact of proposed projects would be subject to verification at the project level of environmental review pursuant to CEQA. Wilds Loop Trail development project would be subject to the provisions of the federal ESA and California ESA as well as Sections 1900–1913, 3511, 4150, 4700, 5050, and 5515 of the State Fish and Game Code and Sections 80071–80075 of the State Food and Agriculture Code.

Therefore, several of the proposed projects could result in significant impacts to biological resources in regard to having a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. The consideration of mitigation measures would be required.

However, with proper consideration of these constrains, the Master Plan could be beneficial to biological resources as it could provide opportunities to better direct visitors to designated areas for use rather than permit disorganized use of the land without acknowledgement and protection of environmentally sensitive areas. Furthermore, the Master Plan could increase opportunities for management of non-native plant and animal species, potentially increasing suitable habitat for native plant and animal species. These opportunities are consistent with Descanso Gardens' mission and the goals established in Descanso Gardens Strategic Plan 2018–2020.

Riparian and State Sensitive Plant Communities

Approximately 3.963 acres of riparian habitat is present within the Master Plan area around The Lake that could potentially be converted or disturbed through associated construction activities as a result of the Master Plan. Under the Master Plan, The Lake would be relined and regraded to create shallow shelves for planting soil, wetland shelves installed along the western and eastern edges of

The Lake, a floating wetland would be installed immediately west of the bird observation station (Lakeside Lookout), and a marsh/riparian area would be installed along the southwestern edge of The Lake. The other proposed projects at The Lake include an improved boardwalk constructed and installed around and across The Lake, a new observation deck with ecological interpretive exhibits along the boardwalk circuit, and a water play area in the northwestern portion of The Lake. These construction activities have the potential to occur within the riparian communities around The Lake. Impacts associated with the disturbance of riparian habitats would include direct loss and fragmentation of riparian habitats as proposed projects are developed.

This analysis of impacts of projects at The Lake to riparian habitats for the proposed project is programmatic, and based on a the initial assessment of the riparian habitat during the fall and spring surveys. The level of impact of subsequent projects would be subject to verification at the project level of environmental review pursuant to CEQA. Development projects at The Lake would be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Therefore, the proposed project could result in significant impacts to biological resources in regard to having a substantial adverse effect on any sensitive natural communities identified in local or regional plans, policies, regulations, or by CDFW or USFWS. The consideration of mitigation measures would be required.

Protected Wetlands and Waterways

Approximately 2.23 acres of drainages and approximately 3.963 acres of riparian communities would potentially be converted or would be disturbed through construction activities as a result of the proposed projects. Through consultation with the County Department of Public works it was determined that the Winery Canyon Channel is classified as Waters of the United States and therefore subject to USACE jurisdiction, and The Lake is under CDFW jurisdiction. Construction activities associated with proposed projects at The Lake would likely include draining the existing feature, excavation, compaction, grading, and stabilization and revegetation. These construction activities have the potential to occur within and adjacent to state and federal wetlands and or Waters of the United States on-site. Impacts would include disruption of streams and wetlands as the new lake is developed. The proposed projects would be subject to the provisions of Section 404 of the federal CWA. Dredge or fill in Waters of the United States is subject to the regulatory authority of the USACE pursuant to Section 404 of the federal CWA. Trail development projects would also be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Therefore, the proposed project could result in significant impacts to biological resources in regard to having a substantial adverse effect on federally or state protected wetlands or Waters of the United States. The consideration of mitigation measures would be required.

Migratory Corridors and Nursery Sites

The project area is not within any recorded wildlife corridors; nor does it have any regional habitat linkages as determined by the County General Plan. However, nesting birds protected under the MBTA have the potential to be present throughout the Master Plan area. The Master Plan area also contains suitable roosting and foraging habitat for protected bat species.

Construction activities associated with many of the proposed projects would include heavy equipment (tractors, trucks, etc.). These construction activities have the potential to occur within areas used for native wildlife movement and within and adjacent to suitable nesting locations for native and migratory birds on-site. Impacts can occur by direct habitat removal, which would disrupt nesting birds or bat roosts. Wilds loop Impacts would include direct habitat removal that would disrupt nesting birds as the new trail project is developed, as well as introduction of lighting and noise during construction and operation that may interrupt wildlife movement and disturb nesting sites through the Master Plan area. Additionally, an increase in wildlife-human interactions as a result of the development of the new trail has the potential to increase wildlife injury.

This analysis of constraints of future projects to wildlife corridors and nursery sites is programmatic and conservatively assumes that wildlife movement areas and nesting birds may occur throughout the Master Plan area. The level of impact of subsequent projects would be subject to verification at the project level of environmental review pursuant to CEQA. Master Plan projects would be subject to the provisions of the MBTA.

Therefore, the proposed projects could result in significant impacts to biological resources in regard to interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impeding the use of native wildlife nursery sites. The consideration of mitigation measures would be required.

Oak and Native Woodlands

No state designated Southern Coast Live Oak Riparian Forest or Southern Cottonwood Willow Riparian Forest occurs within the Master Plan area. However, the Master Plan area does contain areas of Oak Woodland and protected heritage oak trees. These areas could potentially be disturbed through associated construction activities as a result of the proposed projects. Construction activities associated with the Wilds Loop trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within oak and other native woodlands on-site or within the dripline of individual oak or other native trees. Impacts associated with the disturbance of individual oaks and oak woodlands would include direct loss and fragmentation of woodlands as trails are developed, and the introduction of non-native plants that would degrade existing woodlands. If impacts are unavoidable, the Master Plan will be required to comply with the County Oak Tree Removal Permit application process should tree removal be necessary.

Therefore, the proposed project would result in significant impacts to biological resources in regard to converting oak woodlands or woodlands otherwise containing oak or other unique native trees. The consideration of mitigation measures would be required.

General Plans and Policies

The Master Plan area is not located within any Wildflower Reserve Areas or SERAs; therefore, it would not conflict with policies related to these designations. The Master Plan would not conflict with the County General Plan or the La Canada Flintridge General Plan policies directly related to biological resources. The Master Plan would not conflict with County Municipal Code Title 22, Section 22.56.215 – SEAs as the Master Plan area is not located within any SEAs.

The Master Plan should avoid impacts to biological resources related to conflicts with the County General Plan. Open space and other recreation facilities are required to be designed consistent with the County Trails Manual, which requires no net loss of habitat functions and values.³³ The application of the County Trails Manual to the Master Plan would accomplish the objectives within these plans of minimizing impacts to the natural environment.

The Master Plan should avoid the removal or disturbance of protected oak trees where feasible in order to comply with Municipal Code Sections 22.56.2050–22.56.2260 – Oak Tree Ordinance or the La Canada Flintridge Municipal Code. Should the removal of a protected tree be necessary the Master Plan shall be required to comply with the County Oak Tree Removal Permit application process.

The proposed project would not conflict with Municipal Code Sections 22.56.2050–22.56.2260 – Oak Tree Ordinance because proposed projects would be designed to avoid the removal or disturbance of any protected oak tree, and would be required to comply with the County Oak Tree Removal Permit application process and appropriate mitigation should tree removal be necessary.

Therefore, the proposed projects would result in no impacts in regard to conflicts with local policies or ordinances protecting biological resources, and no mitigation would be required.

Habitat Conservation Plans and Natural Community Conservation Plans

The proposed projects would result in no impacts to biological resources in regard to conflicting with the provisions of an adopted state, regional, or local habitat conservation plan. There are no HCPs or NCCPs with boundaries that intersect the Master Plan area. Therefore, the proposed project would result in no impacts related to conflicts with the provision of adopted state, regional, or local habitat conservation plans, and no mitigation would be required.

5.5 MITIGATION RECOMMENDATIONS

The following mitigation measures are recommended, as applicable, for ground-disturbing activities associated with construction and/or improvements within proposed project areas. These measures, with proper implementation, would serve to avoid, minimize, or substantially reduce impacts to biological resources.

Mitigation Measure BIO-1

To mitigate potential impacts on **listed, sensitive, and locally important species and their habitats**, the County shall require that a habitat assessment by a qualified biologist take place using approved USFWS and CDFW protocols to identify suitable habitat for any listed, sensitive, and locally important species on-site. Where suitable and/or occupied habitat is determined to be present, mitigation shall be implemented such that there is no net loss of habitat functions or values. Opportunities for achieving this performance standard, consistent with the provisions of the federal and California ESAs, may include:

³³ County of Los Angeles Department of Parks and Recreation. 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: <https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf>

- Demonstration that proposed projects, particularly The Wilds Loop trail, have been and will be designed, constructed, and maintained to avoid disturbance of any occupied habitat, potentially suitable habitat, and designated critical habitat for any listed, sensitive, or locally important species and to minimize impacts to native plant communities, wherever practicable and feasible.
- Consultation with USFWS and CDFW with regard to proposed project activities within suitable habitat for listed, sensitive, and locally important species.
- Implementation of pre-construction habitat surveys to delineate occupied or suitable sensitive species' habitat to facilitate avoidance.
- Formal consultation with the USFWS will be required if a species afforded protection pursuant to the federal ESA is determined to be present as a result of focused protocol surveys. Formal consultation with the CDFW will be required if a species afforded protection pursuant to the California ESA is determined to be present as a result of focused protocol surveys.
- Altering the timing of construction to avoid seasons when sensitive species may be present (i.e., nesting bird season).
- Worker Education and Awareness Program (WEAP Training) to inform all construction workers of their responsibilities in regard to avoiding and minimizing impacts on sensitive biological resources.
- Designation of suitable habitat as off-limits during construction on all construction drawings and diagrams.
- Use of fencing and/or flagging to delineate environmentally sensitive areas as off-limits during trail construction.
- Use of on-site monitors for periods when trail construction will be undertaken within 250 feet of environmentally sensitive areas.

Mitigation Measure BIO-2

To mitigate potential impacts on **riparian, state sensitive plant communities, state protected wetlands, and federally protected wetlands and Waters of the United States**, the County shall require that plant community mapping be conducted by a qualified biologist with experience classifying plant communities in Southern California and/or a formal jurisdictional delineation be conducted by a certified wetland delineator to identify any state or federally protected wetlands, riparian areas, and state sensitive plant communities on-site. Where state designated sensitive plant communities, riparian habitat, state or federally protected wetlands, or Waters of the United States are determined to be present, mitigation measures shall be implemented such that there is no net loss of habitat functions or values. Opportunities for achieving this performance standard, consistent with the provisions of Section 1600 of the State Fish and Game Code and Section 404 of the federal CWA, may include:

- Demonstration that proposed projects, particularly around the existing Lake and channels have been and will be designed, constructed, and maintained to avoid disturbance of any state-sensitive plant communities or riparian habitat, or any state or federally protected wetlands or Waters of the United States wherever practicable and feasible.
- Pre-construction habitat surveys to delineate sensitive plant communities and riparian habitats to facilitate avoidance.
- Consultation with CDFW with regard to proposed project activities within state sensitive plant communities.

- Use of on-site monitors for periods when construction will be undertaken within 250 feet of oak woodlands, native woodlands, and 100 feet of the dripline of native trees.
- Where temporary impacts may occur to sensitive plant communities, the development and implementation of a habitat enhancement and restoration plan shall be required.
- Where permanent impacts may occur to sensitive plant communities, compensatory mitigation such as purchasing credits at mitigation bank, purchasing off-site lands, or similar shall be required.
- Where impacts are located in areas subject to the jurisdiction of the CDFW pursuant to Section 1600 of the State Fish and Game Code, obtain a Streambed Alteration Agreement prior to commencing ground-disturbing activities or any other alternation of a lake or stream.
- Where impacts are located in areas subject to the jurisdiction of the USACE pursuant to Section 404 of the federal CWA, obtain authorization to complete the required work pursuant to a Nationwide or individual permit.
- Where impacts are subject to the jurisdiction of the Regional Water Quality Control Board (RWQCB), obtain a Waiver of Water Quality Certification or Notice of Applicability of Waste Discharge Requirement permit.

Mitigation Measure BIO-3

To avoid impacts to **nesting birds protected under the MBTA**, construction related to proposed projects should take place outside of the nesting bird season, which generally occurs between February 15 and September 1. If construction activities cannot avoid the nesting bird season, pre-construction nesting bird surveys shall be conducted by a qualified biologist a maximum of three days prior to the start of construction. Should nesting birds be discovered within or adjacent to the construction footprint during these surveys, a non-disturbance buffer shall be placed on the active nest as determined by the biologist to prevent impacts to nesting birds. Construction shall be halted within the non-disturbance buffer of 250 feet of songbirds and 500 feet for raptors until the biologist has determined that the young have fledged and are flying well enough to avoid the proposed construction activities. Additionally, if signs of stress are identified the biologist will halt activity in the immediate area until the birds resume their normal behavior or until the nest has been determined to no longer be active.

Mitigation Measure BIO-4

To mitigate potential impacts to **bat species** pre-construction surveys shall be conducted by a qualified biologist, including nighttime surveys, at least seven consecutive days prior to the start of project activities. If it is determined during the pre-activity surveys that the area (including oak woodland and riparian habitat) could be used as roost sites by bat species, consultation with CDFW should be done in order to identify and implement appropriate mitigation measures.

To avoid the direct loss of bats that could result from disturbance to trees or structures that may provide maternity roost habitat (e.g., in cavities or under loose bark) or structures that contain a hibernating bat colony, the following steps shall be taken:

- To the extent feasible, demolition or disturbance to suitable bat roosting habitat shall be scheduled between October 1 and February 28, outside of the maternity roosting season.
- If trees must be encroached during the maternity season (March 1 to September 30), or structures must be removed at any time of the year, a qualified bat specialist shall conduct a pre-construction survey to identify those trees or structures proposed for disturbance that could provide hibernacula or nursery colony roosting habitat for bats.
- Each tree or structure identified as potentially supporting an active maternity roost and each structure potentially supporting a hibernating colony shall be closely inspected by the bat specialist no greater than seven days prior to tree disturbance to more precisely determine the presence or absence of roosting bats.
- If bats are not detected, but the bat specialist determines that roosting bats may be present at any time of year, it is preferable to bring down trees or structures in a controlled manner using heavy machinery. In order to ensure the optimum warning for any roosting bats that may still be present, the trees or structures shall be nudged lightly two to three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. Trees or structures may then be pushed to the ground slowly under the supervision of a bat specialist. Felled trees shall remain in place until they are inspected by a bat specialist. Trees that are known to be bat roosts shall not be sown up or mulched immediately. A period of at least 48 hours shall elapse prior to such operations to allow bats to escape. Bats shall be allowed to escape prior to demolition of buildings. This may be accomplished by placing one-way exclusionary devices into areas where bats are entering a building that allow bats to exit but not enter the building.
- Maternity season lasts from March 1 to September 30. Trees or structures determined to be maternity roosts shall be left in place until the end of the maternity season. A structure containing a hibernating colony shall be left in place until a qualified biologist determines that the bats are no longer hibernating.

Mitigation Measure BIO-5

To mitigate potential impacts on **oak and other native woodlands**, the County shall require that for every protected tree that must be removed, the same species shall be replaced at a minimum of a 1:1 ratio. Compensatory mitigation for protected trees in the jurisdiction of the County may include replacement at a 3:1 ratio for trees with a diameter at breast height (DBH) of 8 inches or more at an appropriate mitigation site, and replacement at a 10:1 ratio for heritage oaks. Monitoring for at least one year would be required to meet success criteria. Environmentally Sensitive Area fencing shall be placed around the driplines or trunks of protected oak trees within and adjacent to the limits of disturbance such that no work shall occur within the protected area. This will provide full avoidance of direct impacts to oak trees protected by the County Oak Tree Ordinance.

To comply with the La Canada Flintridge Municipal Code; On private property, no native oak, sycamore, deodar cedar, (in the historic deodar district) tree with a trunk measuring 12 inches or more in diameter (as measured at a point 54 inches from the ground surface at the natural grade) shall be removed without a tree removal permit issued by the Planning Division of the Community

Development Department. Where a tree trunk is divided below 54 inches above grade, the diameter of all trunks (as measured 54 inches from the natural grade) shall be summed to determine tree diameter.

Mitigation Measure BIO-6

To mitigate potential impacts to Jurisdictional Resources if they cannot be avoided, the Master Plan shall apply for a Section 401 permit from the RWQCB and a 1602 Streambed Alteration Agreement from CDFW. These permits shall be obtained prior to approval of improvement plans; issuance of grading permits; and/or any clearing, grading, or excavation work on the Project site. The Master Plan shall ensure that the Project would result in no net loss of Waters of the State by providing mitigation through impact avoidance; impact minimization; and/or compensatory mitigation for the impact, as determined in the Streambed Alteration Agreement.

Compensatory mitigation may consist of:

- obtaining credits from a mitigation bank;
- making a payment to an in-lieu fee program that would conduct wetland, stream, or other aquatic resource restoration, creation, enhancement, or preservation activities (these programs are generally administered by government agencies or nonprofit organizations that have established an agreement with the regulatory agencies to use in-lieu fee payments collected from permit Applicants); and/or
- providing compensatory mitigation through an aquatic resource restoration, establishment, enhancement, and/or preservation activity.

This last type of compensatory mitigation may be provided at or adjacent to the impact site (i.e., on-site mitigation) or at another location, usually within the same watershed as the permitted impact (i.e., off-site mitigation).

The Master Plan retains responsibility for the implementation and success of the mitigation project. Evidence of secured permits shall be provided prior to approval of improvement plans; issuance of grading permits; and/or any clearing, grading, or excavation work on the project site.

Temporary construction staking or fencing shall be erected under the supervision of a qualified Biologist at or outside the edge of the impact areas where they interface with jurisdictional features. This fencing shall be erected prior to commencement of grading activities and shall demarcate areas where human and equipment access and disturbance from grading are prohibited. A qualified Biologist shall monitor all site preparation and grading activities near these interfaces during construction. Staging areas shall be restricted to approved impact areas only.

Level of Significance after Mitigation

Implementation of mitigation measures BIO-1 through BIO-6 would reduce impacts to biological resources related to a substantial adverse effect on listed, sensitive, and locally important species, riparian and state sensitive plant communities, federally protected wetlands and waterways, migratory corridors and nursery sites, and oak and native woodlands to below the level of significance.

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APPENDIX A
RESUMES OF KEY PERSONNEL

Jolene R Mason, MS, PhD

Sr. Biological Resources Specialist

PhD, Biology, University of
California, Los Angeles

Master of Science, Biology,
California State University,
Northridge

- Project management
- Restoration and monitoring
- Vegetation community identification and mapping
- Study design
- Survey methodology
- Data analysis

Years of Experience: 10

Relevant Experience

- Habitat restoration
- Endangered species surveys
- Endangered species relocation
- Endangered plant restoration and monitoring
- Invasive species management
- Vegetation mapping
- Construction monitoring
- Geographic information systems (GIS)

Dr. Jolene Mason, Senior Biological Resources Specialist for Sapphos Environmental, Inc., has 10 years of experience in the field of plant ecology. Her work has focused mostly on California ecosystems, with extensive experience in southern California. She has also conducted research internationally in the Mediterranean Basin and South America. Projects have included endangered plant restoration and monitoring, large-scale restoration and monitoring, invasive species management and mapping, vegetation community mapping, post-fire vegetation surveys, rare plant surveys, development and design of survey methods, and endangered species relocations. Dr. Mason has a strong research background with extensive experience in project design and statistical analysis.

At Sapphos Environmental, Inc. Dr. Mason has designed and implemented habitat restoration plans for wind and solar projects in the Antelope Valley, resulting in the documented recovery of native plant communities and the maintenance of regulatory environmental compliance for the client. Dr. Mason has led efforts on wetland delineations at Los Angeles International Airport (LAX) and on the California SR 710 expansion project. Prior to joining Sapphos Environmental, Inc., Dr. Mason worked for the National Park Service (NPS), Santa Monica Mountains National Recreation Area (SMMNRA) preparing recommendations for the U.S. Fish and Wildlife Service (USFWS) Recovery Plan for the state and federally endangered annual sunflower, *Pentachaeta lyonii*. She coordinated efforts for the NPS, USFWS, and California Department of Fish and Wildlife (CDFW) to implement the recovery plan and investigate causes of decline. She codesigned and conducted a restoration plan and multiyear monitoring of all known populations of the species. In 2005, Dr. Mason worked for the Mountains Restoration Trust (MRT) in Calabasas, California, as the project manager on the Upper Los Angeles River Project to increase groundwater recharge to the LA River Basin. Dr. Mason's publications and conference presentations include topics such as the effects of fire on vegetation recovery and plant community dynamics, restoration methods for rare plant recovery, plant invasion mechanisms and impacts, demographic and genetic differentiation of plant populations, and field survey methods. As a Sapphos Environmental, Inc. botanist, Dr. Mason works on a variety of southern California projects to conduct rare plant surveys and produce floral compendia for a diverse range of client needs.

Dr. Mason has held CDFW scientific collecting permits and performed endangered plant restoration (*P. lyonii*), endangered species relocations (arroyo toad), sensitive wildlife protocol surveys (desert tortoise), wetland delineations, and invasive species eradication. Dr. Mason has also evaluated ornamental tree health for the City of Temple City, authored restoration plans, and maintained National Environmental Policy Act / California Environmental Quality Act (NEPA/CEQA) environmental compliance for a variety of projects. Dr. Mason is a member of the California Native Plant Society, Southern California Botanists, California Invasive Plant Council, and Botanical Society of America.

Paulette E. Loubet, BA

Biological Resources Coordinator

Bachelor of Arts, Biology;
Sonoma State University,
Rohnert Park, CA, 2014

- Scientific Collecting
Permit SC 13660
- Vegetation community
assessments and mapping
- Federal and State
endangered species
surveys
- Construction monitoring

Years of Experience: 2.5

Relevant Experience

- Biological surveys
(wildlife and botanical) in
Southern California's
chaparral, coastal sage
scrub, riparian, mountain
and desert environments
- Nesting bird surveys in
Southern California
- Jurisdictional delineation

Ms. Paulette Loubet has two and a half years of professional experience conducting biological fieldwork as a Wildlife Biologist. Her work experience includes performance of protocol level surveys for special-status plants and wildlife; jurisdictional delineations for Waters of the U.S.; riparian habitat restoration; construction monitoring for environmental compliance; technical report writing and development of management plans regarding survey findings.

Prior to joining Sapphos Environmental, Inc., Ms. Loubet performed surveys and documented biological resources in support of various Southern California Edison (SCE) infrastructure projects throughout southern California. These projects involved construction monitoring and surveys; including those for nesting birds, plant communities, rare plants, and special status wildlife species. As a Wildlife Biologist for SCE's Transition Line Rating Remediation (TLRR), Ms. Loubet conducted focused biological resource surveys for special status plants and animals including; Desert Tortoise (*Gopherus Agassizii*) and Mojave fringe-toed lizard (*Uma scoparia*), burrowing owl (*Athene cunicularia*), as well as conducting habitat assessments, waters/wetland delineations, vegetation mapping and technical reporting in support of SCE's TLRR Licensing Project (transmission line rebuild). The project spanned five individual transmission and sub-transmission projects within SCE service territory which collectively was approximately 600 miles throughout the Mojave Desert, Antelope Valley, Owens Valley, and the White Mountains, California.

Ms Loubet's other recent project experiences include invasive plant removal efforts within red-legged frog (*Rana draytonii*) and steelhead trout (*Oncorhynchus mykiss*) habitat in Ventura County and various Initial Study Biological Assessments (ISBA). The ISBA's were conducted for various development projects in Ventura County, California and included vegetation mapping, an inventory flora, assessment of habitat suitability for potential special-status species and wildlife movement, mapping of any sensitive biological resources, special status plant species survey, wetland and waters delineation and determination, and record observations of plant and wildlife species. Additionally, Ms. Loubet wrote the reports corresponding to the surveys conducted.

Ms Loubet currently holds a California State Collecting Permit for Fairview, San Gabriel and Kings River slender salamanders, coastal whiptail, San Bernardino ringneck snake, western pond turtle, Mount Pino chipmunk and San Joaquin pocket mouse. Ms. Loubet has also completed PCB/ PSEP Wipe Sampling Training for determination and disposal of materials containing Polychlorinated Biphenyls (PCB).

Malek S. Al-Marayati, MS

Biological Resources Coordinator

BS, Marine Biology; California
State University, Northridge,
Northridge, CA

- Habitat restoration
- NAUI SCUBA divemaster
- Data analysis
- Water quality testing
- Technical report writing

Years of Experience: 2

Relevant Experience

Mr. Malek Al-Marayati, Biological Resources Coordinator at Sapphos Environmental, Inc., has two years of experience in the field of wildlife biology, including project management, agency coordination, data analysis, plant surveys, water quality testing, habitat assessments, and technical report writing.

At Sapphos Environmental, Inc., Mr. Al-Marayati has conducted data analyses and literature reviews for federally and state listed endangered species in support of Southern California Gas Company projects in central and southern California. Protocol analyses for desert tortoise, Mohave ground squirrel, California condor, and arroyo toad in Southern California constitute Mr. Al-Marayati's recent project experiences.

Prior to Sapphos Environmental, Inc., Mr. Al-Marayati conducted field surveys and genetic analyses for endemic populations of red seaweed across Eastern and Western Atlantic coastlines. This position involved project design and execution, grant writing, population mapping, collection of samples from intertidal habitats, gene characterization, and statistical analyses. Mr. Al-Marayati also acquired a scientific collecting permit for seaweed samples in the state of Maine for his thesis titled "Spatial genetic structure of the red alga, *Mastocarpus stellatus*."

Mr. Al-Marayati has conducted wildlife surveying and habitat analysis across different settings including Maine intertidal habitats, Caribbean coral reefs, central California tidepools, and southern California kelp forests, deserts, and lakes. Fieldwork in these areas has included transect surveys, species transplant analyses, and habitat restoration. Mr. Al-Marayati spent two years developing his scientific writing and project management skills through coursework and graduate thesis work for his master's degree at California State University, Northridge.

Mr. Al-Marayati has volunteered as a member of the SCUBA dive team at the California Science Center, where he participated in animal husbandry and SCUBA dive show presentations. He also participated in a habitat restoration effort to save eelgrass populations in Newport Bay, CA. Mr. Al-Marayati is a member of the Sherman Oaks Garden Club, Descanso Gardens, Natural History Museum of Los Angeles, Aquarium of the Pacific, California Science Center, CSU Council on Ocean Affairs, Science & Technology, and CSUN Associated Students, Inc.

APPENDIX B
CNDDDB, CNPS, USFWS SPECIES LISTS

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
Plants				
marsh sandwort	<i>Arenaria paludicola</i>	FE, SE, 1B.1	Coastal scrub, valley and foothill grassland. Sandy soils. 15–1,015 meters (m) above mean sea level (MSL).	None. There is no suitable habitat for this species within the Master Plan area.
Braunton's milk-vetch	<i>Astragalus brauntonii</i>	FE, CRPR: 1B.1	Chaparral, closed-cone coniferous forest, coastal scrub, limestone, valley and foothill grassland; often in recent burned or disturbed areas; usually in sandstone soil with carbonate layers; occurs between 4 and 640 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
Ventura marsh milk-vetch	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	FE, SE, 1B.1	Marshes and swamps, coastal dunes, coastal scrub. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs. Occurs from 1 to 35 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Nevin's barberry	<i>Berberis nevinii</i>	FE, SE, 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub, in sandy or gravelly soils; occurs 274–825 m above MSL.	Low. CNDDDB records for this species exist within 1.5 miles of the master plan area, however the Master Plan area is outside of the elevation range for this species.
San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	FC, SE, 1B.1	Coastal scrub in sandy soil, valley and foothill grassland; occurs 150–1,220 m above MSL.	Low. All CNDDDB records for this species within the 9-quad searches are possibly extirpated.
slender-horned spineflower	<i>Dodecahema leptoceras</i>	Fe, 1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes; associates include <i>Encelia</i> , <i>Dalea</i> , <i>Lepidospartum</i> , etc. Usually in sandy soils between 200 and 765 m above MSL.	None. The Master Plan area is outside of the elevation range for this species.
Gambel's water cress	<i>Nasturtium gambelii</i>	FE, ST, 1B.1	Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. 5–305 m.	None. There is no suitable habitat for this species within the Master Plan area.
Parish's oxytheca	<i>Acanthoscyphus parishii</i> var. <i>parishii</i>	4.2	Chaparral, lower montane coniferous forest. Sandy or gravelly places between 1,220 and 2,600 m above MSL.	Low. CNPS records for this species exist within Mt. Wilson quad of the Master Plan area which contains some suitable habitat within the upper elevations.
San Gabriel manzanita	<i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i>	1B.2	Chaparral. Rocky outcrops; can be dominant shrub where it occurs, between 960 and 2,015 m above MSL.	Low. CNDDDB and CNPS records for this species occur mostly within the San Gabriel Mountains.
interior manzanita	<i>Arctostaphylos parryana</i> ssp. <i>tumescens</i>	4.3	Chaparral, cismontane woodland. Montane chaparral or foothill woodland between 2,100 and 2,310 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
western spleenwort	<i>Asplenium vespertinum</i>	4.2	Chaparral, cismontane woodland, coastal scrub. Rocky sites between 180 and 1,000 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
Parish's brittlescale	<i>Atriplex parishii</i>	1B.1	Vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils. 5–1,420 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Davidson's saltscale	<i>Atriplex serenana</i> var. <i>davidsonii</i>	1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil between 0 and 480 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area and is outside the elevation range for this species.
Catalina mariposa lily	<i>Calochortus catalinae</i>	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; occurs between 15 and 700 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
slender mariposa-lily	<i>Calochortus clavatus</i> var. <i>gracilis</i>	1B.2	Chaparral, coastal scrub, valley and foothill grassland. Shaded foothill canyons; often on grassy slopes within other habitat. 210–1,815 m above MSL.	Low. The Master Plan area contains some suitable habitat for this species; however, the closest CNDDDB records are over 6 miles away within the Verdugo hills.
Palmer's mariposa-lily	<i>Calochortus palmeri</i> var. <i>palmeri</i>	1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernal moist places in yellow-pine forest, chaparral. 195–2,530 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Plummer's mariposa-lily	<i>Calochortus plummerae</i>	4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60–2,500 m above MSL.	High. CNDDDB records from 2009 occur within the Master Plan area which contains suitable habitat for this species.
alkali mariposa-lily	<i>Calochortus striatus</i>	1B.2	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps. Alkaline meadows and ephemeral washes. 70–1,600m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
intermediate mariposa-lily	<i>Calochortus weedii</i> var. <i>intermedius</i>	1B.2	Coastal scrub, chaparral, valley and foothill grassland. Dry, rocky calcareous slopes and rock outcrops between 60 and 1,575 m above MSL.	None. The Master Plan area does not contain suitable soil requirements for this species.
lucky morning-glory	<i>Calystegia felix</i>	1B.1	Meadows and seeps, riparian scrub. Sometimes alkaline, alluvial between 9 and 205 m	Low. The Master Plan area is outside of the elevation range for this species.
Lewis' evening-primrose	<i>Camissoniopsis lewisii</i>	3	Valley and foothill grassland, coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub. Sandy or clay soil between 0 and 300 m above MSL.	None. There is no suitable habitat for this species exist within the Master Plan area.
Mt. Gleason paintbrush	<i>Castilleja gleasoni</i>	1B.2	Lower montane coniferous forest, chaparral, pinyon and juniper woodland. On open flats or slopes in granitic soil. Restricted to the San Gabriel Mountains between 975 and 1,950 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area and is outside the elevation range for this species.

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
Mojave paintbrush	<i>Castilleja plagiotoma</i>	4.3	Great Basin scrub, pinyon and juniper woodland, Joshua tree woodland, lower montane coniferous forest. Alluvial fans between 300 and 2,500 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
southern tarplant	<i>Centromadia parryi</i> ssp. <i>australis</i>	1B.1	Marshes and swamps (margins), valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins between 0 and 975 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area and is outside the elevation range for this species.
smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places between 5 and 1,170 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	1B.1	Sandy or rocky openings, chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; occurs 902–4,003 feet (ft) above MSL.	Low. The Master Plan area contains suitable habitat for this species however, CNDDDB records within the vicinity are historic.
California saw-grass	<i>Cladium californicum</i>	2B.2	Meadows and seeps, marshes and swamps (alkaline or freshwater). Freshwater or alkaline moist habitats between 20 and 2,135 m.	None. There is no suitable habitat for this species within the Master Plan area.
monkey-flower savory	<i>Clinopodium mimuloides</i>	4.2	North coast coniferous forest, chaparral Streambanks, mesic sites. 305–1,800 m.	None. There is no suitable habitat for this species within the Master Plan area.
small-flowered morning-glory	<i>Convolvulus simulans</i>	4.2	Clay soils and serpentinite seeps; chaparral (openings), coastal scrub, valley and foothill grassland; occurs between 30 and 700 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
Peruvian dodder	<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	2B.2	Marshes and swamps (freshwater). Freshwater marsh between 15 and 280 m.	None. There is no suitable habitat for this species within the Master Plan area.
Johnston's monkeyflower	<i>Diplacus johnstonii</i>	4.3	Lower montane coniferous forest. On scree, in rocky or gravelly sites. Also in disturbed areas between 975 and 2,920 m.	None. There is no suitable habitat for this species within the Master Plan area.
many-stemmed dudleya	<i>Dudleya multicaulis</i>	1B.2	Chaparral, coastal scrub, valley and foothill grassland, often clay; occurs between 50 and 790 meters above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
Palomar monkeyflower	<i>Erythranthe diffusa</i>	4.3	Chaparral, lower montane coniferous forest. Sandy or gravelly soils between 1,220 and 1,830 m.	Low. The Master Plan area contains some suitable habitat however closest CNPS records are within the Chilao Flat quad located in the San Gabriel Mountains.
pine green-gentian	<i>Frasera neglecta</i>	4.3	Lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest. Dry, open woodlands between 1,400 and 2,500 m.	None. There is no suitable habitat for this species within the Master Plan area.
San Antonio Canyon bedstraw	<i>Galium angustifolium</i> ssp. <i>gabrielense</i>	4.3	Chaparral, lower montane coniferous forest. Dry rocky or sandy granitic slopes and ridges, occurs between 1,200 and ,2650 m	None. There is no suitable habitat for this species within the Master Plan area.
San Gabriel bedstraw	<i>Galium grande</i>	1B.2	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest; occurs between 425 and 1,500 m above MSL.	Low. The Master Plan area contains some suitable habitat however closest CNDDDB records are within in the San Gabriel Mountains.
Jepson's bedstraw	<i>Galium jepsonii</i>	4.3	Upper montane coniferous forest, lower montane coniferous forest. On granite; gravelly hillsides and slopes between 1,540 and 2,500 m.	None. There is no suitable habitat for this species within the Master Plan area.
Johnston's bedstraw	<i>Galium johnstonii</i>	4.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland, riparian woodland. Open, mixed forest between 1,650 and 2,300 m.	Low. The Master Plan area is outside of the elevation range for this species.
Los Angeles sunflower	<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	1A	Freshwater marsh, marsh and swamp, salt marsh, wetlands; occurs between 10 and 1,675 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
vernal barley	<i>Hordeum intercedens</i>	3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools; occurs between 5 and 1,000 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
mesa horkelia	<i>Horkelia cuneata</i> var. <i>puberula</i>	1B.1	Chaparral, cismontane woodland, coastal shrub; occurs between 70 and 810 m above MSL.	Low. CNDDDB records for this species within and in vicinity of the Master Plan area are Extirpated; however, it does contain some suitable habitat.
San Gabriel Mountains sunflower	<i>Hulsea vestita</i> ssp. <i>gabrielensis</i>	4.3	Lower montane coniferous forest, upper montane coniferous forest. Rocky sites. 1,500–2,500 m.	None. There is no suitable habitat for this species within the Master Plan area.
California satintail	<i>Imperata brevifolia</i>	2B.1	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. Occurs between 3-1495 above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Southern California black walnut	<i>Juglans californica</i>	4.2	Chaparral, coastal dunes, coastal scrub, marshes and swamps (coastal salt), found in sandy sometimes rocky soils; occurs between 5 and 300 m above MSL.	Very High. This species was observed by SEI biologists within the fenced portion of the Master Plan area.
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1–1,375 m.	None. There is no suitable habitat for this species within the Master Plan area.
San Gabriel Mountains sunflower	<i>Hulsea vestita</i> ssp. <i>gabrielensis</i>	4.3	Lower montane coniferous forest, upper montane coniferous forest. Rocky sites occurs between 1,500 and 2,500 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
fragrant pitcher sage	<i>Lepechinia fragrans</i>	4.2	Chaparral; occurs between 20 and 1,310 m above MSL.	Moderate. Habitat is present within the Master Plan area.

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
Robinson's pepper-grass	<i>Lepidium virginicum</i> var. <i>robinsonii</i>	4.3	Chaparral, coastal scrub. Dry soils, shrubland; occurs between 4 and 1,435 m above MSL.	Low. Some habitat is present within the Master Plan area; however, the closest records are 5 miles away and more than 25 years old.
ocellated Humboldt lily	<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	4.2	Found in openings; chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland; occurs between 30 and 1,800 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
San Gabriel linanthus	<i>Linanthus concinnus</i>	1B.2	Lower montane coniferous forest, upper montane coniferous forest, chaparral. Dry rocky slopes, often in Jeffrey pine/canyon oak forest occurs between 1,310 and 2,560 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Orcutt's linanthus	<i>Linanthus orcuttii</i>	1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Sometimes in disturbed areas; often in gravelly clearings, occurs between 915 and 2,145 m above MSL.	Low. CNPS records are Presumed Extirpated or Unknown near the Master Plan area.
Peirson's lupine	<i>Lupinus peirsonii</i>	1B.3	Joshua tree woodland, pinyon and juniper woodland, lower montane coniferous forest, upper montane coniferous forest. Decomposed granite slide and talus, on slopes and ridges; occurs between 1,400 and 2,380 m.	None. There is no suitable habitat for this species within the Master Plan area.
Davidson's bush-mallow	<i>Malacothamnus davidsonii</i>	1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland; occurs 185 to 855 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
gray monardella	<i>Monardella australis</i> ssp. <i>cinerea</i>	4.3	Lower montane coniferous forest, upper montane coniferous forest, subalpine coniferous forest between 1,800 and 3,050 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
California muhly	<i>Muhlenbergia californica</i>	4.3	Coastal scrub, chaparral, lower montane coniferous forest, meadows and seeps. Usually found near streams or seeps between 100 and 2,000 m above MSL.	Low. CNDDDB records within 5 miles of the Master Plan area are historic (1890)
prostrate vernal pool navarretia	<i>Navarretia prostrata</i>	1B.1	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites between 3 and 1235 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
short-joint beavertail	<i>Opuntia basilaris</i> var. <i>brachyclada</i>	1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodlands, riparian woodland; occurs 425–1,800 m above MSL.	Low. CNDDDB records are mostly located north of the San Gabriel Mountains.
Rock Creek broomrape	<i>Orobanche valida</i> ssp. <i>valida</i>	1B.2	Chaparral, pinyon-juniper woodland. On slopes of loose decomposed granite; parasitic on various chaparral shrubs. 1,250–2,000 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Hubby's phacelia	<i>Phacelia hubbyi</i>	4.2	Chaparral, coastal scrub, valley and foothill grassland in gravelly, rocky, and talus soils; occurs between 0 and 1,000 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species.
Mojave phacelia	<i>Phacelia mohavensis</i>	4.3	Sandy or gravelly soil. Cismontane woodland, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland; occurs 1,400–2,500 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Brand's star phacelia	<i>Phacelia stellaris</i>	1B.1	Upper montane coniferous forest between 1,795 and 2,135 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
woolly chaparral-pea	<i>Pickeringia montana</i> var. <i>tomentosa</i>	4.3	Chaparral. Gabbroic or granitic substrates; usually clay. Occurs between 0 and 1,700 m above MSL.	None. The Master Plan area does not contain suitable soils for this species.
white rabbit-tobacco	<i>Pseudognaphalium leucocephalum</i>	2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35–515 m above MSL.	Moderate. CNPS records for this species exist within 10 miles of the Master Plan area which contains suitable habitat.
San Gabriel oak	<i>Quercus durata</i> var. <i>gabrielensis</i>	4.2	Chaparral, cismontane woodland between 450 and 1,000 m above MSL	Low. The Master Plan area is outside of the elevation range for this species.
Engelmann oak	<i>Quercus engelmannii</i>	4.2	Cismontane woodland, chaparral, riparian woodland, valley and foothill grassland.	High. This species was observed within the Master Plan area (in 2017 and 2018) by research grade and verified iNaturalist observers.
Parish's gooseberry	<i>Ribes divaricatum</i> var. <i>parishii</i>	1A	Riparian woodland and Salix swales in riparian habitats; occurs between 65 and 300 m.	None. There is no suitable habitat for this species within the Master Plan area.
Coulter's matilija poppy	<i>Romneya coulteri</i>	4.2	Coastal scrub, chaparral. In washes and on slopes; also after burns between 20 and 1,200 m.	Low. This species was observed within the Master Plan area but has been planted. Does not usually occur locally.
Parish's rupertia	<i>Rupertia rigida</i>	4.3	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland between 425 and 2,000 m above MSL.	Moderate. CNPS records for this species exist within the immediate vicinity of the Master Plan area which contains suitable habitat.
southern mountains skullcap	<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland between 425 and 2,000 m above MSL.	Low. CNDDDB Records for this species occurs over 10 miles from the Master Plan area.
chaparral ragwort	<i>Senecio aphanactis</i>	2B.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline soils; occurs between 15 and 800 m above MSL.	Low. The Master Plan area is outside of the elevation range for this species
salt spring checkerbloom	<i>Sidalcea neomexicana</i>	2B.2	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes between 3 and 2,380 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
chickweed oxytheca	<i>Sidotheca caryophylloides</i>	4.3	Lower montane coniferous forest. Sandy sites between 1,115 and 2,600 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
western bristly scaleseed	<i>Spermolepis lateriflora</i>	2A	Sonoran Desert scrub. Rocky or sandy between 365 and 670 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area.
Greata's aster	<i>Symphyotrichum greatae</i>	1B.3	Occurs in chaparral, broadleaf upland forest, cismontane woodland, lower montane coniferous forest, and riparian woodland on mesic soils; occurs 300 to 2,010 m above MSL.	Low. Extant CNDDDB records for this species within 3 miles of the Master Plan area occur within the San Gabriel Mountains.
Sonoran maiden fern	<i>Thelypteris puberula</i> var. <i>sonorensis</i>	2B.2	Meadows and seeps. Along streams, seepage areas between 60 and 930 m above MSL.	Low. Some suitable habitat exists for this species; however, the Master Plan area is outside of the elevation range for this species
Invertebrates				
Crotch bumble bee	<i>Bombus crotchii</i>	CSA	Warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Low. CNDDDB records for this species within 3 miles of the Master Plan area, which may contain suitable habitat, are more than 25 years old.
desert cuckoo wasp	<i>Ceratochrysis longimala</i>	CSA	No description available; record from Hungry Valley, 5 miles south of Gorman.	Unknown. Species habitat description is unknown.
Fish				
Santa Ana sucker	<i>Catostomus santaanae</i>	FT	Aquatic, south coast flowing waters; clear cool ponds, creeks, small to medium rivers with generally coarse substrates; benthic, freshwater.	None. There is no suitable habitat for this species within the Master Plan area.
arroyo chub	<i>Gila orcuttii</i>	SSC, FSS	Aquatic, south coast flowing waters; freshwater; benthic; headwaters, creeks, intermittent streams, small to medium rivers; spawns in stream pools; diet primarily aquatic invertebrates.	None. There is no suitable habitat for this species within the Master Plan area
Santa Ana speckled dace	<i>Rhinichthys osculus</i> ssp. 3	SSC, FSS	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17–20 degrees Celsius. Usually inhabits shallow cobble and gravel riffles.	None. There is no suitable habitat for this species within the Master Plan area.
Amphibians				
arroyo toad	<i>Anaxyrus californicus</i>	FE	Desert wash, riparian scrub, riparian woodland, south coast flowing waters, south coast standing waters; mating and egg-laying at shallow stream margins from March to July; adults require overflow pools adjacent to the inflow channel of third- to greater-order streams that are free of predatory fishes in which to breed; occurs between 0 and 900 m above MSL.	None. There is no suitable habitat for this species within the Master Plan area and are out of range for the species.
Coast Range newt	<i>Taricha torosa</i>	SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow-moving streams.	None. There is no suitable habitat for this species within the Master Plan area. Some suitable upland and breeding habitat exist within the Master Plan area.
southern mountain yellow-legged frog	<i>Rana muscosa</i>	FE, SE	Aquatic; eggs usually laid in shallow water attached to gravel or rocks; associated with streams lakes and ponds in montane riparian habitat; occurs between 370 and 2,290 m above MSL.	Low. Master Plan area does not contain suitable mountain riparian habitat. CNDDDB records for this species exist within the San Gabriel Mountains however none of these tributaries connect or flows through the area.
California legless lizard	<i>Anniella</i> sp.	SSC	Contra Costa County south to San Diego, within a variety of open habitats. This element represents California records of <i>Anniella</i> not yet assigned to new species within the <i>Anniella pulchra</i> complex. Variety of habitats; generally, in moist, loose soil. They prefer soils with a high moisture content.	Moderate. Only CNDDDB record for <i>Aniella stebbinsis</i> exists within the Master Plan area and is from 1942.
southern California legless lizard	<i>Anniella stebbinsi</i>	SSC, FSS	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Moderate. CNDDDB records for this species exist within the master plan area, and within the immediate vicinity of the Master Plan area. Suitable habitat for this species exists within the Master Plan area.
California glossy snake	<i>Arizona elegans occidentalis</i>	SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Low. CNDDDB records for this species are over 3 miles away from the Master Plan area.
coastal whiptail	<i>Aspidoscelis tigris stejnegeri</i>	SSC	Occurs in habitats that are primarily hot and dry open areas with sparse foliage. Found in chaparral, woodland, and riparian areas.	Very high. Research grade and verified iNaturalist records document this species has been observed four times within the Master Plan area, as recently as September 2018.
western pond turtle	<i>Emys marmorata</i>	BLM_S, SSC, FSS	Aquatic, artificial flowing waters, marsh and swamp, south coast flowing waters, south coast standing waters, wetland; habitat includes permanent and intermittent waters of rivers, creeks, small lakes and ponds, man-made stock ponds and sewage-treatment ponds; nesting sites on sandy banks and bars, in fields, or sunny spots up to a few hundred feet from water.	None. Closest CNDDDB records for this species have been extirpated.
coast horned lizard	<i>Phrynosoma blainvillii</i>	BLM_S, SSC	Found in a variety of vegetation types, including coastal scrub, coastal bluff scrub, valley and foothill grassland, chaparral, cismontane woodland, pinyon and juniper woodlands, riparian scrub, riparian woodland and desert wash; in inland areas, this species is restricted to areas with	None. There is no suitable habitat for this species within the Master Plan area.

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
			pockets of open microhabitat, created by disturbance.	
two-striped garter snake	<i>Thamnophis hammondi</i>	BLM_S, SSC, FSS	Marsh and swamp, riparian scrub, riparian woodland, wetland; generally found in or near permanent fresh water, often along streams with rocky beds bordered by willows and other riparian vegetation, including mountain slopes and desert oases; requires dense riparian vegetation; burrowing in or using soil.	None. There is no suitable habitat for this species within the Master Plan area.
Birds				
Swainson's hawk	<i>Buteo swainsoni</i>	ST	Riparian, cropland/hedgerow, desert, grassland/herbaceous, savanna, mixed woodland; may be found in grasslands and other open habitats in winter and migration.	Very High. Species observed during fall site surveys in 2018. CNDDDB records for this species exist within 10 miles of the project area, which contains suitable nesting and foraging habitat.
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT, SE	Riparian forest; dense riparian understory important for nest site selection; cottonwood trees important foraging habitat; nests in dense trees, shrubs, vines.	None. There is no suitable habitat for this species within the Master Plan area.
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE, SE	Riparian woodland; breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs; habitat patches must be at least 0.25 acre in size and at least 30 feet wide.	None. No suitable habitat for this species exists within the Master Plan area. CNDDDB record within Master Plan area is historic and exact location of record is not known and has been mapped in general area of Pasadena.
California condor	<i>Gymnogyps californianus</i>	FE, SE	Chaparral, coniferous forests, and oak savannah in Southern and Central California.	Low to None. No CNDDDB records for this species exist within 10 miles of the Master Plan area, which contains suitable foraging habitat.
coastal California gnatcatcher	<i>Polioptila californica californica</i>	FT	Coastal bluff scrub, coastal scrub; dry coastal slopes, washes, and mesas; cone-shaped nests built in shrubs; areas of low plant growth (about 1 m high); strongly associated with sage scrub; generally avoids crossing unsuitable habitat.	Low to None. Some marginally suitable habitat exists within the Master Plan area, however there are no CNDDDB records for this species within 6 miles and the master plan area is mostly isolated by highways and urban sprawl.
bank swallow	<i>Riparia riparia</i>	ST	Riparian scrub, riparian woodland; nests in steep sand, dirt, or gravel banks, in burrows dug near the top of the bank, along the edge of inland water, along coast, in gravel pits, or road embankments; diet primarily flying insects.	None. There is no suitable habitat for this species within the Master Plan area.
least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, SE	Riparian forest, riparian scrub, riparian woodland; forages exclusively in riparian habitats primarily on insects; dense riparian understory shrubbery required for nesting; nests usually 1 m off ground.	Low. CNDDDB records for this species exist within 1.5 miles of the Master Plan area, however the master plan area does not contain suitable habitat.
burrowing owl	<i>Athene cunicularia</i>	BLM_S, SSC, BCC	Found in open grasslands, agricultural and range lands, and desert habitats and often are associated with burrowing animals, specifically the California ground squirrel; can also inhabit grass, forbs, and shrub stages of pinyon and ponderosa pine habitats.	None. Topography of Master Plan area is not suitable for this species. CNDDDB record within 3 miles is historic.
Cooper's hawk	<i>Accipiter cooperii</i>	CSA	Cismontane woodland, riparian forest, riparian woodland, upper montane coniferous forest, urban areas; nests in tall trees; usually builds new nest on horizontal limb near trunk or in crotch, 20–59 feet above ground; may use virtually all habitats for foraging.	Very High. This species has been observed and documented twice (in 2010 and 2017) by research grade and verified iNaturalist observers.
southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	CDFW_WL	Shrubland/chaparral, coastal sage dominated by sagebrush, coastal bluff scrub. Nests on the ground or low in the branches of trees or shrubs.	Moderate. CNDDDB records for this species exist within 10 miles of the Master Plan area, which contains suitable habitat.
yellow rail	<i>Coturnicops noveboracensis</i>	SSC, FSS, BCC	Summer resident in Freshwater marshlands. Occurs in the eastern Sierra Nevadas in Mono County.	None. There is no suitable habitat for this species within the Master Plan area.
black swift	<i>Cypseloides niger</i>	SSC, BCC	Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	None. There is no suitable habitat for this species within Master Plan area.
American peregrine falcon	<i>Falco peregrinus anatum</i>	CDFW_FP, BCC	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Low. There is no suitable habitat for this species within the Master Plan area, may forage overhead.
Mammals				
pallid bat	<i>Antrozous pallidus</i>	BLM_S, SSC, FSS, WBWG_H	Occurs throughout the American west; chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley and foothill grassland; roosts in rock crevices, caves, mineshafts, under bridges, in buildings, and within hollow trees; consumes insects and other invertebrates; roosts in small colonies of 10 to 100 and emerges late at night to forage on the ground.	Moderate. CNDDDB records for this species exist within the immediate vicinity of the Master Plan area.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	BLM_S, SSC, FSS, WBWG_H	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Prefers rock crevices in cliffs or caves for roosting.	Moderate. No suitable roosting habitat but may forage within the Master Plan area.

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Master Plan Area
western mastiff bat	<i>Eumops perotis californicus</i>	BLM_S, SSC, WBWG_H	Found in the southwestern United States, generally away from human development; this species can utilize a variety of habitat types including chaparral, oak woodland, pine forests, agricultural areas, and desert washes; roosts primarily in vertical rock crevices on cliffs; common in open habitats when foraging.	Low. The Master Plan area is surrounded by development and does not contain any roosting habitat.
silver-haired bat	<i>Lasionycteris noctivagans</i>	WBWG_M	Primarily a coastal and montane forest dweller, feeding over streams, ponds & open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	Moderate. The Master Plan area contains suitable habitat for this species.
hoary bat	<i>Lasiurus cinereus</i>	SSC, WBWG_M	Forages over a wide range of habitats but prefers open habitats with access to trees for roosting, and water. Primarily roosts in trees and foliage. Ranges throughout most of California.	Very high. This species has been observed within the Master Plan area, which contains suitable habitat.
western yellow bat	<i>Lasiurus xanthinus</i>	SSC, WBWG_H	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Low. The Master Plan area contains some suitable habitat for this species.
western red bat	<i>Lasiurus blossevillii</i>	SSC, WBWG_H	Roosts primarily in trees, 2–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Moderate. The Master Plan area contains suitable habitat for this species.
San Diego black-tailed jackrabbit	<i>Lepus californicus bennettii</i>	SSC	Coastal scrub; open country with scattered thickets or patches of shrubs. Rests by day in shallow depression.	Low. The closest CNDDDB records for this species occur more than 9 miles from the Master Plan area, which may contain suitable habitat.
south coast marsh vole	<i>Microtus californicus stephensi</i>	SSC	Tidal marshes in Los Angeles, Orange and southern Ventura Counties.	None. There is no suitable habitat for this species exist within the Master Plan area.
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	SSC	Coastal scrub; sagebrush scrub; chaparral; often associated with large cactus patches; also found in rocky outcroppings and boulder hillsides within chaparral and oak woodland habitats.	Low. CNDDDB records for this species exist within 10 miles of the Master Plan area. No patches of cactus were observed within Master Plan area.
big free-tailed bat	<i>Nyctinomops macrotis</i>	SSC, WBWG_MH	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	Moderate. The Master Plan area contains suitable foraging habitat for this species, but no suitable roosting sites.
southern grasshopper mouse	<i>Onychomys torridus ramona</i>	SSC	Chenopod scrub; consumes soft-bodied insects including cutworms and grasshoppers; lives in arid habitats but requires no open water sources; the species forages under and within shrubs and crosses open areas.	Low. CNDDDB records for this species exist within the immediate vicinity of the project area, however, the record is historic.
American badger	<i>Taxidea taxus</i>	SSC	Found in arid, open habitats, particularly grasslands, savannahs, mountain meadows, and desert scrub openings; needs friable soils for digging and open, uncultivated ground; occurs at low to moderate slopes; has been associated with Joshua tree woodland and pinyon-juniper habitats.	Very high. This species has been observed within the Master Plan area, which contains suitable habitat.
<p>KEY: FE = federal endangered; FT = federal threatened; SE = State endangered; SR = State Rare; ST = State threatened; BCC = USFWS Bird of Conservation Concern; BLM_S = BLM designated Sensitive; FSS = Forest Service Sensitive SSC = CDFW Species of Special Concern; WBWG_LM-Low-Medium Priority; WBWG_M= Western Bat Work Group Medium Priority; WBWG_H= Western Bat Work Group High Priority; m = meter; MSL = mean sea level</p> <p><i>California Native Plant Society: California Rare Plant Rank (CRPR):</i> 1A = Plants Presumed Extinct in California; 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution.</p> <p><i>Threat Rank:</i> 0.1: Seriously endangered in California. 0.2: Fairly endangered in California. 0.3: Not very endangered in California</p> <p>SOURCE: California Department of Fish and Wildlife. 2018. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.</p> <p>NOTE: * California Special Animal (CSA) is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. The Department of Fish and Wildlife considers the taxa on this list to be those of greatest conservation need. For those species with statuses identified by USFWS and/or CDFW, the status is noted. Those species included on the list due to identification by other governmental agencies and/or non-governmental conservation organizations are listed as CSA.</p>				

APPENDIX C
FLORAL AND FAUNAL COMPENDIUM

Common Name	Scientific Name	Special Status Designation	Observation Source (SEI, iNat, or Desc)	Date Observed (most recent)
Plants				
Arroyo Willow	<i>Salix lasiolepis</i>	none	iNat	6/2/2018
Artichoke Thistle	<i>Cynara cardunculus flavescens</i>	none	iNat	5/16/2018
Baby Blue Eyes	<i>Nemophila menziesii</i>	none	iNat	4/17/2017
Baby blue-eyes	<i>Nemophila menziesii</i>	none	SEI	4/17/2019
Beavertail Cactus	<i>Opuntia basilaris</i>	none	iNat	4/16/2017
Bermuda buttercup	<i>Oxalis pes-caprae</i>	none	SEI	4/17/2019
Big heron bill	<i>Erodium botrys</i>	none	SEI	4/17/2019
Birchleaf Mountain Mahogany	<i>Cercocarpus betuloides</i>	none	SEI, iNat	11/28/2018
Bird's-eye Gilia	<i>Gilia tricolor</i>	none	iNat	6/2/2018
Black mustard	<i>Brassica nigra</i>	none	SEI	4/17/2019
Black sage	<i>Salvia mellifera</i>	none	SEI	4/17/2019
Bladderpod	<i>Peritoma arborea</i>	none	iNat	6/2/2018
Blue Daisy	<i>Felicia amelloides</i>	none	iNat	5/20/2018
Blue dicks	<i>Dichelostemma capitatum</i>	none	SEI	4/17/2019
Blue Elder	<i>Sambucus cerulea</i>	none	SEI, iNat	11/28/2018
Blue elderberry	<i>Sambucus nigra, ssp. caerulea</i>	none	SEI	4/17/2019
Blue Gum Eucalyptus	<i>Eucalyptus globulus</i>	none	SEI	11/28/2018
Bluehead Gilia	<i>Gilia capitata</i>	none	iNat	6/2/2018
Blunt leaved lupine	<i>Lupinus truncatus</i>	none	SEI	4/17/2019
Broad-leaved Cattail	<i>Typha latifolia</i>	none	iNat	11/3/2017
Bush penstemon	<i>Keckiella cordifolia</i>	none	SEI	4/17/2019
California ash	<i>Fraxinus dipetala</i>	none	SEI	4/17/2019
California Bay	<i>Umbellularia californica</i>	none	SEI, iNat	11/28/2018
California brittlebush	<i>Encelia californica</i>	none	SEI	4/17/2019
California Buckeye	<i>Aesculus californica</i>	none	iNat	9/16/2018
California buckwheat	<i>Eriogonum fasciculatum</i>	none	SEI	4/17/2019
California cottonrose	<i>Logfia filaginoides</i>	none	SEI	4/17/2019
California Flannelbush	<i>Fremontodendron californicum</i>	none	iNat	4/17/2017
California Mugwort	<i>Artemisia douglasiana</i>	none	SEI, iNat	11/28/2018
California Poppy	<i>Eschscholzia californica</i>	none	iNat	6/2/2018
California sagebrush	<i>Artemisia californica</i>	none	SEI	4/17/2019
California Scrub Oak	<i>Quercus berberidifolia</i>	none	iNat	4/17/2017
California wild grape	<i>Vitis californica</i>	none	SEI	4/17/2019
California Wild Rose	<i>Rosa californica</i>	none	iNat	6/2/2018
Canary Island St. John's Wort	<i>Hypericum canariense</i>	none	iNat	6/2/2018
Canyon Dudleya	<i>Dudleya cymosa ssp. cymosa</i>	none	SEI	11/28/2018
Catchweed Bedstraw	<i>Galium aparine</i>	none	iNat	3/25/2016
Caterpillar phacelia	<i>Phacelia ramosissima</i>	none	SEI	4/17/2019
Chalk Dudleya	<i>Dudleya pulverulenta</i>	none	iNat	4/16/2017
Chamise	<i>Adenostoma fasciculatum</i>	none	SEI	4/17/2019

Common Name	Scientific Name	Special Status Designation	Observation Source (SEI, iNat, or Desc)	Date Observed (most recent)
Chaparral currant	<i>Ribes malvaceum</i>	none	SEI	4/17/2019
Chaparral yucca	<i>Hesperoyucca whipplei</i>	none	SEI	4/17/2019
Chaparral Yucca	<i>Hesperoyucca whipplei</i>	none	SEI	11/28/2018
Cherry-plum	<i>Prunus cerasifera</i>	none	iNat	4/15/2017
Chia	<i>Salvia columbariae</i>	none	SEI	4/17/2019
Chilicothe	<i>Marah macrocarpa</i>	none	SEI	4/17/2019
Cleveland Sage	<i>Salvia clevelandii</i>	none	iNat	6/15/2018
Cliff aster	<i>Malcothrix saxatilis</i>	none	SEI	4/17/2019
Coast Cholla	<i>Cylindropuntia prolifera</i>	none	iNat	6/2/2018
Coast live oak	<i>Quercus agrifolia</i>	none	SEI	4/17/2019
Cobweb thistle	<i>Cirsium occidentale</i>	none	SEI	4/17/2019
Common chickweed	<i>Stellaria media</i>	none	SEI	4/17/2019
Common Daisy	<i>Bellis perennis</i>	none	iNat	4/17/2017
Common fiddleneck	<i>Amsinckia menziesii</i>	none	SEI	4/17/2019
Common Lilac	<i>Syringa vulgaris</i>	none	iNat	5/6/2018
Common Stork's-bill	<i>Erodium cicutarium</i>	none	SEI, iNat	11/28/2018
Common Yarrow	<i>Achillea millefolium</i>	none	iNat	6/2/2018
Corn Speedwell	<i>Veronica arvensis</i>	none	iNat	4/17/2017
Coyote brush	<i>Baccharis pilularis</i>	none	SEI	4/17/2019
Creeping Wild Rye	<i>Leymus triticoides</i>	none	iNat	6/2/2018
De La Mina Verbena	<i>Verbena lilacina</i>	none	iNat	5/16/2018
Deergrass	<i>Muhlenbergia rigens</i>	none	iNat	7/13/2018
Deerweed	<i>Acmispon glaber</i>	none	SEI	4/17/2019
Desert Marigold	<i>Baileya multiradiata</i>	none	iNat	4/16/2017
Dodder	<i>Cuscuta spp.</i>	none	SEI	4/17/2019
Elegant Clarkia	<i>Clarkia unguiculata</i>	none	iNat	6/2/2018
Engelmann Oak	<i>Quercus engelmannii</i>	none	iNat	4/17/2017
English Ivy	<i>Hedera helix</i>	none	SEI	11/28/2018
Foothill needle grass	<i>Stipa lepida</i>	none	SEI	4/17/2019
Foothill Needle Grass	<i>Nassella lepida</i>	none	iNat	6/2/2018
Foxtail Brome	<i>Bromus rubens</i>	none	iNat	6/2/2018
Fragrant Sumac	<i>Rhus aromatica</i>	none	iNat	3/25/2016
Garden Catmint	<i>Nepeta racemosa</i>	none	iNat	5/16/2018
Goldback fern	<i>Pentagramma triangularis</i>	none	SEI	4/17/2019
Golden currant	<i>Ribes aureum</i>	none	SEI	4/17/2019
Golden Yarrow	<i>Eriophyllum confertiflorum</i>	none	iNat	6/2/2018
Goldentop Grass	<i>Lamarckia aurea</i>	none	iNat	4/17/2017
Goose grass	<i>Galium aparine</i>	none	SEI	4/17/2019
Greater periwinkle	<i>Vinca major</i>	none	SEI	4/17/2019
Greenbark Ceanothus	<i>Ceanothus spinosus</i>	none	iNat	6/2/2018
Gum tree	<i>Eucalyptus spp.</i>	none	SEI	4/17/2019
Hairy rockrose	<i>Cistus incanus</i>	none	SEI	4/17/2019
Hairy Vetch	<i>Vicia villosa</i>	none	iNat	4/27/2018
Herb Robert	<i>Geranium robertianum</i>	none	iNat	4/17/2017
Hoaryloaf ceanothus	<i>Ceanothus crassifolius</i>	none	SEI	4/17/2019
Hollyhock	<i>Alcea rosea</i>	none	iNat	7/14/2018
Holly-leafed cherry	<i>Prunus ilicifolia</i>	none	SEI	4/17/2019
Honey Mesquite	<i>Prosopis glandulosa</i>	none	iNat	4/16/2017
Horehound	<i>Marrubium vulgare</i>	none	SEI	4/17/2019

Common Name	Scientific Name	Special Status Designation	Observation Source (SEI, iNat, or Desc)	Date Observed (most recent)
Hummingbird Sage	<i>Salvia spathacea</i>	none	iNat	5/16/2018
Ironwood	<i>Lyonothamnus floribundus</i>	none	iNat	6/2/2018
Italian Thistle	<i>Carduus pycnocephalus</i>	none	iNat	6/2/2018
Jade	<i>Crassula ovata</i>	none	SEI	11/28/2018
Laurel sumac	<i>Malosma laurina</i>	none	SEI	4/17/2019
Lemonade berry	<i>Rhus integrifolia</i>	none	SEI	4/17/2019
Little California melica	<i>Melica imperfecta</i>	none	SEI	4/17/2019
lotus	<i>Acmispon americanus</i>	none	SEI	4/17/2019
Love-in-a-mist	<i>Nigella damascena</i>	none	iNat	6/18/2018
Malta starthistle	<i>Centaurea melitensis</i>	none	SEI	4/17/2019
Maltese Star-thistle	<i>Centaurea melitensis</i>	none	iNat	6/2/2018
Mediterranean Stork's-bill	<i>Erodium botrys</i>	none	iNat	6/2/2018
Mexican Feather Grass	<i>Nassella tenuissima</i>	none	SEI	11/28/2018
Miner's lettuce	<i>Claytonia perfoliata</i>	none	SEI	4/17/2019
Miniature lupine	<i>Lupinus bicolor</i>	none	SEI	4/17/2019
Miniature Suncup	<i>Camissoniopsis micrantha</i>	none	iNat	6/2/2018
Morning glory	<i>Calystegia macrostegia</i>	none	SEI	4/17/2019
Mountain mahogany	<i>Cercocarpus betuloides</i>	none	SEI	4/17/2019
Mule fat	<i>Baccharis salicifolia</i>	none	SEI	4/17/2019
Mustard evening primrose	<i>Eulobus californicus</i>	none	SEI	4/17/2019
Olive tree	<i>Olea europaea</i>	none	SEI	4/17/2019
Pacific Poison Oak	<i>Toxicodendron diversilobum</i>	none	SEI, iNat	11/28/2018
Poison oak	<i>Toxicodendron diversilobum</i>	none	SEI	4/17/2019
Popcorn flower	<i>Cryptantha</i> spp.	none	SEI	4/17/2019
Popcorn flower	<i>Plagiobothrys</i> spp.	none	SEI	4/17/2019
Pretty Spurge	<i>Euphorbia peplus</i>	none	iNat	6/2/2018
Pride of Madeira	<i>Echium candicans</i>	none	iNat	5/20/2018
Purple Foxglove	<i>Digitalis purpurea</i>	none	iNat	4/15/2017
Purple Nightshade	<i>Solanum xanti</i>	none	iNat	6/2/2018
Redstem filaree	<i>Erodium cicutarium</i>	none	SEI	4/17/2019
Ripgut Brome	<i>Bromus diandrus</i>	none	iNat	6/2/2018
Sawtooth goldenbush	<i>Hazardia squarrosa</i>	none	SEI	4/17/2019
Scarlet Burglar	<i>Penstemon centranthifolius</i>	none	iNat	6/2/2018
Scarlet pimpernel	<i>Anagallis arvensis</i>	none	SEI	4/17/2019
Scarlet Pimpernel	<i>Lysimachia arvensis</i>	none	iNat	6/2/2018
Scrub oak	<i>Q. berberidifolia/dumosa</i>	none	SEI	4/17/2019
Slender wooly marbles	<i>Psilocarphus tenellus</i>	none	SEI	4/17/2019
Small evening primrose	<i>Camissoniopsis micrantha</i>	none	SEI	4/17/2019
Smooth cat's-ear	<i>Hypochaeris glabra</i>	none	SEI	4/17/2019
Sourclover	<i>Melilotus indicus</i>	none	SEI	4/17/2019
Southern Bush Monkeyflower	<i>Diplacus longiflorus</i>	none	iNat	6/2/2018
Spanish Broom	<i>Spartium junceum</i>	none	iNat	4/16/2018

Common Name	Scientific Name	Special Status Designation	Observation Source (SEI, iNat, or Desc)	Date Observed (most recent)
Spotted eucrypta	<i>Eucrypta chrysanthemifolia</i>	none	SEI	4/17/2019
St. John's wort	<i>Hypericum canariense</i>	none	SEI	4/17/2019
Sticky monkey flower	<i>Mimulus aurantiacus</i>	none	SEI	4/17/2019
Strigose lotus	<i>Acmispon strigosus</i>	none	SEI	4/17/2019
Sugar Bush	<i>Rhus ovata</i>	none	SEI, iNat	11/28/2018
Tall Flatsedge	<i>Cyperus eragrostis</i>	none	iNat	6/15/2018
Telegraphweed	<i>Heterotheca grandiflora</i>	none	iNat	6/2/2018
Toyon	<i>Heteromeles arbutifolia</i>	none	SEI	4/17/2019
Tree Tobacco	<i>Nicotiana glauca</i>	none	SEI	11/28/2018
Two-color rabbit-tobacco	<i>Pseudognaphalium biolettii</i>	none	SEI	4/17/2019
Wavy-leafed Soap Plant	<i>Chlorogalum pomeridianum</i>	none	iNat	6/2/2018
Western Blue-eyed Grass	<i>Sisyrinchium bellum</i>	none	iNat	6/3/2018
Western Redbud	<i>Cercis occidentalis</i>	none	iNat	4/17/2017
Western Sycamore	<i>Platanus racemosa</i>	none	iNat	6/2/2018
Western Vervain	<i>Verbena lasiostachys</i>	none	iNat	6/2/2018
Whispering bells	<i>Emmananthe penduliflora</i>	none	SEI	4/17/2019
White Horehound	<i>Marrubium vulgare</i>	none	iNat	6/2/2018
White Sage	<i>Salvia apiana</i>	none	iNat	7/13/2018
Wild Canterbury bells	<i>Phacelia minor</i>	none	SEI	4/17/2019
Windmill pink	<i>Silene gallica</i>	none	SEI	4/17/2019
Winecup Clarkia	<i>Clarkia purpurea</i>	none	iNat	6/2/2018
Wishbone bush	<i>Mirabilis laevis</i>	none	SEI	4/17/2019
Woolly Bush	<i>Adenanthos sericeus</i>	none	iNat	5/16/2018
Wright's cudweed	<i>Pseudognaphalium canescens</i>	none	SEI	4/17/2019
Yellow Star Thistle	<i>Centaurea solstitialis</i>	none	SEI	11/28/2018
Fungi				
Blewit	<i>Lepista nuda</i>	none	iNat	1/3/2018
Chip Cherries	<i>Leratiomyces ceres</i>	none	iNat	3/24/2018
Honey Mushroom	<i>Armillaria mellea</i>	none	iNat	1/5/2017
Stubble Rosegill	<i>Volvopluteus gloiocephalus</i>	none	iNat	1/7/2018
Western Jack-o'-lantern Mushroom	<i>Omphalotus olivascens</i>	none	iNat	1/7/2018
Invertebrates				
Argentine Ant	<i>Linepithema humile</i>	none	iNat	6/2/2018
Arizona Mantis	<i>Stagmomantis limbata</i>	none	iNat	1/3/2018
Asian Lady Beetle	<i>Harmonia axyridis</i>	none	iNat	6/13/2015
Beaked Twig Gall Wasp	<i>Disholcaspis plumbella</i>	none	iNat	7/21/2017
Bee Killer	<i>Mallophora faultrix</i>	none	iNat	8/15/2018
Blue Dasher	<i>Pachydiplax longipennis</i>	none	iNat	7/22/2018
Brown Widow	<i>Latrodectus geometricus</i>	none	iNat	8/30/2017
Cabbage White	<i>Pieris rapae</i>	none	iNat	6/25/2018
California Broad-necked Darkling Beetle	<i>Coelocnemis californica</i>	none	iNat	4/6/2017
California Carpenter Bee	<i>Xylocopa californica</i>	none	iNat	3/5/2014

Common Name	Scientific Name	Special Status Designation	Observation Source (SEI, iNat, or Desc)	Date Observed (most recent)
California Chaparral Katydid	<i>Platylyra californica</i>	none	iNat	6/28/2018
California Harvester Ant	<i>Pogonomyrmex californicus</i>	none	iNat	6/2/2018
California Sister	<i>Adelpha californica</i>	none	iNat	2/18/2018
California Spreadwing	<i>Archilestes californicus</i>	none	iNat	8/15/2018
California Trapdoor Spider	<i>Bothriocyrtum californicum</i>	none	iNat	6/2/2018
Checkered White	<i>Pontia protodice</i>	none	iNat	10/5/2017
Cloudless Sulphur	<i>Phoebis sennae</i>	none	iNat	10/17/2018
Common Buckeye	<i>Junonia coenia</i>	none	iNat	10/7/2018
Common Pill Woodlouse	<i>Armadillidium vulgare</i>	none	iNat	6/2/2018
Convergent Lady Beetle	<i>Hippodamia convergens</i>	none	iNat	6/2/2018
Cross Orbweaver	<i>Araneus diadematus</i>	none	iNat	3/28/2018
Crystalline Gall Wasp	<i>Andricus crystallinus</i>	none	iNat	7/25/2017
Dapper Hopper	<i>Melanoplus yarrowii</i>	none	iNat	10/29/2017
Darkling Beetle	<i>Eleodes acuticauda</i>	none	iNat	3/9/2018
Diabolical Ironclad Beetle	<i>Phloeodes diabolicus</i>	none	iNat	6/2/2018
Draparnaud's Glass-snail	<i>Oxychilus draparnaudi</i>	none	iNat	3/25/2016
Eufala Skipper	<i>Lerodea eufala</i>	none	iNat	7/1/2017
Fiery Skipper	<i>Hylephila phyleus</i>	none	iNat	8/15/2018
Flame Skimmer	<i>Libellula saturata</i>	none	iNat	8/15/2018
Flower Longhorn Beetle	<i>Judolia sexspilota</i>	none	iNat	6/22/2018
Fontana Grasshopper	<i>Trimerotropis fontana</i>	none	iNat	8/4/2018
Funereal Duskywing	<i>Erynnis funeralis</i>	none	iNat	9/23/2018
Fuzzy Gall Wasp	<i>Disholcaspis washingtonensis</i>	none	iNat	3/19/2018
Garden Snail	<i>Cornu aspersum</i>	none	iNat	5/1/2018
Golden Paper Wasp	<i>Polistes aurifer</i>	none	iNat	9/4/2018
Gray Bird Grasshopper	<i>Schistocerca nitens</i>	none	iNat	8/15/2018
Gray Hairstreak	<i>Strymon melinus</i>	none	iNat	7/1/2017
Green Fig Beetle	<i>Cotinis mutabilis</i>	none	iNat	9/3/2018
Green Lynx Spider	<i>Peucetia viridans</i>	none	iNat	8/2/2018
Gulf Fritillary	<i>Agraulis vanillae</i>	none	iNat	9/23/2018
Harlequin Bug	<i>Murgantia histrionica</i>	none	iNat	1/3/2018
Harvester Ant	<i>Pogonomyrmex subnitidus</i>	none	iNat	4/7/2018
Jumping Spider	<i>Sassacus vitis</i>	none	iNat	9/23/2018
Live Oak Apple Gall Wasp	<i>Callirhytis quercuspomiformis</i>	none	iNat	6/2/2018
Lorquin's Admiral	<i>Limenitis lorquini</i>	none	iNat	8/29/2017
Margined Calligrapher	<i>Toxomerus marginatus</i>	none	iNat	11/4/2018
Marine Blue	<i>Leptotes marina</i>	none	iNat	11/4/2018
Megachile Bee	<i>Megachile polycaris</i>	none	iNat	8/15/2018
Milky Slug	<i>Deroceras reticulatum</i>	none	iNat	3/25/2016
Monarch	<i>Danaus plexippus</i>	none	iNat	11/5/2018
Mountain Carpenter Bee	<i>Xylocopa tabaniformis orpifex</i>	none	iNat	8/15/2018
Mournful Duskywing	<i>Erynnis tristis</i>	none	iNat	2/18/2018
Mourning Cloak	<i>Nymphalis antiopa</i>	none	iNat	7/9/2018
Mule Fat Blister Mite	<i>Aceria baccharices</i>	none	iNat	6/3/2018

Common Name	Scientific Name	Special Status Designation	Observation Source (SEI, iNat, or Desc)	Date Observed (most recent)
Oleander Aphid	<i>Aphis nerii</i>	none	iNat	4/16/2018
Pacific Coast Tick	<i>Dermacentor occidentalis</i>	none	iNat	3/25/2016
Pacific Forktail	<i>Ischnura cervula</i>	none	iNat	8/29/2017
Painted Lady	<i>Vanessa cardui</i>	none	iNat	8/29/2017
Pale Swallowtail	<i>Papilio eurymedon</i>	none	iNat	3/31/2018
Red Admiral	<i>Vanessa atalanta</i>	none	iNat	5/28/2017
Red Swamp Crayfish	<i>Procambarus clarkii</i>	none	iNat	9/23/2017
Ribbed Grass-snail	<i>Vallonia costata</i>	none	iNat	3/25/2016
Rounded Snail	<i>Discus rotundatus</i>	none	iNat	3/25/2016
Rusty Tussock Moth	<i>Orgyia antiqua</i>	none	iNat	5/18/2018
Sara Orangetip	<i>Anthocharis sara</i>	none	iNat	4/16/2017
Spined Turban Gall Wasp	<i>Cynips douglasii</i>	none	iNat	7/25/2017
Spotted Orbweaver	<i>Neoscona crucifera</i>	none	iNat	8/31/2017
Ten-lined June Beetle	<i>Polyphylla decemlineata</i>	none	iNat	6/14/2018
Umber Skipper	<i>Poanes melane</i>	none	iNat	7/9/2018
Valley Carpenter Bee	<i>Xylocopa varipuncta</i>	none	iNat	10/10/2016
Velvety Tree Ant	<i>Liometopum occidentale</i>	none	iNat	4/29/2018
Vivid Dancer	<i>Argia vivida</i>	none	iNat	9/23/2018
Western Black Widow	<i>Latrodectus hesperus</i>	none	iNat	9/17/2018
Western Boxelder Bug	<i>Boisea rubrolineata</i>	none	iNat	3/18/2015
Western Honey Bee	<i>Apis mellifera</i>	none	iNat	11/4/2018
Western Pondhawk	<i>Erythemis collocata</i>	none	iNat	6/17/2017
Western Tiger Swallowtail	<i>Papilio rutulus</i>	none	iNat	4/10/2018
Western Tussock Moth	<i>Orgyia vetusta</i>	none	iNat	4/9/2017
Western Yellowjacket	<i>Vespa pennsylvanica</i>	none	iNat	11/4/2018
White-lined Sphinx Moth	<i>Hyles lineata</i>	none	iNat	2/19/2017
Woodland Skipper	<i>Ochlodes sylvanoides</i>	none	iNat	9/22/2017
Yellow Garden Spider	<i>Argiope aurantia</i>	none	iNat	10/7/2018
Yellow-faced Bumble Bee	<i>Bombus vosnesenskii</i>	none	iNat	7/18/2017
Yellow-legged Mud-dauber Wasp	<i>Sceliphron caementarium</i>	none	iNat	7/1/2017
Fish				
European Carp	<i>Cyprinus carpio</i>	none	iNat	6/29/2016
Largemouth bass	<i>Micropterus salmoides</i>	none	SEI	11/27/2018
Amphibians				
American Bullfrog	<i>Lithobates catesbeianus</i>	none	iNat	8/5/2018
Reptiles				
California Striped Racer	<i>Masticophis lateralis lateralis</i>	none	iNat	4/17/2018
Coastal Whiptail	<i>Aspidoscelis tigris stejnegeri</i>	SSC	iNat	7/22/2018
Common Side-blotched Lizard	<i>Uta stansburiana</i>	none	SEI, iNat	11/28/2018
Common Slider	<i>Trachemys scripta</i>	none	iNat	10/17/2018
Gopher Snake	<i>Pituophis catenifer</i>	none	iNat	10/2/2018
Great Basin Fence Lizard	<i>Sceloporus occidentalis longipes</i>	none	iNat	6/2/2018
Red-eared Slider	<i>Trachemys scripta elegans</i>	none	SEI, iNat	11/27/2018

Common Name	Scientific Name	Special Status Designation	Observation Source (SEI, iNat, or Desc)	Date Observed (most recent)
San Diego Gopher Snake	<i>Pituophis catenifer annectens</i>	none	iNat	3/25/2016
Southern Alligator Lizard	<i>Elgaria multicarinata</i>	none	iNat	6/2/2018
Southern Pacific Rattlesnake	<i>Crotalus oreganus helleri</i>	none	iNat	9/29/2018
Spiny Softshell Turtle	<i>Apalone spinifera</i>	none	iNat	5/10/2018
Western Fence Lizard	<i>Sceloporus occidentalis</i>	none	SEI, iNat	11/28/2018
Western Rattlesnake	<i>Crotalus oreganus</i>	none	iNat	6/10/2010
Western Whiptail	<i>Aspidoscelis tigris</i>	none	iNat	7/13/2018
Birds				
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	none	SEI, iNat	4/19/2019
Allen's Hummingbird	<i>Selasphorus sasin</i>	none	SEI, iNat	4/17/2019
Allen's Hummingbird	<i>Selasphorus sasin</i>	none	iNat	6/4/2018
American Bushtit	<i>Psaltriparus minimus</i>	none	SEI	4/18/2019
American Coot	<i>Fulica americana</i>	none	iNat	2/16/2018
American Crow	<i>Corvus brachyrhynchos</i>	none	SEI, iNat	11/29/2018
American Robin	<i>Turdus migratorius</i>	none	iNat	11/10/2018
American Wigeon	<i>Mareca americana</i>	none	iNat	11/10/2017
Anna's Hummingbird	<i>Calypte anna</i>	none	SEI, iNat	4/17/2019
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	none	iNat	5/4/2018
Audubon's Warbler	<i>Setophaga coronata auduboni</i>	none	iNat	11/10/2017
Band-tailed Pigeon	<i>Patagioenas fasciata</i>	none	SEI, iNat	11/27/2018
Belted Kingfisher	<i>Megaceryle alcyon</i>	none	SEI, iNat	11/29/2018
Bewick's Wren	<i>Thryomanes bewickii</i>	none	SEI, iNat	11/29/2018
Black Phoebe	<i>Sayornis nigricans</i>	none	SEI, iNat	11/27/2018
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	none	iNat	5/31/2017
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	none	iNat	5/22/2018
Black-throated Blue Warbler	<i>Setophaga caerulescens</i>	none	iNat	11/4/2016
Black-throated Gray Warbler	<i>Setophaga nigrescens</i>	none	iNat	4/5/2017
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	none	SEI, iNat	7/22/2018
Bushtit	<i>Psaltriparus minimus</i>	none	SEI	4/17/2019
California Quail	<i>Callipepla californica</i>	none	SEI, iNat	11/28/2018
California Scrub-Jay	<i>Aphelocoma californica</i>	none	SEI, iNat	11/28/2018
California Thrasher	<i>Toxostoma redivivum</i>	none	SEI, iNat	11/29/2018
California Towhee	<i>Melospiza crissalis</i>	none	SEI, iNat	11/29/2018
Canada Goose	<i>Branta canadensis</i>	none	iNat	4/16/2017
Cassin's Kingbird	<i>Tyrannus vociferans</i>	none	SEI, iNat	11/28/2018
Common Raven	<i>Corvus corax</i>	none	SEI, iNat	5/5/2018
Common Yellowthroat	<i>Geothlypis trichas</i>	none	iNat	1/25/2017
Cooper's Hawk	<i>Accipiter cooperii</i>	WL	iNat	7/13/2017
Dark-eyed Junco	<i>Junco hyemalis</i>	none	SEI, iNat	11/29/2018
Domestic Goose	<i>Anser anser domesticus</i>	none	iNat	6/15/2018
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	WL	iNat	3/9/2018
Gambel's White-crowned Sparrow	<i>Zonotrichia leucophrys gambelii</i>	none	iNat	1/7/2018
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	none	SEI, iNat	11/28/2018
Great Blue Heron	<i>Ardea herodias</i>	none	iNat	10/7/2018
Great Egret	<i>Ardea alba</i>	none	iNat	10/7/2018

Common Name	Scientific Name	Special Status Designation	Observation Source (SEI, iNat, or Desc)	Date Observed (most recent)
Green Heron	<i>Butorides virescens</i>	none	SEI, iNat	11/27/2018
Hermit Thrush	<i>Catharus guttatus</i>	none	SEI, iNat	11/29/2018
Hooded Merganser	<i>Lophodytes cucullatus</i>	none	SEI, iNat	11/27/2018
Hooded Oriole	<i>Icterus cucullatus</i>	none	iNat	6/25/2018
House Finch	<i>Haemorhous mexicanus</i>	none	SEI, iNat	11/28/2018
Lesser Goldfinch	<i>Spinus psaltria</i>	none	SEI, iNat	11/28/2018
MacGillivray's warbler	<i>Geothlypis tolmiei</i>	none	SEI	4/17/2019
Mallard	<i>Anas platyrhynchos</i>	none	SEI, iNat	11/27/2018
Mandarin Duck	<i>Aix galericulata</i>	none	iNat	10/6/2014
Mourning Dove	<i>Zenaida macroura</i>	none	iNat	6/8/2018
Northern Flicker	<i>Colaptes auratus</i>	none	SEI	11/29/2018
Northern Mockingbird	<i>Mimus polyglottos</i>	none	SEI, iNat	7/13/2018
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	none	SEI, iNat	3/24/2018
Northern Shoveler	<i>Spatula clypeata</i>	none	iNat	1/30/2018
Nothern Mockingbird	<i>Mimus polyglottos</i>	none	SEI	11/27/2018
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	none	SEI, iNat	11/28/2018
Oak Titmouse	<i>Baeolophus inornatus</i>	BCC	SEI, iNat	11/29/2018
Orange-crowned Warbler	<i>Oreothlypis celata</i>	none	SEI	4/17/2019
Oregon Junco [oreganus]	<i>Junco hyemalis oregonus</i>	none	iNat	11/10/2017
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>	none	iNat	3/31/2018
Phainopepla	<i>Phainopepla nitens</i>	none	iNat	6/2/2018
red shouldered hawk	<i>Buteo lineatus</i>	none	SEI	4/17/2019
Red-tailed Hawk	<i>Buteo jamaicensis</i>	none	SEI, iNat	11/28/2018
Ring-necked Duck	<i>Aythya collaris</i>	none	iNat	1/30/2018
Ruby-crowned Kinglet	<i>Regulus calendula</i>	none	SEI, iNat	11/29/2018
Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>	WL	Marcus England*	4/1/2019
Sharp-shinned Hawk	<i>Accipiter striatus</i>	WL	SEI	11/27/2018
Snowy Egret	<i>Egretta thula</i>	none	iNat	9/3/2018
Song Sparrow	<i>Melospiza melodia</i>	none	iNat	7/9/2018
Spotted Sandpiper	<i>Actitis macularius</i>	none	iNat	5/5/2018
Spotted Towhee	<i>Pipilo maculatus</i>	none	SEI, iNat	11/27/2018
Swainson's Hawk	<i>Buteo swainsoni</i>	none	SEI	11/28/2018
Townsend's Warbler	<i>Setophaga townsendi</i>	none	iNat	3/4/2018
Tree Sallow	<i>Tachycineta bicolor</i>	none	SEI	4/17/2019
Turkey Vulture	<i>Cathartes aura</i>	none	iNat	9/22/2017
Warbling Vireo	<i>Vireo gilvus</i>	none	SEI, iNat	11/28/2018
Western Bluebird	<i>Sialia mexicana</i>	none	SEI, iNat	11/27/2018
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	none	SEI, iNat	11/28/2018
White-throated Sparrow	<i>Zonotrichia albicollis</i>	none	iNat	3/14/2013
White-throated Swift	<i>Aeronautes saxatalis</i>	none	SEI	4/17/2019
Wilson's Warbler	<i>Cardellina pusilla</i>	none	iNat	5/23/2018
Wood Duck	<i>Aix sponsa</i>	none	SEI, iNat	11/27/2018
wren tit	<i>Chamaea fasciata</i>	none	SEI	4/17/2019
Yellow-rumped Warbler	<i>Setophaga coronata</i>	none	SEI, iNat	11/29/2018
Mammals				
American Black Bear	<i>Ursus americanus</i>	none	iNat	6/2/2018
Big-eared Woodrat	<i>Neotoma macrotis</i>	none	SEI, iNat	11/29/2018
Bobcat	<i>Lynx rufus</i>	none	SEI	11/28/2018

Common Name	Scientific Name	Special Status Designation	Observation Source (SEI, iNat, or Desc)	Date Observed (most recent)
brush rabbit	<i>Sylvilagus bachmani</i>	none	SEI	11/27/2018
California Ground Squirrel	<i>Otospermophilus beecheyi</i>	none	SEI, iNat	11/27/2018
California Mule Deer	<i>Odocoileus hemionus californicus</i>	none	iNat	11/12/2018
Coyote	<i>Canis latrans</i>	none	SEI, iNat	11/29/2018
Desert Cottontail	<i>Sylvilagus audubonii</i>	none	iNat	7/14/2018
Fox Squirrel	<i>Sciurus niger</i>	none	SEI, iNat	11/27/2018
Mule Deer	<i>Odocoileus hemionus</i>	none	iNat	11/29/2018
Western Gray Squirrel	<i>Sciurus griseus</i>	none	iNat	7/16/2014
KEY: SEI = Sapphos Environmental, Inc.; iNat = iNaturalist; Desc = Descanso Gardens; WL = CDFW Watch List; LC = IUCN Least Concern; BCC = USFWS Bird of Conservation Concern; SCC = CDFW Species of Special Concern *Marcus England (Biologist) brought in by Descanso to produce a Wildlife Management Plan				

APPENDIX D
SITE PHOTOGRAPHS



PHOTO 1
Representative photo of Developed/Disturbed areas, main parking lot



PHOTO 2
Representative photo of Developed Picnic Area





PHOTO 3
Representative photo of Scrub Oak Chaparral



PHOTO 4
Representative photo of Laurel Sumac Scrub





PHOTO 5
Representative photo of Mulefat Thickets



PHOTO 6
Representative photo of Oak Woodland in northwest corner of the Master Plan Area





PHOTO 7

Representative photo of Oak Woodland, within the fenced area along walking paths



PHOTO 8

Representative photo of Oak Woodland, within the fenced area





PHOTO 9
Representative photo of Oak Woodland (maintained)



PHOTO 10
Representative photo of Oak Woodland (maintained), with camelia undergrowth





PHOTO 11
Representative photo of California Natives garden, a planted area



PHOTO 12
Representative photo of the Rose Garden, a planted area





PHOTO 13
Representative photo the Japanese Garden, a planted area



PHOTO 14
Representative photo of the Ancient Forest





PHOTO 15
View of canopy cover within the Ancient Forest



PHOTO 16
Photo of upper 80 acres, taken from Descanso Motorway in south corner of Master Plan Area, facing west





PHOTO 17
Representative photo of Winery Creek



PHOTO 18
Northern portion of The Lake facing west





PHOTO 19
Representative photo of circulating stream system



PHOTO 20
Representative photo of one pond feature, part of the circulating stream system





PHOTO 21

Representative photo of the circulating stream system within the Master Plan Area



PHOTO 22

Southern portion of The Lake, facing east



APPENDIX E
2016 DESCANSO GARDENS SPECIES DATA (OAK WOODLANDS)

WOODLAND SURVEY SPECIES LIST (APRIL 2016)

Common Name	Taxon/ Scientific Name	Planted by Descanso	Existing/From Seed Bank	Special Status Designation
yarrow	<i>Achillea millefolium</i>	x	x	common
chamise	<i>Adenostoma fasciculatum</i>	x		common
chamise	<i>Adenostoma fasciculatum</i> 'Black Diamond'	x		botanic variety
manzanita	<i>Arctostaphylos bakeri</i> 'Louis Edmunds'	x		botanic variety
manzanita	<i>Arctostaphylos densiflora</i> 'Howard McMinn'	x		botanic variety
manzanita	<i>Arctostaphylos</i> 'Pacific Mist'	x		botanic variety
California sagebrush	<i>Artemisia californica</i>	x	x	common
mugwort	<i>Artemisia douglasiana</i>	x	x	common
milkweed	<i>Asclepias fascicularis</i>	x		common
coyotebush	<i>Baccharis pilularis</i>	x	x	common
coyotebush	<i>Baccharis pilularis</i> 'Pigeon Point'	x		botanic variety
dwarf coyotebush	<i>Baccharis pilularis</i> subsp. <i>Consanguinea</i>	x		common
mule fat	<i>Baccharis salicifolia</i>	x	x	common
desertbroom baccharis	<i>Baccharis sarothroides</i>		x	common
Oregon grape	<i>Berberis aquifolium</i>	x		common
dwarf Oregon grape	<i>Berberis aquifolium</i> 'Compacta'	x		botanic variety
Nevin's barberry	<i>Berberis nevinii</i>	x		FE, SE
California brome	<i>Bromus carinatus</i>		x	common
miniature suncup	<i>Camissonia micrantha</i>		x	common
hoary leaved ceanothus	<i>Ceanothus crassifolius</i>	x		common
greenbark ceanothus	<i>Ceanothus spinosus</i>	x		common
mountain mahogany	<i>Cercocarpus betuloides</i>	x	x	common
wavy-leafed soap plant	<i>Chlorogalum pomeridianum</i>		x	common
California thistle	<i>Cirsium occidentale</i> var. <i>californicum</i>		x	common
farewell-to-spring	<i>Clarkia amoena</i>		x	common
purple winecup	<i>Clarkia purpurea</i>	x		common
jimsonweed	<i>Datura wrightii</i>		x	common
sticky cinquefoil	<i>Drymocallis (Potentilla)</i> <i>glandulosa</i>		x	common
giant wild rye	<i>Elymus (Leymus) condensatus</i>	x		common
beardless wild rye	<i>Elymus (Leymus) triticoides</i>	x		common
coast sunflower	<i>Encelia californica</i>	x	x	common
brittlebush	<i>Encelia farinosa</i>	x		common
California fuchsia	<i>Epilobium (Zauschneria)</i> <i>canum</i>	x		common
California buckwheat	<i>Eriogonum fasciculatum</i>	x	x	common

WOODLAND SURVEY SPECIES LIST (APRIL 2016)

Common Name	Taxon/ Scientific Name	Planted by Descanso	Existing/From Seed Bank	Special Status Designation
California buckwheat	<i>Eriogonum fasciculatum</i> 'Dana Point'	x		botanic variety
coastal California buckwheat	<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>	x	x	common
sea cliff buckwheat	<i>Eriogonum parvifolium</i>	x		common
golden yarrow	<i>Eriophyllum confertiflorum</i>		x	common
California poppy	<i>Eschscholzia californica</i>	x	x	common
California fescue	<i>Festuca californica</i>	x		common
blue bunchgrass	<i>Festuca idahoensis</i>		x	common
sawtooth goldenbush	<i>Hazardia squarrosa</i>		x	common
toyon	<i>Heteromeles arbutifolia</i>	x	x	common
alumroot	<i>Heuchera</i> sp.	x		common
California barley	<i>Hordeum brachyantherum</i> ssp. <i>Californicum</i>		x	common
Douglas iris	<i>Iris douglasiana</i>	x		common
Iris	<i>Iris</i> 'Pacific Coast Hybrids'	x		botanic variety
basket rush	<i>Juncus textilis</i>	x		common
beard tongue/ Keckiella	<i>Keckiella</i> sp.	x		common
Sweet bay	<i>Laurus</i> 'Saratoga'	x		botanic variety
tidy tips	<i>Layia platyglossa</i>	x		common
fragrant pitcher sage	<i>Lepechinia fragrans</i>	x		FSS
Southern honeysuckle	<i>Lonicera subspicata</i>		x	common
deerweed	<i>Lotus scoparius</i>	x	x	common
Malacothrix	<i>Malacothrix</i> sp.		x	common
laurel sumac	<i>Malosma laurina</i>	x	x	common
wild cucumber	<i>Marah macrocarpa</i>		x	common
sticky monkeyflower	<i>Mimulus aurantiacus</i>	x	x	common
scarlet monkeyflower	<i>Mimulus cardinalis</i>	x		common
monkeyflower	<i>Mimulus</i> 'Fading Fusion'	x		botanic variety
yellow monkeyflower	<i>Mimulus guttatus</i>		x	common
deergrass	<i>Muhlenbergia rigens</i>	x		common
purple needle grass	<i>Nassella (Stipa) pulchra</i>	x		common
fivespot	<i>Nemophila maculata</i>	x		common
scarlet bugler	<i>Penstemon centranthifolius</i>	x		common
foothill penstemon	<i>Penstemon heterophyllus</i> 'Margarita BOP'	x		botanic variety
showy penstemon	<i>Penstemon spectabilis</i>	x		common
tansy leafed phacelia	<i>Phacelia tanacetifolia</i>	x		common
popcorn flower	<i>Plagiobothrys</i> sp.		x	common
sycamore	<i>Platanus racemosa</i>	x	x	common

WOODLAND SURVEY SPECIES LIST (APRIL 2016)

Common Name	Taxon/ Scientific Name	Planted by Descanso	Existing/From Seed Bank	Special Status Designation
holly leaf cherry	<i>Prunus ilicifolia</i>	x		common
green everlasting	<i>Pseudognaphalium (Gnaphalium) californicum</i>		x	4.3
coast live oak	<i>Quercus agrifolia</i>		x	common
scrub oak	<i>Quercus berberidifolia</i>	x	x	common
Engelmann oak	<i>Quercus engelmannii</i>	x		4.2
black oak	<i>Quercus kelloggii</i>	x		common
island oak	<i>Quercus tomentella</i>	x		4.2
lemonade berry	<i>Rhus integrifolia</i>	x	x	common
sugarbush	<i>Rhus ovata</i>	x	x	common
golden currant	<i>Ribes aureum</i>	x		common
white chaparral currant	<i>Ribes indecorum</i>	x		common
pink chaparral currant	<i>Ribes malvaceum</i>	x		common
currant	<i>Ribes malvaceum 'Christy Ridge'</i>	x		botanic variety
fuchsia flowering gooseberry	<i>Ribes speciosum</i>	x		common
Catalina currant	<i>Ribes viburnifolium</i>	x		1B.2
Matilja poppy	<i>Romneya coulteri</i>		x	4.2
blackberry	<i>Rubus ursinus</i>	x		common
narrowleaf willow	<i>Salix exigua</i>		x	common
Goodding's willow	<i>Salix gooddingii</i>		x	common
red willow	<i>Salix laevigata</i>		x	common
Arroyo willow	<i>Salix lasiolepis</i>		x	common
shining willow	<i>Salix lucida subsp. lasiandra</i>		x	common
sage	<i>Salvia 'Allen Chickering'</i>	x		botanic variety
white sage	<i>Salvia apiana</i>	x		common
sage	<i>Salvia 'Bee's Bliss'</i>	x		botanic variety
sage	<i>Salvia 'Bon Bon'</i>	x		botanic variety
chia	<i>Salvia columbariae</i>	x	x	common
black sage	<i>Salvia mellifera</i>	x		common
hummingbird sage	<i>Salvia spathacea</i>	x		common
sage	<i>Salvia spathacea 'Powerline Pink'</i>	x		common
Mexican elderberry	<i>Sambucus nigra subsp. caerulea</i>		x	common
tule	<i>Schoenoplectus acutus</i>	x	x	common
redwood	<i>Sequoia sempervirens</i>		x	common
blue-eyed grass	<i>Sisyrinchium bellum</i>	x		common
foothill needle grass	<i>Stipa lepida</i>		x	common

WOODLAND SURVEY SPECIES LIST (APRIL 2016)

Common Name	Taxon/ Scientific Name	Planted by Descanso	Existing/From Seed Bank	Special Status Designation
meadow-rue	<i>Thalictrum fendleri</i> var. <i>polycarpum</i>	x		common
woolly blue curls	<i>Trichostema lanatum</i>	x		common
Chinese elm	<i>Ulmus parvifolia</i>		x	non-native
common verbena	<i>Verbena lasiostachys</i>		x	common
verbena	<i>Verbena lilacina</i> 'Paseo Rancho'	x		botanic variety

KEY: FE = Federally endangered, SE = State Endangered, FSS = Forest Service Sensitive

CNPS Rare Plant Rankings:

1B - Plants rare, threatened or endangered in California or elsewhere

4 - Limited distribution (Watch List).

Threat Ranks:

0.1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2 - Moderately threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat)

0.3 - Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

WEED AND OTHER SPECIES OBSERVED IN OAK WOODLAND SURVEY (2016)

Common Name	Scientific Name	Status
acacia	<i>Acacia sp.</i>	non-native
African lily	<i>Agapanthus sp.</i>	non-native
prairie onion	<i>Allium textile</i>	non-native
scarlet pimpernel	<i>Anagallis arvensis</i>	non-native
chamomile	<i>Anthemis cotula</i>	non-native
giant reed	<i>Arundo donax</i>	non-native
wild oat	<i>Avena sativa</i>	non-native
bamboo	<i>Bambusa sp.</i>	non-native
black mustard	<i>Brassica nigra</i>	non-native
soft brome	<i>Bromus hordeaceus</i>	non-native
ripgut brome	<i>Bromus rigidus</i>	non-native
snapweed	<i>Cardamine hirsuta</i>	non-native
Italian thistle	<i>Carduus pycnocephalus</i>	non-native
cassia	<i>Cassia sp.</i>	non-native
carob tree	<i>Ceratonia siliqua</i>	non-native
netseed lambsquarters	<i>Chenopodium berlandieri</i>	non-native
gum rockrose	<i>Cistus ladanifer</i>	non-native
poison hemlock	<i>Conium maculatum</i>	non-native
field bindweed	<i>Convolvulus arvensis</i>	non-native
horseweed	<i>Conyza canadensis</i>	non-native
lesser swinecress	<i>Coronopus didymus</i>	non-native
gourd plant	<i>Curcubit sp.</i>	non-native
nutsedge	<i>Cyperus esculentus</i>	non-native
papyrus	<i>Cyperus papyrus</i>	non-native
flixweed	<i>Descurainia sophia</i>	non-native
willowherb	<i>Epilobium ciliatum</i>	non-native
red stemmed filaree	<i>Erodium cicutarium</i>	non-native
silver dollar eucalyptus	<i>Eucalyptus cineria</i>	non-native
petty spurge	<i>Euphorbia peplus</i>	non-native
Ash tree	<i>Fraxinus sp.</i>	non-native
catchweed bedstraw	<i>Galium aparine</i>	non-native
ivy	<i>Hedera helix</i>	non-native
hare barley	<i>Hordeum leporinum</i>	non-native
St. Johnswort	<i>Hypericum perforatum</i>	non-native
yellow-flag iris	<i>Iris pseudoacorus</i>	non-native
juniper	<i>Juniper sp.</i>	non-native
henbit	<i>Lamium amplexicaule</i>	non-native

WEED AND OTHER SPECIES OBSERVED IN OAK WOODLAND SURVEY (2016)

Common Name	Scientific Name	Status
purple deadnettle	<i>Lamium purpureum</i>	non-native
pepperwort	<i>Lepidium latifolium</i>	non-native
coast tarweed	<i>Madia sativa</i>	native
cheeseweed	<i>Malva parviflora</i>	non-native
horehound	<i>Marrubium vulgare</i>	non-native
pineapple weed	<i>Matricaria matricarioides</i>	native
black medic	<i>Medicago lupulina</i>	non-native
Indian sweetclover	<i>Melilotus indica</i>	non-native
four o'clock	<i>Mirabilis sp.</i>	non-native
daffodil	<i>Narcissus</i>	non-native
wild tobacco	<i>Nicotiana glauca</i>	non-native
olive	<i>Olea sp.</i>	non-native
rice grass	<i>Oryza sp.</i>	non-native
passionflower	<i>Passiflora sp.</i>	non-native
canary-grass	<i>Phalaris aquatica</i>	non-native
meadow grass	<i>Poa annua</i>	non-native
plum	<i>Prunus sp.</i>	non-native
radish	<i>Raphanus sativus</i>	non-native
curly dock	<i>Rumex crispus</i>	non-native
common groundsel	<i>Senecio vulgaris</i>	non-native
tumble mustard	<i>Sisymbrium irio</i>	non-native
hairy nightshade	<i>Solanum sarrachoides</i>	non-native
sowthistle	<i>Sonchus sp.</i>	non-native
apricot mallow	<i>Sphaeralcea ambigua</i>	native
lamb's ear	<i>Stachys byzantina</i>	non-native
feverfew	<i>Tanacetum parthenium</i>	non-native
dandelion	<i>Taraxacum officinale</i>	non-native
poison oak	<i>Toxicodendron diversilobum</i>	native
clover	<i>Trifolium sp.</i>	non-native
society garlic	<i>Tulbaghia violacea</i>	non-native
stinging nettle	<i>Urtica dioica</i>	native
common mullein	<i>Verbascum thapsus</i>	non-native
verbena	<i>Verbena sp.</i>	non-native
hairy vetch	<i>Vicia villosa</i>	non-native
periwinkle	<i>Vinca major</i>	non-native
rattail sixweeks grass	<i>Vulpia (Festuca) myuros</i>	non-native
fan palm	<i>Washingtonia sp.</i>	non-native

APPENDIX F
2014 DESCANSO GARDENS SPECIES DATA

SPECIES OBSERVED WITHIN THE MASTER PLAN AREA (COMPILED 2014)

Common Name	Scientific Name	Status	Source
Invertebrates			
Crayfish	<i>Procambarus clarkii</i>		Introduced
Fish			
Koi	<i>Cyprinus carpio</i>		Introduced
Mosquito fish	<i>Gambusia affinis</i>		Introduced
Bass	<i>Micropterus salmoides</i>		Introduced
Chinese high-fin banded shark	<i>Myxocyprinus asiaticus</i>		Introduced
Dojo loach	<i>Misgurnus anguillicaudatus</i>		Introduced
Goldfish	<i>Carassius auratus</i>		Introduced
Fathead minnow	<i>Pimephales promelas</i>		Introduced
Reptiles and Amphibians			
Western fence lizard	<i>Sceloperis occidentalis</i>		Rachel Young (2014)
Gopher snake	<i>Pituophis catenapher</i>		Miguel Ordanan (wildlife camera)
Red eared slider	<i>Trachemys scripta</i>		Rachel Young (2014)
Bullfrog	<i>Lithobates catesbeianus</i>		Rachel Young (2014)
Snapping turtle	<i>Chelydra serpentina</i>		Rachel Young (2014): one removed in 2014, one remains
Rattlesnake	<i>Crotalus sp.</i>		iNaturalist (2017)
Whiptail lizard	<i>Aspidoscelis sp.</i>		Rachel Young (2014)
California racer	<i>Coulber sp.</i>		Rachel Young (2014)
Alligator lizard	<i>Elgaria multicarinata webbii</i>		Rachel Young (2014)
San Bernardino ring-necked Snake	<i>Diadophis punctatus modestus</i>		Rachel Young (2014)
California kingsnake	<i>Lampropeltis californiae</i>		Louie Guitron (last 45 years)
Birds			
Acorn woodpecker	<i>Melanerpes formicivorus</i>		Kimball Garrett (2014)
Allen's hummingbird	<i>Selasphorus sasin</i>		Kimball Garrett (2014)
American coot	<i>Fulica americana</i>		Rachel Young (2014)
American Crow	<i>Corvus brachyrhynchos</i>		Kimball Garrett (2014)
American goldfinch	<i>Carduelis tristis</i>		Ebird (2014)
American kestrel	<i>Falco sparverius</i>		Ebird (2012)
American Robin	<i>Turdus migratorius</i>		Rachel Young (2014)
American wigeon	<i>Anas americana</i>		Ebird (2013)
Anna's hummingbird	<i>Calypte anna</i>		Kimball Garrett (2014)
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>		Kimball Garrett (2014)
Band tailed pigeon	<i>Patagioenas fasciata</i>		Kimball Garrett (2014)
Barn owl	<i>Tyto alba</i>		Ebird (2009)
Barn swallow	<i>Hirundo rustica</i>		Ebird (2013)
Belted kingfisher	<i>Megaceryle alcyon</i>		Ebird (2014)
Bewick's wren	<i>Thryomanes bewickii</i>		Ebird (2014)
Black chinned hummingbird	<i>Archilochus alexandri</i>		Kimball Garrett (2014)
Black crowned night heron	<i>Nycticorax nycticorax</i>	SA	Rachel Young (2014)
Black headed grosbeak	<i>Pheucticus melaNocephalus</i>		Kimball Garrett (2014)
Black phoebe	<i>Sayornis nigricans</i>		Kimball Garrett (2014)

SPECIES OBSERVED WITHIN THE MASTER PLAN AREA (COMPILED 2014)

Common Name	Scientific Name	Status	Source
Black throated grey warbler	<i>Setophaga nigrescens</i>		Kimball Garrett (2014)
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>		Ebird (2014)
Brewer's blackbird	<i>Euphagus cyanocephalus</i>		Ebird (2012)
Brown creeper	<i>Certhia americana</i>		Ebird (2013)
Brown headed cowbird	<i>Molothrus ater</i>		Kimball Garrett (2014)
Bufflehead	<i>Bucephala albeola</i>		Ebird (2014)
Bullocks Oriole	<i>Icterus bullockii</i>		Ebird (2014)
Bush tit	<i>Psaltriparus minimus</i>		Kimball Garrett (2014)
California quail	<i>Callipepla californica</i>		Rachel Young (2014)
California thrasher	<i>Toxostoma redivivum</i>		Rachel Young (2014)
California towhee	<i>Melospiza crissalis</i>		Kimball Garrett (2014)
Canada Goose	<i>Branta canadensis</i>		Rachel Young (2014)
Cassin's kingbird	<i>Tyrannus vociferans</i>		Ebird (2013)
Cassin's vireo	<i>Vireo cassinii</i>		Kimball Garrett (2014)
Cedar waxwing	<i>Bombycilla cedrorum</i>		Rachel Young (2014)
Chipping sparrow	<i>Spizella passerina</i>		Ebird (2014)
Cliff swallow	<i>Petrochelidon pyrrhonota</i>		Ebird (2014)
Common merganser	<i>Mergus merganser</i>		Ebird (2014)
Common raven	<i>Corvus corax</i>		Kimball Garrett (2014)
Common yellowthroat	<i>Geothlypis trichas</i>		Kimball Garrett (2014)
Cooper's hawk	<i>Accipiter cooperii</i>	WL	Rachel Young (2014)
Costa's hummingbird	<i>Calypte costae</i>	BCC	Ebird (2010)
Dark eyed junco	<i>Junco hyemalis</i>		Rachel Young (2014)
Domestic goose	<i>Anser cygnoides</i>		Rachel Young (2014)
Double crested cormorant	<i>Phalacrocorax auritus</i>	WL	Ebird (2014)
Downy woodpecker	<i>Picoides pubescens</i>		Ebird (2014)
Dusky flycatcher	<i>Empidonax oberholseri</i>		Ebird (2007)
European starling	<i>Sturnus vulgaris</i>		Ebird (2014)
Fox sparrow	<i>Passerella iliaca</i>		Ebird (2014)
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>		Ebird (2014)
Great blue heron	<i>Ardea herodias</i>	SA	Rachel Young (2014)
Great egret	<i>Ardea alba</i>	SA	Ebird (2014)
Great horned owl	<i>Bubo virginianus</i>		Ebird (2013)
Green Heron	<i>Butorides virescens</i>		Ebird (2014)
Green tailed towhee	<i>Pipilo chlorurus</i>		Ebird (2011)
Hairy woodpecker	<i>Picoides villosus</i>		Ebird (2014)
Hammond's flycatcher	<i>Empidonax hammondii</i>		Kimball Garrett (2014)
Hermit warbler	<i>Setophaga occidentalis</i>		Kimball Garrett (2014)
Hooded merganser	<i>Lophodytes cucullatus</i>		Ebird (2014)
Hooded Oriole	<i>Icterus cucullatus</i>		Kimball Garrett (2014)
Hooded warbler	<i>Setophaga citrina</i>		Kimball Garrett (1992)
House finch	<i>Carpodacus mexicanus</i>		Rachel Young (2014)
House sparrow	<i>Passer domesticus</i>		Rachel Young (2014)
House wren	<i>Troglodytes aedon</i>		Ebird (2014)
Hutton's vireo	<i>Vireo huttoni</i>		Kimball Garrett (2014)
Killdeer	<i>Charadrius vociferus</i>		Ebird (2014)
Lawrence's goldfinch	<i>Carduelis lawrencei</i>		Ebird (2013)
Lazuli bunting	<i>Passerina amoena</i>		Ebird (2013)

SPECIES OBSERVED WITHIN THE MASTER PLAN AREA (COMPILED 2014)

Common Name	Scientific Name	Status	Source
Lesser gold finch	<i>Carduelis psaltria</i>		Kimball Garrett (2014)
Lesser scaup	<i>Aythya affinis</i>		Ebird (1995)
Lincoln's sparrow	<i>Melospiza lincolni</i>		Kimball Garrett (2014)
Long eared owl	<i>Asio otus</i>	SSC	Ebird (2011)
MacGillivray's warbler	<i>Oporornis tolmiei</i>		Kimball Garrett (2014)
Mallard	<i>Anas platyrhynchos</i>		Rachel Young (2014)
Merlin	<i>Falco columbarius</i>	WL	Ebird (2010)
Mountain chickadee	<i>Poecile gambeli</i>		Ebird (2013)
Mourning dove	<i>Zenaida macroura</i>		Ebird (2014)
Nashville warbler	<i>Vermivora ruficapilla</i>		Ebird (2014)
Northern flicker	<i>Colaptes auratus</i>		Ebird (2014)
Northern harrier	<i>Circus cyaneus</i>	SSC	2007
Northern mockingbird	<i>Mimus polyglottos</i>		Rachel Young (2014)
Northern Parula	<i>Parula americana</i>		Kimball Garrett (1992)
Northern Rough winged swallow	<i>Stelgidopteryx serripennis</i>		Ebird (2014)
Northern Shoveler	<i>Anas clypeata</i>		Ebird (2014)
Nuttall's woodpecker	<i>Picoides nuttallii</i>		Kimball Garrett (2014)
Oak titmouse	<i>Baeolophus inornatus</i>	SA	Kimball Garrett (2014)
Olive sided flycatcher	<i>Contopus cooperi</i>	SSC	Ebird (2014)
Orange crowned warbler	<i>Vermivora celata</i>		Ebird (2014)
Osprey	<i>Pandion haliaetus</i>	WL	Rachel Young (2013)
Pacific slope flycatcher	<i>Empidonax difficilis</i>		Kimball Garrett (2014)
Pacific wren	<i>Troglodytes pacificus</i>		Kimball Garrett (1985)
Phainopepla	<i>Phainopepla nitens</i>		Ebird (2014)
Pied billed grebe	<i>Podilymbus podiceps</i>		Ebird (2014)
Plumbeous vireo	<i>Vireo plumbeus</i>		Ebird (2010)
Purple finch	<i>Carpodacus purpureus</i>		Rachel Young (2014)
Red breasted merganser	<i>Mergus serrator</i>		Ebird (2014)
Red breasted sapsucker	<i>Sphyrapicus ruber</i>	SA	Ebird (2012)
Red crowned parrot	<i>Amazona viridigenalis</i>		Rachel Young (2014)
Red shouldered hawk	<i>Buteo lineatus</i>		Kimball Garrett (2014)
Red tailed hawk	<i>Buteo jamaicensis</i>		Rachel Young (2014)
Red-breasted nuthatch	<i>Sitta canadensis</i>		Ebird (2012)
Red-whiskered bulbul	<i>Pycnonotus jocosus</i>		Ebird (2014)
Ring billed gull	<i>Larus delawarensis</i>		Ebird (2014)
Ring necked duck	<i>Aythya collaris</i>		Ebird (2014)
Rock pigeon	<i>Columba livia</i>		Ebird (2014)
Rock wren	<i>Salpinctes obsoletus</i>		Ebird (2010)
Ruby crowned kinglet	<i>Regulus calendula</i>		Rachel Young (2014)
Ruddy duck	<i>Oxyura jamaicensis</i>		Ebird (2014)
Rufous hummingbird	<i>Selasphorus rufus</i>	BCC	Ebird (2014)
Sharp shinned hawk	<i>Accipiter striatus</i>	SA	Ebird (2014)
Snowy egret	<i>Egretta thula</i>		Ebird (2014)
Song sparrow	<i>Melospiza melodia</i>		Kimball Garrett (2014)
Spotted sandpiper	<i>Actitis macularia</i>		Ebird (2013)
Spotted towhee	<i>Pipilo maculatus</i>		Kimball Garrett (2014)
Summer tanager	<i>Piranga rubra</i>		ebird (2011)
Swainson's hawk	<i>Buteo swainsoni</i>	SSC	ebird (2012)

SPECIES OBSERVED WITHIN THE MASTER PLAN AREA (COMPILED 2014)

Common Name	Scientific Name	Status	Source
Swainson's thrush	<i>Catharus ustulatus</i>		ebird (2014)
Townsend's solitaire	<i>Myadestes townsendi</i>		ebird (2010)
Townsend's warbler	<i>Dendroica townsendi</i>		Kimball Garrett (2014)
Tree swallow	<i>Tachycineta bicolor</i>		ebird (2013)
Turkey vulture	<i>Cathartes aura</i>		ebird (2014)
Vaux's swift	<i>Chaetura vauxi</i>	SSC	ebird (2012)
Violet green swallow	<i>Tachycineta thalassina</i>		ebird (2012)
Western bluebird	<i>Sialia mexicana</i>		ebird, Rachel Young (2014)
Western grebe	<i>Aechmophorus occidentalis</i>		ebird (2013)
Western Kingbird	<i>Tyrannus verticalis</i>		ebird (2014)
Western meadowlark	<i>Sturnella neglecta</i>		ebird (2010)
Western scrub jay	<i>Aphelocoma californica</i>		Kimball Garrett (2014)
Western tanager	<i>Piranga ludoviciana</i>		ebird (2014)
White breasted nuthatch	<i>Sitta carolinensis</i>		ebird (2013)
White crowned sparrow	<i>ZoNotrichia leucophrys</i>		ebird (2014)
White throated swift	<i>Aeronautes saxatalis</i>		ebird (2014)
White-throated sparrow	<i>ZoNotrichia albicollis</i>		ebird (2014)
Willow flycatcher	<i>Empidonax traillii</i>	FSS, BCC	ebird (2014)
Wilson's warbler	<i>Wilsonia pusilla</i>		ebird (2014)
Wood duck	<i>Aix sponsa</i>		Rachel Young (2014)
Wrentit	<i>Chamaea fasciata</i>		ebird (2014)
Yellow throated vireo	<i>Vireo flavifrons</i>		Kimball Garrett (1992)
Yellow warbler	<i>Dendroica petechia</i>	SSC, BCC	ebird (2014)
Yellow-rumped warbler	<i>Dendroica coronata</i>		Rachel Young (2014)
Mammals			
California meadow mouse	<i>Microtus californicus sanctidiegi</i>		Observed before development, No recent sightings
Spotted skunk	<i>Spilogale gracilis</i>		Observed before development, No recent sightings
California grizzly	<i>Ursus arctos</i>	Extinct in California	Observed before development, No recent sightings
Ring-tailed cat	<i>Bassariscus astutus octavus</i>	FP	Observed before development, No recent sightings
Grey fox	<i>Urocyon cinereoargenteus</i>		Louie Guitron (last 5 years)
Long tailed weasel	<i>Mustela frenata latirostra</i>		Observed before development, No recent sightings
Mountain lion	<i>Puma concolor</i>		Louie Guitron (last 5 years)
California pocket mouse	<i>Perognathus californicus dispar</i>		Observed before development, No recent sightings
Badger	<i>Taxidea taxus neglecta</i>	SSC	Observed before development, No recent sightings
Deer mouse	<i>Peromyscus maniculatus</i>		No recent sightings but very likely still occurs
Coyote	<i>Canis latrans</i>		Rachel Young (2014)
Virginia opossum	<i>Didelphis virginiana</i>		Rachel Young (2014)
Bobcat	<i>Lynx rufus</i>		Miguel Ordana (2014)
Striped skunk	<i>Mephitis mephitis</i>		Rachel Young (2014)
Big eared woodrat	<i>Neotoma macrotus</i>		Rachel Young (2014)
Mule deer	<i>Odocoileus hemionus</i>		Rachel Young (2014)
Beechey ground squirrel	<i>Otospermophilus beecheyi</i>		Rachel Young (2014)

SPECIES OBSERVED WITHIN THE MASTER PLAN AREA (COMPILED 2014)

Common Name	Scientific Name	Status	Source
Raccoon	<i>Procyon lotor</i>		Rachel Young (2014)
Harvest mouse	<i>Reithrodontomys megalotis longicaudus</i>		Rachel Young (2014)
Western gray squirrel	<i>Sciurus griseus</i>		Miguele Ordana (2014)
Eastern Fox squirrel	<i>Sciurus niger</i>		Rachel Young (2014)
Desert cottontail	<i>Sylvilagus audubonii</i>		Rachel Young (2014)
Botta's pocket gopher	<i>Thomomys bottae</i>		Rachel Young (2014)
Norway rat	<i>Rattus Norvegicus</i>		Rachel Young (2014)
Black rat	<i>Rattus rattus</i>		Rachel Young (2014)
House mouse	<i>Mus musculus</i>		Assumed present
Bear	<i>Ursus americanus</i>		Miguele Ordana (2014)
Harvest mouse	<i>Reithrodontomys megalotis</i>		Controlled burn survey (last 5 years)
California mole	<i>Scapanus latimanus</i>		Observed before development, No recent sightings
Ornate shrew	<i>Sorex ornatus</i>		Observed before development, No recent sightings
KEY: BCC = USFWS Bird of Conservation Concern; FSS = Forest Service Sensitive FP = Fully Protected; FT = Federally Threatened; SSC = CDFW Species of Special Concern; SA = CDFW Special Animal; WL = CDFW Watch List; FP = CDFW Fully Protected			

Appendix 9

Cultural Resources Technical Report
(Confidential – on file with the County,
available on a need-to-know basis only)

Appendix 10

Geotechnical Report

D R A F T - For Discussion Purposes Only

Memorandum

Date: 31 October 2019

To: Ruth Siegel, Rios Clementi Hale Studios
Laura Male, AICP, Sapphos Environmental

From: Goodwin Wharton, PG, Geosyntec Consultants
Saverio Siciliano, PG, CEG, Geosyntec Consultants

Subject: **Geology and Soils**
Descanso Gardens, La Cañada Flintridge, California

1. INTRODUCTION

Descanso Gardens (Project Site) is an approximately 149-acre property operated by the nonprofit Descanso Gardens Guild, Inc. (Guild), located in the City of La Cañada Flintridge, California. The Guild is preparing a 15-year master plan (Project) and environmental analysis to support the decision-making process to be undertaken by Los Angeles County, in their role as the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Geosyntec Consultants is assisting the project team (the Guild, lead consultant Rios Clementi Hale Studios, and sub-consultants) with water quality, hydrology, and geology aspects of CEQA. This memorandum covers the geology and soils aspects of CEQA, specifically, risks related to geologic hazards such as earthquakes, landslide liquefaction, and expansive soils, as well as a description of the regulatory framework, significance criteria, and impact analysis related to the Project.

2. BACKGROUND

Geosyntec's Geotechnical Study incorporates baseline data gathered during preparation of the Master Plan, a desktop review of available geologic reports and data at the Project Site, and a site reconnaissance by a California Certified Engineering Geologist. This technical memorandum provides information regarding geology, soils, and seismicity and identifies potential issues and mitigation strategies in accordance with CEQA requirements. Sapphos Environmental (the CEQA sub-consultant) will incorporate this report and associated findings in the Initial Study and Program Environmental Impact Report (EIR) or Mitigated Negative Declaration (MND).

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Descanso Gardens

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3. ENVIRONMENTAL SETTING

3.1 Topography

The maximum topographic relief across the surface of the Site is approximately 220 feet (ft), with ground surface elevation ranging from approximately 1,260 ft above Mean Sea Level (ft-MSL) at the eastern border of the Site to approximately 1,480 ft-MSL at the ridge top of Wishing Hill on the northwestern site boundary. The topography of the Site is mainly defined by the presence of the San Rafael Hills to the west and south. Elevation is approximately 1,380 to 1,400 ft-MSL along the western border of the Site. Towards the center of the Site and to the east, the Site features generally gentle topography with surface slopes less than 10%. The Site topography near the hills features a maximum slope of approximately 30% at Wishing Hill and maximum slopes of approximately 16% along the southern border of the site. An overflow drainage starting from the lake traverses the center of the Site for about 840 ft.

3.2 Regional Geology

The Site is located at the boundary between the northwest San Gabriel Valley and the northern San Rafael Hills – south of the San Gabriel Mountains and east of the Verdugo Mountains, within the Transverse Ranges Geomorphic Province. The San Gabriel Mountains which comprises the southern margin of the Transverse Ranges geomorphic province, extends approximately 320 miles (west to east) from Point Arguello and San Miguel Islands to the Eagle and Pinto Mountains of the Mojave Desert [Norris and Webb, 1990]. The San Gabriel Valley is a broad valley filled with alluvial deposits derived from erosion of the San Gabriel Mountains and subsequent deposition by the San Gabriel River, San Antonio Creek, and other drainages.

The Transverse Ranges province is characterized by a series of east-west trending steep mountain ranges and valleys that are oblique to the predominant northwest to southeast structural fabric of southern California. The atypical trend of the Transverse Ranges is the result of a restraining bend (“the Big Bend”) on the San Andreas Fault system that has rotated and compressed the region to its current configuration. The compression has resulted in folding and reverse/thrust faulting with similar east to west trends and regional uplift.

Uplift and exhumation of the San Gabriel Mountains are thought to have initiated during the Miocene (~12 million years ago [mya]) and accelerating during the late Tertiary (~5 to 7 mya) when the San Andreas fault replaced the San Gabriel fault as the principal strike-slip fault in this region [Matti and Morton, 1993; Blythe et al., 2002]. As a result, ancient rocks were thrust upward and toward the south along range-bounding faults belonging to the Sierra Madre fault system

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[CDMG, 1999]. The San Gabriel Mountains are a high, rugged range that rises abruptly from the floor of the San Gabriel Valley and reaches elevations of over 5,400 ft at Monrovia Peak. Crystalline bedrock that make up the San Gabriel Mountains generally consists of early Cretaceous-age (~122 mya) plutonic and Precambrian-age (>540 mya) metamorphic basement rocks [United States Geological Survey (USGS), 2006]. These rocks are overlain locally by thin deposits of sediments consisting of modern stream alluvium, older Quaternary-age fan and terrace deposits, and by colluvium (slopewash/residual soil) [Dibblee and Minch, 2010]. The regional geologic map is presented in Figure 3.

3.3 Site Geology

The geology of Site consists primarily of Cretaceous age (approximately 122 mya) crystalline igneous rocks and Quaternary (2.6 mya to recent) unconsolidated alluvium, as shown in the attached Geologic Map (**Figure 1**). The hillslopes within the property, to the northwest and south of the Gardens, are underlain primarily by quartz diorite, an igneous rock type composed of majority plagioclase feldspar with lesser quartz and mica. Small bodies of granite or granodiorite and Precambrian quartzite are also present. Quartz diorite weathers readily at the surface, disaggregating along grain boundaries to produce alluvial gravel, cobbles, and medium-grained quartz/feldspar sand. Quaternary alluvium consisting of unconsolidated sand and gravel underlies the majority of the Gardens and is sourced from the San Rafael hills immediately to the south, as well as from similar rocks in the San Gabriel and Verdugo mountains to the north and west.

3.4 Soils

During the 19 February 2019 geologic reconnaissance, Geosyntec logged five soil profiles to characterize soil development at the site and refine the mapped contact between crystalline bedrock and alluvium. The locations of Soil Profiles SP-1 through SP-5 are shown on the attached geologic map. Perhaps counterintuitively, natural soil development was found to be better on bedrock hillslopes as compared to Quaternary alluvium in flat-lying areas, although soil amendments are clearly added to alluvial soils throughout the Gardens for planting purposes. Generalized soil profiles for portions of the site underlain by alluvium and bedrock are as follows:

Generalized Soil Profile for Areas Underlain by Alluvium - SP-5 typical (Figure 1)

- O Horizon (not present in all areas) – 0 to 1/2 -inch; organic litter;
- A Horizon (absent on trails, enhanced by soil amendments) – 1/2 inch to 5 inches; Sandy Organic Soil (OL) very dark brown, dry to moist, fine to medium sand; and

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- C Horizon – below 5 inches; Clayey Sand with Gravel (SC), yellowish brown, dry to moist, well graded sand, fine gravel, (15% gravel : 65% sand : 20% fines).

Generalized Soil Profile for Areas Underlain by Crystalline Bedrock - SP-2 typical (Figure 1)

- A Horizon – 0 to 2 inches; Sandy Organic Soil (OL), very dark brown, moist, fine to medium sand;
- B Horizon – 2 to 14 inches; Clayey Sand (SC), dark brown, moist, fine to medium sand, trace gravel and cobbles, (5:60:35); and
- C Horizon – below 14 inches; Clayey Sand with Gravel (SC), dark brown, moist, well graded sand, silt to fine sand-size mica flakes, plagioclase and quartz gravel – predominantly fine, (15:50:35).

A small percentage of fines (20 to 35% clay and silt) was observed at all soil profile locations. Clay contents were observed to be higher near the surface and may be attributed to chemical weathering of feldspar and mica minerals. Areas with higher clay contents may exhibit slower percolation rates.

The use of geosynthetic liners at the base of the lake or wetlands may be needed due to the prevalent granular (i.e., sands and gravel) nature of on-site soils to retain water and/or limit the amount of water needed to sustain wetlands year-round.

3.5 Groundwater

The Project Site is situated within the Raymond Groundwater Basin. The water-bearing sediments within the Basin consist predominately of Quaternary Alluvium.

The historic high groundwater levels reported by the CGS at the Project Site range from approximately 50 ft below ground surface (ft bgs) in the northern portion of the Site to less than 20 ft bgs in the southwestern portion of the Site [CDMG, 1999].

California Department of Water Resources observation Well 01N13W01E001S is located approximately 1,900 ft east of the Site (34.200300° N, 118.2036° W) at Elevation 1,240 ft MSL, with groundwater measured at 162.5 ft bgs on 9 April 2019 and historic average of 149.4 ft bgs between April 2011 and April 2019. Based on these recent data, it is likely that the present-day water table at the site is substantially deeper than the historic high groundwater levels reported by CGS.

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3.6 Seismicity

Southern California is a seismically active area dominated by numerous active faults that have formed along a tectonic plate boundary known as the San Andreas transform zone. The San Andreas transform zone, which separates the North American Plate to the east from the Pacific Plate to the west, is dominated by northwest trending, right-lateral (dextral), strike-slip faults of the San Andreas Fault system. The Project Site, like the majority of southern California, is located in a seismically active area and has the potential for significant strong ground motion during the design life of the Project.

3.6.1 Ground Shaking

Seismic shaking hazard was evaluated to assess the exposure to people or structures to substantial adverse effects, including the risk of loss, injury, or death per Appendix G – Section VI Geology and Soils, subsections a(ii), of the state CEQA Guidelines. The Project Site is situated within a seismically active region and will likely experience moderate to severe ground shaking in response to a large-magnitude earthquake occurring on a local or more distant active fault during the expected lifespan of the Project.

Provisions of the California Building Code (CBC) require determination of the Maximum Credible Earthquake (MCE) for the seismic region within which the Project Site is located. The MCE and site characteristics are used to define the appropriate seismic parameters for structural design in accordance with procedures set forth in the CBC. The 2010 CBC recommends that the design of structures be based on the horizontal Peak Ground Acceleration (PGA) having a 2 percent probability of exceedance over a 50-year period. This is defined as the MCE. The statistical return period for the MCE is approximately 2,475 years. The USGS uses a process referred to as Probabilistic Seismic Hazard Acceleration (PSHA) Interactive Deaggregation to identify the seismic design parameters for a given site with consideration given to all of the known faults that could generate strong shaking at that site. The USGS has published a Unified Hazard Tool that calculates the Peak Ground Acceleration (PGA) produced by the MCE at all locations within the United States. The PGA for the Project Site is approximately 0.84 g (or g-force).

The potential for strong seismic shaking is considered high, requiring the consideration of mitigation measures to avoid or reduce impacts from the proposed Project. However, with site-specific investigation and standard project design features addressing seismic shaking, this hazard would not be likely to represent a significant or substantially adverse hazard as a result of the proposed Project.

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3.6.2 Faults

Numerous faults in southern California include “active,” “potentially active,” and “inactive” faults. Division of these major groups is based on criteria by the California Geologic Survey (CGS, formerly known as California Division of Mines and Geology, CDMG) for the Alquist-Priolo Earthquake Fault Zoning Program [Bryant and Hart, 2007]. By definition, an “active” fault is one that has had displacement within Holocene time (last 11,000 years). A “potentially active” fault has demonstrated displacement of Quaternary-age deposits (last 1.6 million years). “Inactive” faults have not exhibited displacement in the last 1.6 million years. Active faults are typically identified based upon recorded seismic events or Holocene-age surface rupture confirmed by historic observations or by radiocarbon dating recent (Holocene) sediments that have been offset during prior earthquakes. The closest active faults to the Project Site [Bryant and Hart, 2007] are the Sierra Madre Fault Zone (SMFZ) and the Raymond Fault.

The SMFZ is a north-dipping complex zone approximately 75 km (47 miles) long of related thrust and reverse faults that closely demarcate the base of the San Gabriel Mountains from San Fernando Pass on the west to Cajon Pass on the east [Treiman, 2013]. The principal active faults of this zone include (from west to east) the Santa Susana, San Fernando, Sierra Madre, and Cucamonga faults. Associated secondary faults include the South Branch San Gabriel (or Vasquez Creek), Clamshell Canyon, Sawpit Canyon and Duarte faults, along with several other unnamed fault strands. Principal active faults of the SMFZ are included in a State of California Special Studies APEFZ.

The mapped strike-slip Raymond fault trends northeast-southwest merging with the frontal fault system of the SMFZ. At its northernmost extension, the Raymond fault is located approximately 10 km (4 miles) southwest of the Project. Recent evidence suggests at least eight surface-rupturing events have occurred along this fault within the last 36,000 years [Jennings, 1994] with a slip rate of 0.22 millimeters per year (mm/yr) [Peterson and Wesnousky, 1994]. The slip component of the Raymond fault is considered left-lateral, which may be responsible for transferring slip southward from the SMFZ to other fault systems [Jones et al., 1990].

The largest active fault in the region, the San Andreas strike-slip fault, is located approximately 24 miles to the northeast, along the northern edge of the San Gabriel Mountains at the transition to the Mojave Desert. The approximately 700-mile-long San Andreas fault is a network of faults that collectively accommodates the majority of relative north-south motion between the North American and Pacific lithospheric plates [Bryant and Matthew, 2002]. The most recent movement on the fault is estimated to be Latest Quaternary (less than 15,000 years before present [ybp]) with a slip rate of 30 mm/yr [CGS, 2003] and a 100- to 135-year recurrence rate.

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3.6.3 Fault Ground Rupture

Fault rupture hazard was evaluated to assess the exposure to people or structures to substantial adverse effects, including the risk of loss, injury, or death per Appendix G – Section VI Geology and Soils, subsections a(i), of the state CEQA Guidelines. The potential for fault surface rupture is generally considered to be significant along “active” faults and to a lesser degree along “potentially active” faults [CDMG, 1999]. Mapped active or potentially active faults do not cross or project towards the Project Site; therefore, fault rupture hazard is considered less than significant. No mitigation measures are required. However, cracking of the ground surface as a result of nearby seismic events is possible.

The Project Site does not lie within the boundaries of an "Earthquake Fault Zone," as defined by the State of California in the Alquist-Priolo Earthquake Zoning Act [CGS, 1999]. Therefore, performance of a Project Site-specific fault-hazard evaluation in accordance with the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Sections 2621-2630) is not required.

3.7 Seismic Hazard Zones

The attached Geologic Map (Figure 1) shows the extent of California Geological Survey Zones of Required Investigation for liquefaction (blue diagonal hatch) and earthquake-induced landslide (green diagonal hatch) hazards [CGS, 1999]. Zones of Required Investigation delineate areas where additional investigation and possible design countermeasures are necessary in the construction of buildings for human occupancy due to natural hazards (i.e., earthquake-induced landsliding and liquefaction). Liquefaction occurs when saturated unconsolidated soils, particularly sands, lose strength during seismic loading – resulting in permanent ground displacement. The Quaternary alluvium that underlies much of the site is classified as a Liquefaction Hazard Zone, almost in its entirety. A portion of the upper hillslope in the southern part of the property is classified as a Landslide Hazard Zone. The Project would include trail paths within the mapped Landslide Hazard Zone.

Due to the presence of liquefaction and landslide hazard at the site, as mapped by the State of California Division of Mines and Geology, additional design-level analyses are necessary in future stages of the Project to develop ad-hoc mitigation measures. Mitigation measures for areas prone to landsliding or rockfall may include retaining structures or drapery-type wire mesh systems to protect from the risk of landsliding and/or rockfall. Evaluation of liquefaction potential and any necessary remedial recommendations will be part of the design component of the Project. Remedial measures for liquefaction may include soil amendment and/or soil improvements to

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mitigate the liquefaction potential for structural foundations or designing foundations to take into account liquefiable layers.

3.7.1 Landslides

Landslide hazard was evaluated to assess the exposure to people or structures to substantial adverse effects, including the risk of loss, injury, or death per Appendix G – Section VI Geology and Soils, subsections a(iv) and c, of the state CEQA Guidelines. Mapped landslide deposits are not present within the Project Site. A portion of the upper hillslope in the southern part of the property is classified as a Landslide Hazard Zone, and the Project would include trail paths within the mapped Landslide Hazard Zone.

Due to the presence of landslide hazard at the site as mapped by the State of California Division of Mines and Geology, additional design-level analyses may be necessary in future stages of the Project to develop ad-hoc mitigation measures. Mitigation measures for areas prone to landsliding or rockfall may include creating buffer and no-entry areas for the public and retaining structures or drapery type wire mesh systems to protect from the risk of landsliding and/or rockfall.

3.7.2 Liquefaction

Liquefaction and secondary effects associated with liquefaction were evaluated to assess the exposure to people or structures to substantial adverse effects, including the risk of loss, injury, or death per Appendix G – Section VI Geology and Soils, subsections a(iii) and c, of the state CEQA Guidelines.

Liquefaction is the loss of strength in generally cohesionless, saturated soils when the pore-water pressure induced in the soil by a seismic event becomes equal to, or exceeds, the overburden pressure, causing the soils to lose strength and behave similarly to a liquid. Liquefaction generally occurs in coarse-grained material where groundwater is within 30 ft of the surface, but it may also occur in areas where groundwater is located up to 50 ft bgs. Once a soil liquefies, it will tend to settle and/or spread laterally. With even slight slopes, liquefied soils tend to move sideways downhill (lateral spreading). Settlement or lateral spreading can cause major damage to buildings and to buried infrastructure such as pipes and cables.

Much of the Project Site is classified as a Liquefaction Hazard Zone by the California Geological Survey, based on the intersection of historic high groundwater levels of less than 50 ft bgs and mapped Quaternary Alluvium. As such, it is assumed that the site is likely to experience liquefaction and related phenomena, unless a site-specific subsurface investigation is performed

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to prove the contrary. Groundwater elevation data from nearby DWR Observation Well 01N13W01E001S indicate that the present-day water table depth at the Project Site may be deeper than 50 ft bgs. Evaluation of liquefaction potential and any necessary remedial recommendations will be part of the design component of the Project. Remedial measures for liquefaction may include soil amendment and/or soil improvements to mitigate the liquefaction potential for structural foundations or designing foundations accounting for liquefiable layers.

3.7.3 Expansive or Collapsible Soils

Given the underlying geologic conditions within the area, typically sands and gravels, we do not anticipate expansive soils to be encountered within the limits of the Project Site. However, if expansive soils are encountered during the proposed grading, we recommend that these materials should be removed, mixed with non-expansive soils, or segregated and stockpiled for potential use as low-permeable materials during grading. Therefore, expansive soil does not constitute a significant hazard if appropriate grading practices are maintained.

3.7.4 Flooding

The Federal Emergency Management Agency (FEMA) presents the flood hazard potential in the vicinity of the Project Site as part of their Flood Insurance Rate Maps. FEMA Map No. 06037C1375F, dated September 26, 2008 [FEMA, 2008], indicates that the Project Site is situated across three flood area designations: unshaded Zone X; shaded Zone X; and Zone D. Unshaded Zone X is defined as “areas determined to be outside the 0.2% annual chance flood plain.” Shaded Zone X is defined as “Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 ft or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.” Zone D is defined as “Areas in which flood hazards are undetermined, but possible. Due to a lack of any reservoirs upgradient from the Project Site, flooding as a result of dam failure is not considered to be a likely hazard. Based on our review of the FEMA mapping, the geologic setting, and the Project Site elevations, the potential for flooding at the site is very low.

3.7.5 Other Geologic Hazards

Other potential geologic hazards evaluated include seiches and tsunamis. Tsunamis are seismically induced waves generated by sudden movements of the ocean bottom during submarine earthquakes, landslides, or volcanic activity. Seiches are similarly generated, but are oscillating waves within bodies of water such as reservoirs, lakes, or bays. The Project Site is not located within the County of Los Angeles mapped tsunami run-up zone [CGS, 2009]. No significant

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off-site reservoirs were identified in the areas tributary to the Project Area. The lake located on the property is deemed to be too small to pose a seiche hazard. Based on the physiographic setting of the Project Site, the distance to the ocean or other large water bodies, and the elevation of the Project Site, it is our opinion that the potential for flooding from seismically induced seiches and tsunamis is very low.

4. REGULATORY SETTING

The City's General Plan Geologic Hazards Element policy and current development review practices address seismic hazards under laws such as Alquist-Priolo Earthquake Fault Zoning Act, Seismic Hazard Mapping Act, Real Estate Disclosure Requirements, CEQA, Uniform Building Code and California Building Code, and Unreinforced Masonry Law. Compliance with these laws and the City's seismic design standards will be required to mitigate the structural effects of seismic shaking. The City Community Development Department will enforce the seismic design provisions for Seismic Zone 4 of the California Building Code, including near-source seismic conditions.

California Public Resources Code Sections 2621-2630, the Alquist-Priolo Earthquake Fault Zoning Act, is intended to provide policies and criteria to assist cities, counties, and state agencies in the exercise of their responsibility to prohibit the location of developments and structures for human occupancy across the trace of active faults. It is applicable to any project, as defined in Section 2621.6, that is located within a delineated earthquake fault zone. As indicated in Section 4.2, the Project Site is not situated within an Alquist-Priolo Earthquake Fault Zone.

5. SIGNIFICANCE CRITERIA

This report presents an analysis of the potential impact, pursuant to the criteria outlined in the California Environmental Quality Act (CEQA) Guidelines and were used to determine the level of significance of geology, soils, and seismicity impacts. Appendix G of the state CEQA Guidelines indicates that a project would have a significant effect from these impacts if it were to:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - a. Rupture of a known earthquake fault, as delineated in 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 potentially active fault (Refer to CDMG Special Publication 42 [Bryant and Hart, 2007]);

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- b. Strong seismic ground shaking;
 - c. Seismic-related ground failure, including liquefaction; and
 - d. Landslides;
- Result in substantial soil erosion or the loss of topsoil;
 - 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;
 - Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (UBC, 1994), creating substantial risks to life or property; or
 - 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;
 - Conflict with the Hillside Management Area Ordinance (LA County Code, Title 22, Ch. 22.104).

6. POTENTIAL IMPACTS

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - a. Known Fault Rupture Zone:

The Project Site is not located within an Alquist-Priolo “Earthquake Fault Zone.” The potential for surface rupture at the site due to faulting during the design life of the proposed Project is considered low. Therefore, impacts related to fault surface rupture would be less than significant.
 - b. Strong Seismic Ground Shaking:

Although the Project Site could be subjected to strong ground shaking in the event of a nearby or more distant regional earthquake, this hazard is common in southern California, and the effects of ground shaking will be limited by proper engineering design and construction in conformance with current building codes and engineering practices. Therefore, impacts related to strong seismic ground shaking would be less than significant.

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c. Seismic-Related Ground Failure, Including Liquefaction:

The Project Site overlaps with an “Earthquake-Induced Liquefaction Zone,” as shown on the Earthquake Zones of Required Investigation, Pasadena Quadrangle map [CDMG, 1999]. However, prior to the issuance of building permits, a site-specific geotechnical study would be prepared by a licensed engineer to outline structural design elements that would maintain structural integrity to the maximum extent during seismic ground shaking. Furthermore, the design and construction of the Project would conform to the California Building Code seismic standards, in addition to other applicable codes and standards. Therefore, impacts related to seismic-related liquefaction would be less than significant with the appropriate management strategies in place.

d. Landslides:

The proposed Project improvements are not located within an “Earthquake-Induced Landslide Zone,” as shown on the Earthquake Zones of Required Investigation, Pasadena Quadrangle map [CDMG, 1998]. Therefore, impacts related to slope instability or landslides would be less than significant at the locations of the proposed site enhancements. However, a portion of the upper hillslope in the southern part of the property is classified as a Landslide Hazard Zone, and the Project would include trail paths within the mapped Landslide Hazard Zone. Additional design-level analyses will be undertaken in future stages of the Project to develop mitigation measures.

- **Result in substantial soil erosion or the loss of topsoil**

The Project is currently partially developed with existing paved roads, structures, buildings, and parking areas. Project construction would temporarily expose on-site soils to surface stormwater runoff. Under the State Water Resources Control Board (SWRCB) Construction General Permit (CGP), the Project will require an approved Stormwater Pollution Prevention Plan (SWPPP) and implement construction-related best management practices (BMPs). Implementation of BMPs would control and minimize erosion and siltation. The CGP will be enforced through the City of La Cañada Flintridge’s and Los Angeles County’s construction, grading, and excavation permitting process.

Following construction activities, sediment and erosion controls, drainage conveyances, and monitoring and adaptive management would be implemented to manage soil erosion to a less than significant level. These hydrologic management strategies are described in

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the Hydrology Technical Report [Geosyntec, 2019]. Because Project implementation would include standard construction BMPs in the eventual project-specific SWPPP and appropriate post-construction hydrologic management strategies, impacts related to soil erosion or loss of topsoil would be less than significant.

- **Be located on 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.**

Subsidence and ground collapse generally occur in areas with active groundwater withdrawal or petroleum production. The extraction of groundwater or petroleum from sedimentary source rocks can cause the permanent collapse of the pore space previously occupied by the removed fluid. The Project does not involve the creation of new groundwater wells. Subsidence and ground collapse can also occur during dewatering activities. However, dewatering is not necessary for the Project. The California Geological Survey reports that historic high groundwater levels at the Project Site range from approximately 20 to 50 ft bgs, although recent data from a nearby DWR observation well indicate that the present-day water table may be substantially deeper. Since the proposed Project does not include substantial excavation or subterranean structures, groundwater would not likely be encountered during construction. Project design features and construction would comply with all applicable building codes and standards. With adherence to existing regulations, impacts related to geological failure, including lateral spreading, off-site landslides, liquefaction, or collapse, would be less than significant.

- **Be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.**

Expansive soils have relatively high clay mineral content and are usually found in areas where underlying formations contain an abundance of clay minerals. Due to high clay content, expansive soils expand with the addition of water and shrink when dried, which can cause damage to overlying structures. Soils on the Project Site are predominantly sands and gravels that are not subject to shrink and swell as a result of changes in the moisture content. Additionally, Project design features and construction would comply with all applicable building codes and standards. With adherence to existing regulations, impacts related to expansive soils would be less than significant.

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- **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 replace all existing septic systems with a new sewer collection system and wastewater treatment plant. Septic tanks would not be used. Therefore, no impact would occur.

- **Conflict with the Hillside Management Area Ordinance (LA County Code, Title 22, Ch. 22.104).**

The Project entails enhancing a community garden: as such, it provides open space to the public, enhancing the community character. Therefore, no conflict would occur.

7. LIMITATIONS

The conclusions, recommendations, and opinions made herein are based on the assumption that subsurface conditions do not deviate appreciably from those found during the referenced previous investigations by others. This report has been prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in this area. The conclusions contained in this report are based solely on the analysis of the conditions reviewed by Geosyntec personnel. We cannot make any assurances concerning the completeness of the data performed by others. This evaluation is not intended to replace site-specific geologic investigation in support of detailed engineering design for the Project.

No warranty, expressed or implied, is made regarding the professional opinions expressed in this report. If actual conditions are found to differ from those described in the report, or if new information regarding the site is obtained, Geosyntec should be notified and additional recommendations, if required, will be provided. Geosyntec is not liable for any use of the information contained in this report by persons other than Descanso Gardens Guild, Inc. or their subconsultants, or the use of information in this report for any purposes other than referenced in this report without the expressed, written consent of Geosyntec.

Please call us at 714-969-0800 if we can provide any additional information.

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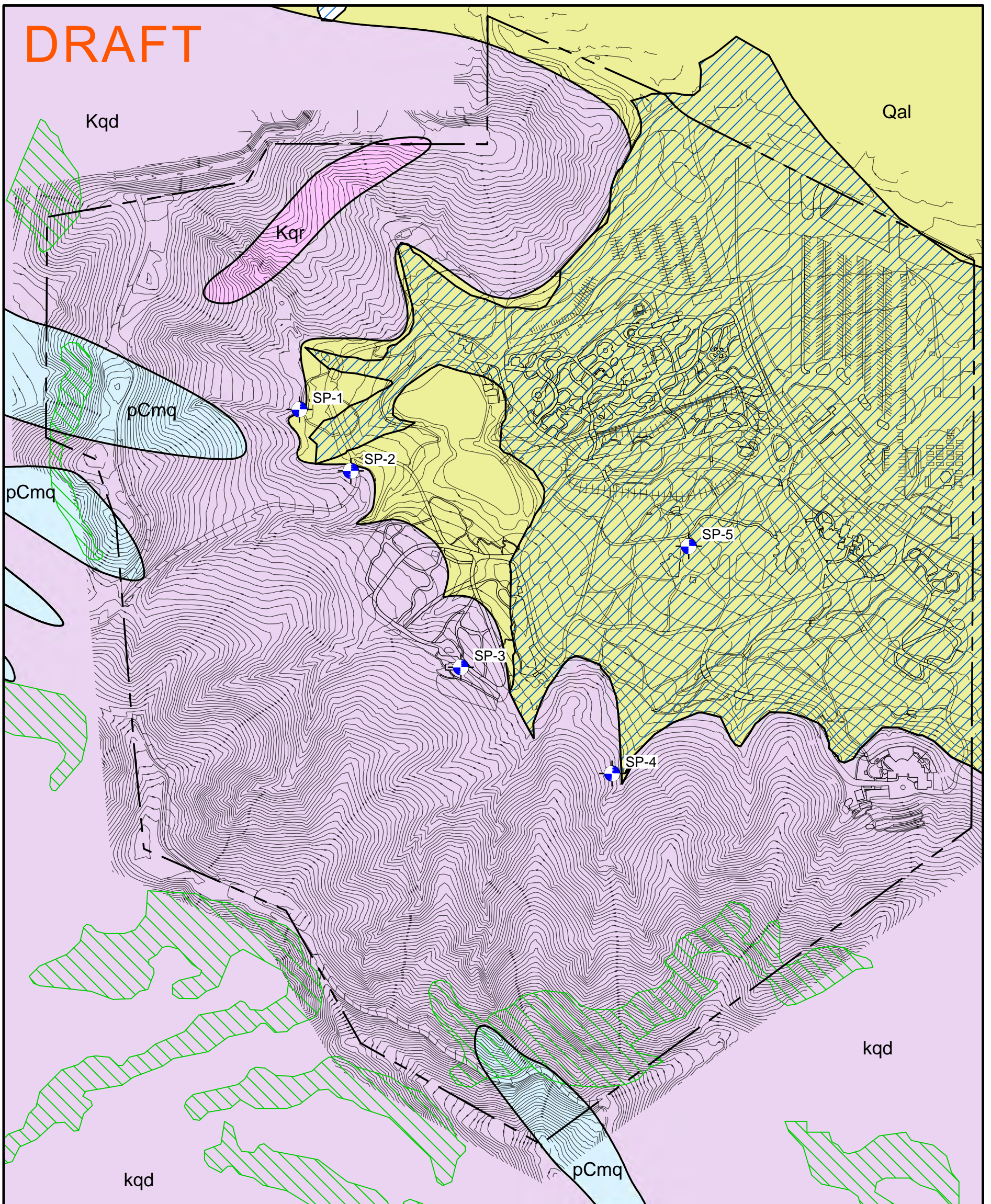
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FIGURES

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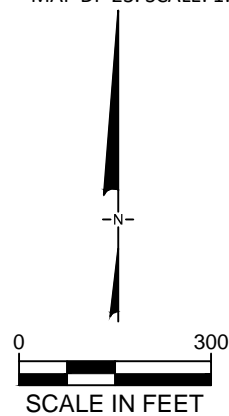


LEGEND

	PROPERTY LINE
	SOIL PROFILE LOCATION
	LIQUEFACTION HAZARD ZONE ¹
	LANDSLIDE HAZARD ZONE ¹
	QUATERNARY ALLUVIUM - PLEISTOCENE YELLOW TO YELLOWISH-PALE-BROWN UNCONSOLIDATED FINE TO MEDIUM SAND AND GRAVEL CONTAINING ABUNDANT COBBLES AND BOULDERS AND HIGHLY WEATHERED DIORITE CLASTS; INCLUDES POORLY DEVELOPED AND ANTHROPOGENIC SOILS ²
	CRETACEOUS LEUCOCRATIC GRANITIC ROCKS - GRAY-WHITE, MEDIUM- TO FINE-GRAINED MASSIVE GRANITIC ROCK OF QUARTZ MONZONITE TO GRANODIORITE COMPOSITION; QUARTZ, PLAGIOCLASE FELDSPAR, POTASSIUM FELDSPAR, MINOR BIOTITE; INTRUSIVE INTO QUARTZ DIORITE ³
	CRETACEOUS QUARTZ DIORITE - GRAY, MEDIUM-GRAINED MASSIVE QUARTZ DIORITE TO DIORITE; PLAGIOCLASE FELDSPAR; HORNBLLENDE; BIOTITE; QUARTZ INCLUDES POORLY TO MODERATELY DEVELOPED SOILS ³
	PRECAMBRIAN TO PALEOZOIC METAMORPHIC QUARTZITE - LIGHT GRAY ³

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SITE GEOLOGY AND HAZARD ZONES
DESCANSO GARDENS MASTER PLAN
LA CAÑADA FLINTRIDGE, CALIFORNIA

Geosyntec
consultants

PROJECT NO: HG1704

MARCH 2019

FIGURE

1

Appendix 11

Water Quality Technical Report



engineers | scientists | innovators



DESCANSO GARDENS MASTER PLAN WATER QUALITY TECHNICAL REPORT

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November 1, 2019

DRAFT FOR REVIEW

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ACRONYMS AND ABBREVIATIONS

BAT/BCT	Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology
Bgs	Below Ground Surface
BMP	Best Management Practice
CEQA	California Environmental Quality Act
CTR	California Toxics Rule
CWA	Clean Water Act
DCIA	Directly Connected Impervious Area
DWR	Department of Water Resources
<i>E. Coli</i>	<i>Escherichia Coli</i>
EMC	Event Mean Concentration
Ep	Erosion Potential
EPA	United States Environmental Protection Agency
EWMP	Enhanced Watershed Management Plan
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LARWQCB	Los Angeles Regional Water Quality Control Board
LID	Low Impact Development
MBR	Membrane Bioreactor
ug/L	micrograms per liter
μS	microsiemens
mg/L	milligrams per liter
MPN	Most Probable Number
MS4	Municipal Separate Storm Sewer System
MSL	Mean Sea Level
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
PCBs	Polychlorinated Biphenyls
POC	Pollutant of Concern
Q ₁₀₀	100-year Peak Flow

QSD	Qualified SWPPP Developer
QSP	Qualified SWPPP Practitioner
RWQCB	Regional Water Quality Control Board
SBPAT	Structural BMP Prioritization and Analysis Tool
SUSMP	Standard Urban Stormwater Mitigation Plan
SWQDv	Stormwater Quality Design Volume
SWRCB	State Water Resources Control Board
SU	Standard Units
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
WLA	Wasteload Allocation
WQTR	Water Quality Technical Report

1 INTRODUCTION

Descanso Gardens, one of the four botanic gardens/arborescences of Los Angeles County's park system, is a public garden serving the communities of La Cañada Flintridge, La Crescenta, Pasadena, and Glendale, and attracts visitors from throughout the country. The proposed Descanso Gardens Master Plan (the Project) would build upon past planning efforts and guide the Gardens' development over the next 15 years. This Water Quality Technical Report (WQTR) assesses the potential impacts of the proposed Project on water quality in the Project's receiving waters and underlying groundwater.

To evaluate potential impacts of the Project on water quality, pollutants of concern are identified based on regulatory and other considerations. Potential changes in water quality are addressed for pollutants of concern based on literature information and professional judgment. Impacts take into account Best Management Practices (BMPs) selected to be consistent with the Los Angeles County Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit. The level of significance of impacts is evaluated considering significance criteria that include predicted runoff quality for proposed Project versus existing conditions; MS4 Permit and Construction General Permit requirements; and reference to receiving water quality benchmarks, including Total Maximum Daily Load (TMDL) wasteload allocations and water quality standards from the Basin Plan.

Potential hydrologic impacts related to stormwater runoff volumes and peak flow rates up to and including the 50-year storm event are addressed in the Descanso Gardens Master Plan Hydrology Technical Report prepared by Geosyntec Consultants (Geosyntec, 2019a).

2 ENVIRONMENTAL SETTING

2.1 Physical Setting and Site Characteristics

The Project is located on an approximately 149-acre property in the Crescenta Valley in the City of La Cañada Flintridge. The Project site is adjacent to the eastern boundary of the City of Glendale and is approximately 11 miles north of the Los Angeles Civic Center. The Project area is located in the San Rafael Hills to the south of the valley and across from the San Gabriel Mountains and Angeles National Forest to the east and north (see Figure 2-1). The elevation ranges from 1,820 feet above mean sea level (MSL) at the southern property boundary, to 1,251 feet above MSL at the eastern property boundary near the project's immediate receiving water, Winery Canyon Channel.

2.1.1 Existing Condition

The 149-acre Project area includes 138 acres owned by Los Angeles County and three smaller areas, totaling approximately 11 acres, owned by other parties. Approximately 66 acres within the Project area have been developed into gardens and supporting facilities, including parking lots, entrance areas, and other structures. Approximately 83 acres of the Project site have not been developed as part of Descanso Gardens. These western, southern, and eastern undeveloped margins retain remnants of extant native plant communities, primarily coastal sage scrub and

chaparral. The existing Project overall imperviousness is 10%. A summary of the existing Project land uses is provided in Figure 2-2 and Table 2-1.

Table 2-1: Existing Project Land Uses

Land Use	Acres	Percent Impervious
Buildings	1.4	100%
Paved Surfaces	13.3	100%
Channels	0.4	100%
Developed Pervious Surfaces (Gardens and Landscaping)	50.9	0%
Undeveloped Lands	82.7	0%
Total	148.7	10%

The Master Plan Area is traversed by the Winery Canyon Channel, a flood control channel managed by the Los Angeles County Department of Public Works Flood Control District (LACFCD). A vast majority of stormwater runoff generated in the existing Project area discharges to Winery Canyon Channel (Figure 2-3). Additional details about the site's existing drainage patterns are provided in the Hydrology Technical Report (Geosyntec, 2019a).

2.1.2 Climate

The Project site has a Mediterranean climate with typically hotter summers and slightly cooler winters than nearby coastal areas. Orographic lift from the nearby San Gabriel mountains produces slightly more precipitation than nearby areas. The 85th percentile 24-hour storm depth for the Project area is approximately 1.15 inches, per the Los Angeles County Hydrology Map (Los Angeles County, 2019). The 50-year 24-hour rainfall depth ranges from 7.6 to 8.2 inches in the Project area. The 30-year average annual rainfall (for years 1981 – 2010) for the area is 22.9 inches, according to PRISM¹. This is consistent with the Los Angeles County Hydrology Manual, which identifies average annual precipitation for the Coastal Plan at 15.5 inches per year and 32.9 inches per year for the San Gabriel Mountains. Descanso Gardens is located in the foothills and thus would be expected to have an intermediate average annual rainfall.

2.1.3 Geology and Soils

The geology of Descanso Gardens consists primarily of Cretaceous age (~122 million-year-old) crystalline igneous rocks and Quaternary (2.6 million-year-old to recent) unconsolidated alluvium, as shown in the Geologic Map (Figure 2-4) (Geosyntec, 2019b). The Geologic Map shows the extent of California Geological Survey Zones of Required Investigation for liquefaction (blue diagonal hatch) and earthquake-induced landslide (green diagonal hatch) hazards. A portion of the upper hillslope in the southern part of the property is classified as a Landslide Hazard Zone, but this area is outside the portion of the site that is accessible to the public (Geosyntec, 2019b).

¹ <http://www.prism.oregonstate.edu/explorer/>

During a geologic reconnaissance conducted on February 19, 2019, Geosyntec logged five soil profiles to characterize soil development at the site and refine the mapped contact between crystalline bedrock and alluvium. The locations of soil profiles SP-1 through SP-5 are shown on the Geologic Map (Figure 2-4). The generalized soil profile for portions of the site underlain by alluvium include (if present) a 0-0.5-inch layer of organic litter underlain by sandy organic soil to 5 inches below ground surface (bgs), with clayey sand with gravel located at 5 inches bgs and deeper. The generalized soil profile for portions of the site underlain by crystalline bedrock include 0 – 2 inches of sandy organic soil, clayey sand from 2 to 14 inches bgs, and clayey sand with gravel below 14 inches bgs. A small percentage of fines (20-35% clay and silt) was observed at all soil profile locations. Clay contents were observed to be higher near the surface and thus may exhibit slower percolation rates (Geosyntec, 2019b). Los Angeles Department of Public Works Soils Classifications in the Project include Upper Los Angeles River (068) and Hanford Fine Sandy Loam (006) (see Figure 2-5).

2.2 Surface Receiving Water Bodies and Beneficial Uses

As described above, the majority of the Project area drains to Winery Canyon Channel, which joins the Hay Canyon Channel approximately 1,850-feet downstream, then transitions into the Flint Canyon Channel/Flint Wash, a concrete lined channel and soft bottomed channel tributary to Arroyo Seco Reach 2 at Devil’s Gate Dam. The Arroyo Seco is a tributary to Reach 2² of the Los Angeles River, which extends from Figueroa Street, just north of downtown Los Angeles, to Rio Hondo Reach 1 (Figure 2-6).

2.2.1 Arroyo Seco Watershed

The Arroyo Seco Watershed drains an area of 47 square miles, approximately two-thirds of which are in the San Gabriel Mountains within the Angeles National Forest. Arroyo Seco is a 22-mile long stream which begins as a deeply incised canyon under Strawberry Peak (Reach 3), flows into the Devil’s Gate Reservoir (Reach 2 begins at Devil’s Gate Dam), and eventually drains into the Los Angeles River near the Interstate 5 and Arroyo Seco Parkway (California State Route 110) interchange. The watershed ranges widely in elevation, dropping from 6,100 feet at the headwaters at Strawberry Peak to 320 feet at the confluence with the Los Angeles River, approximately 9 miles south of the Project site. Water from Arroyo Seco infiltrates into the Raymond basin aquifer (now part of the San Fernando Valley groundwater basin, see section 2.3), which provides 40% of the water supply to the City of Pasadena (SWRCB, 2006).

2.2.2 Arroyo Seco Beneficial Uses

The Water Quality Control Plan for the Los Angeles Region (Basin Plan) (LARWQCB, 1994, as amended) lists beneficial uses of major water bodies within this region (Table 2-2). Although Winery Canyon Channel is not listed in the Basin Plan, Arroyo Seco Reach 2 is listed and has specific beneficial uses assigned to it, which then also apply to its tributaries, including Winery Canyon Channel. As identified in Table 2-2, the existing and potential beneficial uses of Arroyo Seco Reach 2 include the following:

² Basin Plan identifies Arroyo Seco as draining to Reach 2; Upper LA River Enhanced Watershed Management Plan (EWMP) identifies Arroyo Seco as draining to Reach 3.

- MUN: Community, military, or individual water supply systems including, but not limited to, drinking water supply (a potential beneficial use).
- WARM: Warm freshwater habitat to support warm water ecosystems.
- WILD: Wildlife habitat waters that support wildlife habitats.
- RARE: Waters that support rare, threatened, or endangered species and associated habitats.

Table 2-2: Beneficial Uses

Water Body	Beneficial Uses			
	MUN	WARM	WILD	RARE
Arroyo Seco Reach 2 (Holly St. to Devils Gate Dam)	P*	P	P	E

E – Existing beneficial use; P – Potential beneficial use; *Asterix MUN designations are designated under SB 88-63 and RB 89-03. Some designations may be considered for exemptions at a later date.

Source: Water Quality Control Plan for the Los Angeles Region (Basin Plan) (LARWQCB, 1994, as amended)

2.2.3 Existing Surface Water Quality

There are limited water quality data available for the Project’s receiving waters, but accessible data and data summaries for Flint (Canyon) Wash and Arroyo Seco (Reach 2, West Holly Ave to Devils Gate Dam) from the past 10 years are summarized in Table 2-3 below. Available data include:

1. Data associated with one day of grab sample(s) available through the Arroyo Seco Foundation for Flint Wash, with field results provided by The Arroyo Seco Foundation and Stream Team (Arroyo Seco Foundation, 2013), and lab analysis by the City of Pasadena Water and Power Department. Data (2013) obtained from <https://www.arroyoseco.org/water-quality-monitoring.htm>.
2. Data associated with grab sampling compiled by the Los Angeles River Watershed Monitoring Program for Arroyo Seco (Council for Watershed Health, 2019). Reach 2 sampling locations only were summarized though these sampling locations varied each year, these results are combined to summarize water quality results by constituent.

The March 5, 2013 sample results from the Arroyo Seco Foundation indicate that trash was observed in Flint Wash. The data also indicated that *E.coli* was absent from the Flint Wash sample.

Constituents typically associated with urban stormwater and/or those associated with one of the TMDLs or Basin Plan numeric limits to which the Arroyo Seco is subject (see Section 3) are summarized in the Table 2-3 below. These results are discussed in the context of TMDL and Basin Plan water quality objectives in Sections 4 and 6.

Table 2-3: Flint Wash and Arroyo Seco Water Quality Monitoring Data Summary

Constituent Group	Constituent	Units	Flint Wash, 2013 ¹		LA River Monitoring Data, Arroyo Seco Reach 2, 2009 – 2012 ²			
			No. ³	Result	No. ³	NDs	Detected Results	
							Avg	Max
Bacteria	Total Coliform 1:100 Dilution	MPN	1	3,640				
General Chemistry	Hardness as CaCO ₃ , Total	mg/l			2	0	391	396
	pH, field	SU	1	7.6				
	pH, lab	SU	1	7.68				
Ions	Chloride, Total	mg/l			2	0	98.8	114
Metals	Cadmium, Dissolved	ug/L			2	2	ND	ND
	Cadmium, Total	ug/L			2	2	ND	ND
	Copper, Dissolved	ug/L			2	0	2.49	2.72
	Copper, Total	ug/L			2	0	3.77	4.26
	Lead, Dissolved	ug/L			2	2	ND	ND
	Lead, Total	ug/L			2	0	1.74	2.07
	Selenium, Dissolved	ug/L			2	2	ND	ND
	Selenium, Total	ug/L			2	2	ND	ND
	Zinc, Dissolved	ug/L			2	0	2.41	3.34
	Zinc, Total	ug/L			2	0	13.9	18.9
Nutrients	Ammonia as N, Total	mg/l			2	2	ND	ND
	Nitrate as N, Total	mg/l	1	0.76	2	0	3.39	3.82
	Nitrite as N, Total	mg/l			2	2	ND	ND
Solids	Suspended Solids, Total	mg/l			2	0	18.7	19.6
	Turbidity, Total	NTU	1	2.42				
	Total Dissolved Solids, lab	mg/l			1	0	654	654
	Total Dissolved Solids, field	µS	1	1,420				

Notes:

¹ Arroyo Seco Foundation results from sample event March 5, 2013 (Arroyo Seco Foundation, 2013; City of Pasadena Water and Power Department, 2013).

² Council for Watershed Health, 2019; corresponds with Arroyo Seco Reach 2 sampling locations, (LAR01004 and LAR02028).

³ Number of samples reported in data sources available.

MPN – Most Probable Number, mg/L – milligrams per liter, SU – Standard Units, ug/L - micrograms per liter, NTU – Nephelometric Turbidity Unit, µS – microsiemens.

2.3 Groundwater

2.3.1 Groundwater Beneficial Uses

A portion of the Project lower elevation areas are within the Raymond designated groundwater basin (Figure 2-7). Beneficial uses for groundwater for this Basin are shown in Table 2-4. **Error! Reference source not found..**

Table 2-4: Beneficial Uses of Groundwaters

Groundwater Basin	MUN	IND	PROC	AGR
Raymond	E	E	E	E

E-Existing Beneficial Use

MUN: Community, military, or individual water supply systems including, but not limited to, drinking water supply; IND: Industrial activities that do not depend primarily on water quality; PROC: Industrial activities that depend primarily on water quality; AGR: Agricultural supply waters used for farming, horticulture, or ranching.

Source: Water Quality Control Plan for the Los Angeles Region (Basin Plan), Table 2-2 (LARWQCB, 1994, as amended).

2.3.2 Groundwater Subbasin Description and Water Quality

There are no groundwater quality data available for the Project site. The Project is located at the northeastern end of the Raymond groundwater sub-basin, as defined by the California Department of Water Resources (DWR, 2019) and the Los Angeles Basin Plan (LARWQCB, 1994, as amended).

Per DWR, groundwater quality in the Raymond groundwater sub-basin is characterized by a calcium bicarbonate signature. Impairments include occasional exceedances of fluoride content near the San Gabriel Mountain front, high nitrate concentrations in water from some wells near Pasadena, detection of volatile organic compounds in wells near Arroyo Seco, and occasional radiation detections near the San Gabriel Mountains. Groundwater near the Jet Propulsion Laboratory in La Cañada Flintridge is contaminated with perchlorate (DWR, 2004).

2.4 Proposed Development

2.4.1 Project Land Uses

The proposed project is discussed in consideration of circulation, gardens, and the built environment as they relate to the existing conditions of the Project. The proposed Project would include the development of four new gardens and major improvements to seven existing gardens; and would increase the total acreage of impervious surfaces within the Master Plan by approximately 4.1 acres to approximately 19.1 acres. The impervious area changes would include a reduction of existing building footprints from 1.4 to 0.9 acres and an increase in paved surfaces from 13.3 to 18.2 acres. There would be no change to the 0.4-acre impervious area of concrete drainage channel (Winery Canyon Channel). A summary of the proposed Project land uses is provided in Table 2-5 and shown in Figure 2-8.

Table 2-5: Proposed Project Land Uses

Land Use	Acres
Buildings	0.9
Paved Surfaces	18.2
Channels	0.4
Developed Pervious Surfaces (Gardens and Landscaping)	46.9
Undeveloped Lands	82.3
Total	148.7

2.4.2 Drainage, Flood Control, and Water Quality Improvements

The drainage improvements proposed as part of the Project are primarily aimed at enhancing the ecological performance of the main water features, while optimizing the Lake for runoff capture for non-potable use. Additionally, hydrologic management strategies to address hydromodification and flood impacts are incorporated into the Project. The following two sections describe these improvements, respectively. The proposed drainage improvements are shown on Figure 2-9. BMPs incorporated into the Project to address water quality impacts are further described in Section 5 of this WQTR.

2.4.3 Water Supply and Wastewater

The Project's non-potable water (including irrigation and Lake water) is currently supplied through Hall Beckley Canyon and extracted through water infrastructure north of the Project. Potable water is sourced through the municipal water system. Wastewater is currently managed through septic systems. The County has authorized an on-site wastewater and septic improvements project, which is in progress as of summer 2019. In early 2019, the County approved installation of an upgraded wastewater system, including a new onsite membrane bioreactor (MBR) wastewater treatment plant. The wastewater project will decommission all existing septic systems and connect existing restrooms to the MBR. The on-site MBR will treat and recycle site wastewater for use as irrigation.

Proposed water supply improvements aim to greatly reduce or eliminate the use of Hall Beckley Canyon water per request from Los Angeles County. To replace this supply, the Lake will be lined, and stormwater currently captured in the Lake will be used as irrigation water.

Additionally, stormwater captured elsewhere on the site, along with recycled wastewater and "fugitive"³ water harvested seasonally from Winery Canyon Channel, will be directed through a treatment wetland to a recirculation pond, where it will be pumped to the Lake for use as irrigation water (Biohabitats, 2019). It is anticipated that additional municipal water supply may be needed in dry years to supplement onsite water recycling.

³ "Fugitive" water refers to small volumes of water that are presumed to originate from leaks, over-irrigation, and natural infiltration upstream and assumed available for harvesting.

3 REGULATORY SETTING

3.1 Federal Regulations

3.1.1 Clean Water Act

In 1972, the Federal Water Pollution Control Act [later referred to as the Clean Water Act (CWA)] was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to waters of the U.S. from any point source. In 1987, the CWA was amended to require that the United States Environmental Protection Agency (EPA) establish regulations for permitting of municipal and industrial stormwater discharges under the NPDES permit program. The EPA published final regulations regarding stormwater discharges on November 16, 1990. The regulations require that municipal separate storm sewer system discharges to surface waters be regulated by a NPDES permit.

In addition, the CWA requires the States to adopt water quality standards for receiving water bodies and to have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g. wildlife habitat, agricultural supply, fishing etc.), along with water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents – such as lead, suspended sediment, and fecal coliform bacteria – or narrative statements which represent the quality of water that support a particular use. Because California did not establish a complete list of acceptable water quality criteria, the EPA established, in the CTR (California Toxic Rule), numeric water quality criteria for certain toxic constituents in receiving waters with human health or aquatic life designated uses (40 CFR 131.38).

3.1.2 CWA Section 303(d) - TMDLs

When designated beneficial uses of a particular receiving water body are being compromised by water quality, Section 303(d) of the CWA requires identifying and listing that water body as “impaired”. Once a water body has been deemed impaired, a TMDL must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards (with a “factor of safety” included). Once established, the TMDL allocates the loads among current and future pollutant sources to the water body. Water quality impairments at the Project location and downstream of the Project location were considered when selecting the pollutants of concern for the water quality impact analysis in this WQTR.

The Project would discharge runoff to Arroyo Seco Reach 2 through Winery Canyon Channel and Flint Wash. Table 3-1 lists the water quality impairments for Arroyo Seco Reach 2 and the downstream Arroyo Seco Reach 1, as reported in the Final 2014/2016 California Integrated Report (CWA Section 303(d) List/ 305(b) Report) (SWRCB, 2019).

Table 3-1: Summary of 303(d) Listings for Downstream Receiving Waters

River Reach or Tributary	Distance from Project to Upstream End of Reach	Pollutants (Decision ID)	TMDL Completion
Arroyo Seco Reach 2 (West Holly Ave to Devils Gate Dam)	2.2 miles	Trash (34673)	7/24/2008
		Indicator Bacteria (34670)	3/23/2012
Arroyo Seco Reach 1 (LA River to West Holly Ave)	4.9 miles	Excess Algal Growth (32855)	3/18/2004
		Trash (42303)	7/24/2008
		Indicator Bacteria (35135)	3/23/2012
Los Angeles River Reach 2 (Carson to Figueroa Street)	11.4 miles	Oil (34203)	TMDL not issued (Expected 2019) ¹
		Ammonia (32911) Nutrients (Algae) (32959)	3/18/2004
		Copper (34080) Lead (34174)	12/22/2005
		Trash (32437)	7/24/2008
		Indicator Bacteria (34201)	3/23/2012
Los Angeles River Reach 1 (Estuary to Carson Street)	30.4 miles	Cyanide (32807)	TMDL not issued (Expected 2019) ¹
		Ammonia (32973) Nutrients (Algae) (33456) pH (32926)	3/18/2004
		Cadmium (32639) Copper, Dissolved (32523) Lead (37995) Zinc, Dissolved (32604)	12/22/2005
		Trash (37050)	7/24/2008
		Indicator Bacteria (35171)	3/23/2012

¹ Dates for expected TMDLs obtained from SWRCB, 2019.

The impairments for Arroyo Seco Reach 2 are currently being addressed by Los Angeles River TMDLs (see Table 3-2). Impairments without a TMDL include oil, for Los Angeles River Reach 2, and cyanide, for Los Angeles River Reach 1. Los Angeles River TMDLs that have been adopted by the Los Angeles Regional Water Quality Control Board (LARWQCB) are summarized below (LARWQCB, 1994, as amended):

- The LA River Bacteria TMDL was adopted by the LARWQCB in 2010 and approved by EPA in 2012.

- The LA River Nitrogen Compounds and Related Effects TMDL was initially adopted in 2003. The TMDL was amended and adopted by the LARWQCB in 2003 and again in 2012. The effective date of the TMDL is August 7, 2014.
- The LA River Trash TMDL was initially approved in 2001 and went into effect on August 28, 2002. The TMDL was set aside by the LARWQCB in 2006, remanded by the SWRCB in 2007, then adopted, approved, and made effective in 2008. The 2008 TMDL was revised by the LARWQCB in 2015 and approved in 2016.
- The LA River Metals TMDL was initially adopted and approved in 2005, then voided, set aside, re-adopted in 2007 and finally approved in 2008. The TMDL was revised and adopted in 2010, with an effective date of 2011, then again in 2015, with an effective date of 2016 (the current version). Though metals are not identified as an impairment for Arroyo Seco, Arroyo Seco is subject to the TMDL as it is a tributary of the LA River.

Numeric limits and wasteload allocations as included in the Basin Plan (LARWQCB, 1994, as amended) are provided in Table 3-2 below.

Table 3-2: TMDL Wasteload Allocations for MS4 Permittees Discharging to Arroyo Seco or the Los Angeles River

Impairing Pollutant	Numeric Water Quality Objective	Wasteload Allocation (WLA)													
Bacteria (code 238)	<p>Geometric Mean Target: <i>E. coli</i> density shall not exceed 126/100 mL.</p> <p>Single Sample Target: <i>E. coli</i> density shall not exceed 235/100 mL.</p>	<p>Arroyo Seco is included as one tributary to the Los Angeles River.</p> <p>For the single sample target, each river segment and tributary is assigned an allowable number of exceedance days for dry weather and wet weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event.), set on an annual basis.</p> <p>For MS4 dischargers, the final dry-weather WLAs and wet-weather WLAs for the single sample targets are listed below:</p> <table border="1" data-bbox="646 1331 1409 1541"> <thead> <tr> <th>Allowable Number of Exceedance Days</th> <th>Daily Sampling</th> <th>Weekly Sampling</th> </tr> </thead> <tbody> <tr> <td>Dry Weather</td> <td>5</td> <td>1</td> </tr> <tr> <td>Non-HSF waterbodies wet weather (including Arroyo Seco Reach 2)</td> <td>15</td> <td>2</td> </tr> </tbody> </table> <p>The final WLAs for the geometric mean target during any time at any river segment and tributary in the Los Angeles River Watershed is zero (0) days of allowable exceedances.</p> <p>Interim dry weather WLAs are assigned for specific river segments and tributaries and are listed below:</p> <table border="1" data-bbox="646 1776 1409 1850"> <thead> <tr> <th>River Segment or Tributary</th> <th><i>E. coli</i> Load (10⁹ MPN/Day)</th> </tr> </thead> <tbody> <tr> <td>Arroyo Seco</td> <td>24</td> </tr> </tbody> </table> <p>MPN - most probable number</p>	Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling	Dry Weather	5	1	Non-HSF waterbodies wet weather (including Arroyo Seco Reach 2)	15	2	River Segment or Tributary	<i>E. coli</i> Load (10 ⁹ MPN/Day)	Arroyo Seco	24
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Impairing Pollutant	Numeric Water Quality Objective	Wasteload Allocation (WLA)																												
Nutrients (Code 229)	Thirty-day average for all reaches and tributaries: <table border="1" data-bbox="354 422 613 835"> <tr> <td>Nitrate-nitrogen (NO₃-N)</td> <td>8 mg/L</td> </tr> <tr> <td>Nitrite-nitrogen (NO₂-N)</td> <td>1 mg/L</td> </tr> <tr> <td>Nitrate-nitrogen plus Nitrite-nitrogen (NO₃-N + NO₂-N)</td> <td>8 mg/L</td> </tr> </table>	Nitrate-nitrogen (NO ₃ -N)	8 mg/L	Nitrite-nitrogen (NO ₂ -N)	1 mg/L	Nitrate-nitrogen plus Nitrite-nitrogen (NO ₃ -N + NO ₂ -N)	8 mg/L	Minor Point Sources, including municipal stormwater and urban runoff from municipal separate storm sewer systems: <table border="1" data-bbox="646 405 1409 720"> <tr> <th colspan="3">One-hour average WLA:</th> </tr> <tr> <td>Ammonia</td> <td>Los Angeles Tributaries (including Arroyo Seco)</td> <td>10.1 mg/L</td> </tr> <tr> <th colspan="3">Thirty-day average WLA:</th> </tr> <tr> <td>Ammonia¹</td> <td>Los Angeles Tributaries (including Arroyo Seco)</td> <td>2.3 mg/L</td> </tr> <tr> <td colspan="2">NO₃-N</td> <td>8 mg/L</td> </tr> <tr> <td colspan="2">NO₂-N</td> <td>1 mg/L</td> </tr> <tr> <td colspan="2">NO₃-N + NO₂-N</td> <td>8 mg/L</td> </tr> </table> <p>¹ In addition, the highest four-day average within the 30-day period shall not exceed 2.5 times the 30-day average wasteload allocation.</p>	One-hour average WLA:			Ammonia	Los Angeles Tributaries (including Arroyo Seco)	10.1 mg/L	Thirty-day average WLA:			Ammonia ¹	Los Angeles Tributaries (including Arroyo Seco)	2.3 mg/L	NO ₃ -N		8 mg/L	NO ₂ -N		1 mg/L	NO ₃ -N + NO ₂ -N		8 mg/L	
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NO ₃ -N + NO ₂ -N		8 mg/L																												
Trash (code 365)	Zero Trash in all Waterbodies (established in 2001)	The TMDL requires phased reductions over a period of 9 years, from existing baseline loads to zero trash. The ninth year was 2016; all waterbodies must now achieve 0% baseline loading of trash.																												
Metals (code 237)	Numeric Targets for Arroyo Seco (µg total recoverable metals/L) <table border="1" data-bbox="354 1041 613 1251"> <thead> <tr> <th>Metal</th> <th>Dry¹</th> <th>Wet¹</th> </tr> </thead> <tbody> <tr> <td>Cd</td> <td></td> <td>3.1</td> </tr> <tr> <td>Cu</td> <td>29</td> <td>67</td> </tr> <tr> <td>Pb</td> <td>94</td> <td>94</td> </tr> <tr> <td>Zn</td> <td></td> <td>159</td> </tr> <tr> <td>Se</td> <td></td> <td>5</td> </tr> </tbody> </table> <p>¹ Dry or wet weather target</p>	Metal	Dry ¹	Wet ¹	Cd		3.1	Cu	29	67	Pb	94	94	Zn		159	Se		5	Load allocations for Arroyo Seco are provided in kg/day in the Basin Plan; these have been extracted below. <table border="1" data-bbox="646 1052 1198 1230"> <thead> <tr> <th>Metal</th> <th>Stormwater Wet-Weather (kg/day)</th> </tr> </thead> <tbody> <tr> <td>Cd</td> <td>3.1x10⁻⁹ x daily volume(L) – 1.95</td> </tr> <tr> <td>Cu</td> <td>3.97 x 1.7x10⁻⁸ x daily volume (L) – 10</td> </tr> <tr> <td>Pb</td> <td>9.4x10⁻⁸ x daily volume (L) – 35</td> </tr> <tr> <td>Zn</td> <td>1.6x10⁻⁷ x daily volume (L) – 90</td> </tr> </tbody> </table>	Metal	Stormwater Wet-Weather (kg/day)	Cd	3.1x10 ⁻⁹ x daily volume(L) – 1.95	Cu	3.97 x 1.7x10 ⁻⁸ x daily volume (L) – 10	Pb	9.4x10 ⁻⁸ x daily volume (L) – 35	Zn	1.6x10 ⁻⁷ x daily volume (L) – 90
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3.1.3 California Toxics Rule

The California Toxics Rule (CTR) is a federal regulation issued by the EPA providing water quality criteria for potentially toxic constituents in receiving waters with human health or aquatic life designated uses in the State of California (EPA, 2000). The EPA adopted the CTR in 2000 to create legally applicable water quality criteria for priority toxic pollutants for inland surface waters, enclosed bays, and estuaries to protect human health and the environment for all purposes and programs under the CWA. The CTR aquatic life criterion were derived using a CWA Section 304(a) method that produces an estimate of the highest concentration of a substance in water which does not present a significant risk to the aquatic organisms in the water and their uses (EPA, 2000). The CTR water quality criteria provide a reasonable and adequate amount of protection with only a small possibility of substantial overprotection or under protection. As the Metals TMDL used the CTR water quality criteria as the basis for establishing numeric targets for Arroyo Seco, these TMDL numeric targets are used in this document as one type of benchmark to evaluate the potential impacts of the Project on water quality of the receiving waters (as opposed to the CTR criteria).

3.1.4 Federal Antidegradation

The Federal Antidegradation Policy (40 CFR §131.12) requires states to develop statewide antidegradation policies and identify methods for implementing them. Pursuant to the Code of Federal Regulations, state antidegradation policies and implementation methods shall, at a minimum, protect and maintain: (1) existing in-stream water uses; (2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the State finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource. State permitting actions must be consistent with the federal Antidegradation Policy.

3.2 State Regulations

3.2.1 California Porter-Cologne Act

The federal CWA places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although it does establish certain guidelines for the states to follow in developing their programs and allows EPA to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges of waste to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a Basin Plan for its region. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its state water policy. To implement state and federal law, the Basin Plan establishes beneficial uses for surface water and groundwater in the region and sets forth narrative and numeric water quality standards to protect those beneficial uses. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

3.2.2 California Antidegradation

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California, was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the State, not just surface waters. Under the policy, whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality must be maintained and discharges to that water body must not unreasonably affect any present or anticipated beneficial use of the water resource.

3.2.3 Basin Plan

The applicable Basin Plan (LARWQCB, 1994, as amended) provides numeric and narrative criteria for a range of water quality constituents applicable to certain receiving water bodies and groundwater basins within the Los Angeles region. Specific criteria are provided for the larger, designated water bodies within the region, as well as general criteria or guidelines for ocean waters, bays and estuaries, inland surface waters, and ground waters. Those waters not specifically listed (generally smaller tributaries) are assumed to have the same beneficial uses as the streams, lakes, or reservoirs to which they are tributary. In general, the narrative criteria require that degradation of water quality does not occur due to increases in pollutant loads that will adversely impact the designated beneficial uses of a water body. For example, the Los Angeles Basin Plan requires that “Inland surface waters shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors”. Water quality criteria apply within receiving waters as opposed to applying directly to runoff; therefore, water quality criteria from the Basin Plan are utilized as benchmarks as one method to evaluate the potential ecological impacts of Project runoff on the receiving waters of the proposed project. Table 2-2 lists the beneficial uses of applicable surface receiving waters.

The Basin Plan also contains water quality criteria for groundwater basins. For example, the Basin Plan requires that “Ground waters shall not contain taste or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses”. Table 2-4 lists the beneficial uses of the applicable groundwater basin.

3.2.4 Trash Amendments

On April 7, 2015, the SWRCB adopted an Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to Control Trash and Part 1 Trash Provision of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries. Together, the amendments are collectively called the “Trash Amendments.” The SWRCB’s objective for the Trash Amendments is to provide statewide consistency in the regulatory approach to reduce environmental issues associated with trash in waters of the state, while focusing limited resources on high trash generating areas.

The Trash Amendments prohibit the discharge of trash to surface waters of the state, or the deposition of trash where it may be discharged into surface waters of the state. The Trash Amendments will be implemented through inclusion of the requirements in MS4, construction, and industrial stormwater NPDES permits when the permits are renewed in the future. The Project area is within the boundary of the Los Angeles River Trash TMDL, which requires zero trash discharge for the Project and the entire watershed.

3.2.5 Construction General Permit for Stormwater Discharges

Pursuant to the CWA Section 402(p), requiring regulations for permitting certain stormwater discharges, the SWRCB issued a statewide general permit for stormwater discharges from construction sites [Water Quality Order 2009-0009-DWQ, SWRCB NPDES General Permit for Stormwater Discharges Associated with Construction Activity (NPDES No. CAR000002; adopted by the SWRCB on September 2, 2009)].

Under the Construction General Permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or to be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing a construction site risk assessment to determine appropriate coverage level; preparing a Storm Water Pollution Prevention Plan (SWPPP), including site maps, a Construction Site Monitoring Program, and sediment basin design calculations; for projects located outside of a Phase I or Phase II permit area, completing a post-construction water balance calculation for hydromodification controls; and completing a Notice of Intent. All of these documents must be electronically submitted to the SWRCB for General Permit coverage. The primary objective of the SWPPP is to identify and apply proper construction, implementation, and maintenance of BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction. The SWPPP also outlines the monitoring and sampling program required for the construction site to verify compliance with discharge Numeric Action Levels (NALs) set by the Construction General Permit.

3.2.6 MS4 Permit Planning and Land Development Program Requirements

In 2012, the Los Angeles Regional Water Quality Control Board (LARWQCB) issued a revised National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements (Order No. R4-2012-0175; NPDES Permit No. CAS004001) under the Clean Water Act and the Porter-Cologne Act for discharges of urban runoff in public storm drains in Los Angeles County. The Permittees are the Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the coastal watersheds of the County. This permit regulates stormwater discharges from municipal separate storm sewer systems (MS4s) in the project area.

The MS4 Permit details specific requirements for new development and significant redevelopment projects, including selection, sizing, and design criteria for low impact development (LID), treatment control, and hydromodification control BMPs. These requirements (i.e., Project Performance Criteria) are as follows:

- Projects shall control pollutants, pollutant loads, and runoff volume emanating from the project site by: (1) minimizing the impervious surface area and (2) controlling runoff from impervious surfaces through infiltration, bioretention, and/or rainfall harvest and use.
- Redevelopment projects that create, add, or replace 5,000 square feet or more of impervious surface area are required to implement stormwater treatment controls for the new or replaced area. Where the redevelopment results in an alteration to more than 50% of the existing impervious surfaces, the entire site must be mitigated.
- Except where technically infeasible, projects shall retain the Stormwater Quality Design Volume (SWQD_v) on-site. The SWQD_v is defined as the runoff from the 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile

precipitation isohyetal map. The SWQDv for the project site is **1.15 inches** based on our review of the isohyetal map.

- Where it is technically infeasible to retain 100 percent of the SWQDv on-site, the project must biofilter 1.5 times the portion of the SWQDv that is not reliably retained on-site. Alternatively, the project may retain the portion of the SWQDv that is not reliably retained on-site at an offsite location and provide onsite treatment of the project's stormwater runoff.
- Bioretention⁴ and biofiltration⁵ systems must meet the design specifications provided in Attachment H to the MS4 Permit unless otherwise approved by the Regional Water Board Executive Officer. Projects that discharge to a receiving water body that is impaired for nitrogen compounds must design and maintain biofiltration systems to achieve enhanced nitrogen removal capability. Based on a preliminary assessment of the receiving waters for the project, the site drains from Winery Canyon Channel through Flint Canyon Channel/Flint Wash to the Devil's Gate Reservoir, which overflows to Arroyo Seco Reach 1, and is ultimately tributary to Los Angeles River Reach 2. Arroyo Seco Reach 1 is listed as impaired for indicator bacteria and trash. Los Angeles River Reach 2 is listed as impaired for ammonia, copper, indicator bacteria, lead, nutrients, oil, and trash. Therefore, biofiltration systems for the project must design and maintain biofiltration systems to address enhanced nitrogen removal.
- When evaluating the potential for onsite retention, each project must consider the "maximum potential" for evapotranspiration from green roofs and rainfall harvest and use. If onsite retention is achieved using other mechanisms, then green roofs and rainfall harvesting are not required to be implemented.
- Technical infeasibility may result from conditions including:
- An in-situ saturated soil infiltration rate less than 0.3 inches per hour (and it is not technically feasible to amend the in-situ soils to attain an infiltration rate necessary to

⁴ As defined in the MS4 Permit, a bioretention BMP may not include an underdrain. When a bioretention BMP is designed or constructed with an underdrain, it is regulated by the MS4 Permit as biofiltration.

⁵ Biofiltration is defined in the MS4 Permit to include only systems designed to facilitate incidental infiltration or achieve the equivalent pollutant reduction as biofiltration BMPs with an underdrain (subject to Executive Officer approval). Biofiltration BMPs include bioretention systems with an underdrain and bioswales.

achieve reliable performance of infiltration or bioretention BMPs in retaining the SWQDv on-site).

- Depth to seasonal high groundwater is within five to ten feet of the surface.
- Locations within 100 feet of a groundwater well used for drinking water.
- Brownfield development sites where infiltration poses a risk of causing pollutant mobilization.
- Other locations at or near properties that are contaminated or store hazardous substances underground, where pollutant mobilization is a documented concern.
- Locations with potential geotechnical hazards.
- Smart growth, infill, or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the onsite volume retention requirement.
- If a project is complying with the MS4 Permit's Project Performance Standards via retention at an offsite location, then onsite treatment BMPs must be designed and implemented to meet specific benchmark effluent limitations contained in the MS4 Permit and to ensure that the treated discharge does not cause or contribute to an exceedance of water quality standards at the downstream MS4 outfall. These treatment BMPs may include sand filters or other proprietary BMPs with a demonstrated treatment efficiency equivalent to a sand filter. The sizing of a flow-through treatment BMP must be based on a rainfall intensity of 0.2 inches per hour or the one-year, one-hour rainfall intensity as determined from the most recent Los Angeles County isohyetal map, whichever is greater.
- Projects that discharge to natural drainage systems must implement hydrologic control measures (i.e., hydromodification controls) to prevent accelerated downstream erosion and to protect stream habitat. Hydromodification control in natural drainage systems must be achieved by maintaining the Erosion Potential (Ep) in the natural drainage system at a value of 1, unless an alternative value can be shown to protect the natural drainage system from erosion, incision, and sedimentation and to prevent damage to stream habitat.
- Hydromodification control may include one or a combination of onsite, regional or sub-regional hydromodification control BMPs, LID BMPs, or stream and riparian buffer restoration measures. Any in-stream restoration measure cannot adversely affect the beneficial uses of the natural drainage system.
- Natural drainage systems that are subject to the hydromodification control requirements in the MS4 Permit include all drainages that have not been improved (e.g., channelized or armored with concrete, shotcrete, or rip-rap) and drainage systems that are tributary to a

natural drainage system, except as specifically exempted in the MS4 Permit. Exemptions include:

- Projects that are replacement, maintenance or repair of a Permittee's existing flood control facility, storm drain, or transportation network.
- Redevelopment projects in the urban core that do not increase the effective impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project condition.
- Projects that have any increased discharge directly or via a storm drain to a sump, lake, area under tidal influence, into a waterway that has a 100-year peak flow (Q_{100}) of 25,000 cfs or more, or other receiving water that is not susceptible to hydromodification impacts.
- Projects that discharge directly or via a storm drain into concrete or otherwise engineered (not natural) channels (e.g., channelized or armored with rip rap, shotcrete, etc.), which, in turn, discharge into receiving water that is not susceptible to hydromodification impacts.
- Projects disturbing 50 acres or more within natural drainage systems are presumed to meet the hydromodification control Project Performance Criteria based on demonstration of one of the following conditions:
 - The site infiltrates on-site at least the runoff from a 2-year, 24-hour storm event, or
 - The runoff flow rate, volume, velocity, and duration for the post-development condition does not exceed the pre-development condition for the 2-year, 24-hour rainfall events. These conditions must be substantiated by hydrologic modeling acceptable to the Regional Water Board Executive Officer, or
 - The E_p in the receiving water channel will approximate 1, as determined by a Hydromodification Analysis Study and the equation presented in Attachment J to the MS4 Permit.

3.3 Local Regulations

3.3.1 Los Angeles County Requirements

In 2008, Los Angeles County adopted the Green Building Program, which included the Drought-Tolerant Landscaping, Green Building, and Low Impact Development Ordinances and created an Implementation Task Force and Technical Manual. In 2010, in response to the mandates set forth in CALGreen (2010 California Green Building Standards Code), the County Board of Supervisors adopted the Los Angeles County Green Building Standards Code (Title 31).

3.3.2 Los Angeles County Low Impact Development Ordinance and Manual

Chapter 12.84 of the Los Angeles County Municipal Code⁶ requires the use of LID BMPs in development projects. This chapter applies to all development within the unincorporated area of the County after January 1, 2009, except for those developments that filed a complete discretionary or non-discretionary permit application with the Los Angeles County Department of Regional Planning, Public Works, or any County-controlled design control board, prior to January 1, 2009. Although this ordinance does not apply directly to the Project, the La Cañada Flintridge municipal code has adopted the County's code by reference.

Chapter 12.84 requires that applicable development projects:

- Mimic undeveloped stormwater runoff rates and volumes in any storm event up to and including the “Capital Flood” event, as defined by the County of Los Angeles Department of Public Works (LACDPW);
- Prevent pollutants of concern from leaving the development site in stormwater as the result of storms, up to and including a Water Quality Design Storm Event; and
- Minimize hydromodification impacts to natural drainage systems.

To meet these standards, applicable development projects shall comply with the following:

1. The project shall retain one hundred percent of the Stormwater Quality Design Volume ("SWQDv")⁷ on-site, through infiltration, evapotranspiration, rainfall harvest and use, or a combination thereof, unless the Director of Public Works determines that it would be technically infeasible to do so;
2. If the Director determines that it would be technically infeasible to retain one hundred percent of the SWQDv on-site, the project shall comply with one of the following alternative compliance measures:
 - a. The project shall provide for on-site biofiltration of one and one-half (1.5) times the portion of the SWQDv that is not retained on-site;
 - b. The project shall include infiltration or bioretention BMPs to intercept the portion of the SWQDv that is not retained on-site at an offsite location, as approved by the Director of Public Works. The project shall also provide for treatment of the portion of the SWQDv discharged from the project site, as approved by the Director of Public Works;

⁶ Chapter 12.84 was amended in September 2013 to conform to the requirements of the revised Los Angeles County MS4 Permit (Order No. R4-2012-0175).

⁷ The County's HydroCalc Calculator calculates runoff rates and volumes from the water quality storm. Download here: http://dpw.lacounty.gov/wmd/dsp_LowImpactDevelopment.cfm.

- c. The project shall provide for the replenishment of groundwater supplies that have a designated beneficial use in the Basin Plan;
 - i. Groundwater replenishment projects shall include infiltration or bioretention BMPs to intercept the portion of the SWQDv that is not retained on-site at an offsite location, as approved by the Director of Public Works;
 - ii. Groundwater replenishment projects shall also provide for treatment of the portion of the SWQDv discharged from the project site, as approved by the Director of Public Works;
- d. The project shall include infiltration, bioretention, or rainfall harvest and use BMPs to retrofit an existing development with similar land uses as the project to intercept the portion of the SWQDv that is not retained on-site; or
- e. The County, independently or in conjunction with one or more cities, may apply to the Regional Water Board for approval of a regional or sub-regional stormwater mitigation program to substitute in part or wholly for the provisions of this chapter for the area covered by the regional or sub-regional stormwater mitigation program. If the Regional Water Board approves the program, provisions of the program shall apply in lieu of any conflicting provisions of this chapter.

In addition, development projects that consist of five or more residential units, or nonresidential development projects, shall comply with the following:

- The excess volume (ΔV , defined as the post-developed runoff volume minus the pre-developed runoff volume for the 85th percentile storm event) from each lot upon which such development is occurring shall be infiltrated at the lot level, or in the alternative, the excess volume from the entire development site, including streets and public right-of-way, shall be infiltrated in sub-regional facilities. The tributary area of a sub-regional facility shall be limited to five acres but may be exceeded with approval of the Director of Public Works. When the Director of Public Works determines that infiltration of all excess volume is not technically feasible, on-site storage, reuse, or other water conservation uses of the excess volume is required and shall be implemented as authorized by the Director of Public Works and the runoff from the SWQDv must be treated to the satisfaction of the Director of Public Works before discharge.

DPW prepared the 2014 LID Standards Manual to comply with the revised Los Angeles County MS4 Permit (Order No. R4-2012-0175)⁸. The LID Standards Manual outlines stormwater runoff

⁸ The LID Standards Manual is an update to and compilation of the following documents: 1) Development Planning for Storm Water Management: A Manual for the Standard Urban Storm Water Mitigation Plan (SUSMP Manual, September 2002); 2) Technical Manual for Stormwater Best Management Practices in the County of Los Angeles (2004 Design Manual, February 2004); 3) Stormwater Best Management Practice Design and Maintenance Manual (2010) Design Manual, August 2010); and 4) Low Impact Development Standards Manual (2009 LID Manual, January 2009). Additionally, the LID Standards Manual supersedes the water quality portions of the following ordinances and policies: 1) Water Quality section of the Los Angeles County Hydrology Manual; 2) Interim Drainage Policy for Quartz Hill; 3) Acton Interim Drainage Policy and Guidelines; 4) Antelope Valley

quantity and quality control development principles, technologies, and design standards for achieving the LID Standards of Chapter 12.84. The LID Standards Manual requires that Designated Projects prioritize the selection of BMPs to retain 100 percent of the SWQDv on-site through infiltration, evapotranspiration, stormwater runoff harvest and use, or a combination thereof, unless it is demonstrated that it is technically infeasible to do so. The Manual states that BMPs should be implemented in the following order of preference:

- Infiltration and/or bioretention.
- Stormwater runoff harvest and use.

Designated Projects that are unable to fully retain the SWQDv on-site through retention-based stormwater quality control measures must implement alternative compliance measures (e.g., on-site biofiltration, off-site groundwater replenishment, off-site infiltration and/or bioretention, and off-site retrofit). Prior to off-site mitigation, the portion of the SWQDv that cannot be reliably retained on-site must be treated to meet effluent quality standards.

The LID Standards Manual outlines site conditions where infiltration may be technically infeasible:

- Locations where the corrected in-situ infiltration rate is less than 0.3 inches per hour, as determined according to the most recent Geotechnical and Materials Engineering Division (GMED) Policy GS 200.1, and it is not technically feasible to amend the in-situ

Interim Drainage Policy; 5) Financing the Cost to Maintain Standard Urban Stormwater Mitigation Plan Devices/Systems; 6) Permanent Standard Urban Storm Mitigation Plan Devices for No Fee Miscellaneous Transfer Drains, Small Drainage Systems, and Storm Drain Connection Permits; 7) Interim Peak Flow Runoff Criteria for New Development; 8) Policy for New Percolation Basin Testing, Design, and Maintenance; and 8) Clarification on the Policy for Financing the Cost to Maintain Standard Urban Stormwater Mitigation Plan (SUSMP) Devices/Systems Constructed by New Development or Other Agencies.

soils to attain an infiltration rate necessary to achieve reliable performance of retention-based stormwater quality control measures for the SWQDv on-site.

- Locations where seasonal high groundwater is within 10 feet of the surface.
- Within 100 feet of a groundwater well used for drinking water.
- Brownfield development sites or other locations where pollutant mobilization is a documented concern.
- Locations with potential geotechnical hazards.
- Smart growth and infill or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the onsite retention requirement;
- Locations where infiltration may cause adverse impacts to biological resources.
- Locations where infiltration may cause health and safety concerns.

The LID Standards Manual also outlines site conditions where stormwater runoff harvest and use may be technically infeasible:

- Projects that would not provide sufficient irrigation or (where permitted) domestic grey water demand for use of stored stormwater runoff due to limited landscaping or extensive use of low water use plant palettes in landscaped areas.
- Projects that are required to use recycled water for landscape irrigation.
- Projects in which the harvest and use of stormwater runoff would conflict with local, state, or federal ordinances or building codes.
- Locations where storage facilities may cause potential geotechnical hazards as outlined in the geotechnical report.
- Locations where storage facilities may cause health and safety concerns.

3.3.3 La Cañada Flintridge Municipal Code

La Cañada Flintridge has adopted Chapter 12.84 of the Los Angeles County Code (LID Standards) as part of their Municipal Code 9.20.

La Cañada Flintridge Municipal Code 9.21, “Stormwater Management”, includes the following requirements that are applicable to the Project:

- Any person engaged in activities which will or may result in pollutants entering the city’s MS4 shall undertake all practicable measures to eliminate such pollutants.
- Sidewalks shall be maintained free of dirt or litter to the maximum extent practicable. Sweepings from the sidewalk shall not be swept or otherwise made or allowed to go into

the gutter or roadway but shall be disposed of in receptacles maintained on the property as required for the disposal of refuse.

- Persons owning or operating a parking lot, automotive service facility, paved private street or road or similar structure, shall clean these structures as frequently and thoroughly as practicable in a manner that eliminates the discharge of pollutants to the MS4 to the maximum extent practicable.

Code 9.21 also defines prohibited discharges as any material other than stormwater, with exemptions including but not limited to water line flushing subject to a written agreement with the city; landscape irrigation and lawn watering using potable water; noncommercial washing of vehicles by a non-profit organization, which has provided written notice to the city at least five business days prior to the event, with application of appropriate BMPs; flows from riparian habitats and wetlands; and other sources.

Additionally, Code 9.21 requires compliance with the following:

- Runoff of water used for irrigation purposes shall be minimized to the maximum extent practicable. Runoff of water from the permitted washing down of paved areas shall be minimized to the maximum extent practicable.
- Storage of Materials, Machinery and Equipment:
- Objects, such as motor vehicle parts, containing grease, oil or other hazardous substances, and unsealed receptacles containing hazardous materials, shall not be stored in areas susceptible to runoff.
- Any machinery or equipment which is to be repaired or maintained in areas susceptible to runoff shall be placed on a pad of absorbent material to contain leaks, spills or small discharges.
- The discharge of graywater to street or storm drain is prohibited.

Code 9.21 requires maintenance of structural BMPs, stating that structural BMPs required by the city, county of Los Angeles, or state or federal agency shall be properly operated and maintained, consistent with the approved Standard Urban Stormwater Mitigation Plan (SUSMP), low impact development plan, or other equivalent plan or program, or otherwise determined by the director. Records and documentation of such maintenance shall be provided to the director upon reasonable request.

The code also describes stormwater inspections, which may occur by the director upon seventy-two hour written notice.

Chapter 4.23 of the City of La Cañada Flintridge Municipal Code covers water efficient landscaping. This chapter requires that applicant shall hire a landscape architect to prepare and self-certify landscaping plans. Additionally, project applicants must complete a water efficient landscape worksheet to identify the maximum applied water allowance for the project, and conduct water budget calculations. Code 4.23 also requires an irrigation design plan certified by licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any

other person authorized to design an irrigation system. Code 4.23 specifies that recycled water systems shall be designed and operated in accordance with all applicable local and state laws.

4 SIGNIFICANCE CRITERIA AND POLLUTANTS OF CONCERN

4.1 Surface Water Quality Significance Criteria and Thresholds

Thresholds of significance for surface water quality impacts have been developed based on a review of the MS4 Permit and the California Environmental Quality Act (CEQA) Guidelines, Appendix G. Significant adverse water quality impacts are presumed to occur if the proposed Project would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality.
- Conflict with Los Angeles County Low Impact Development Ordinance (Los Angeles Code, Title 12, Ch. 12.84).
- Use onsite wastewater treatment systems in areas with known geological limitations (e.g., high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage courses).
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

This report analyzes whether substantial additional sources of polluted runoff may result from the Project based on qualitative assessments that take into account water quality BMPs. Any increases in pollutant concentrations or loads in runoff resulting from the proposed Project are considered an indication of a potentially significant adverse water quality impact. If loads and concentrations resulting from development are predicted to stay the same or be reduced when compared with pre-development conditions based on the qualitative assessment, it is concluded that the Project will not cause a significant adverse impact to the ambient water quality of the receiving waters for that pollutant.

If pollutant loads or concentrations are expected to increase, then for both the post-development and construction phases, potential impacts are assessed by evaluating compliance of the Project with applicable regulatory requirements of the MS4 Permit and the Construction General Permit, as described below. Further, post-development increases in pollutant loads and concentrations are evaluated by comparing the potential magnitude of the increase to relevant benchmarks, including receiving water TMDLs and receiving water quality objectives and criteria from the Basin Plan.

4.1.1 Receiving Water Benchmarks

Comparison of expected post-development pollutant concentrations in the runoff discharge with benchmark TMDL waste load or load allocations for MS4 discharges establishes the likelihood of runoff causing TMDL exceedances in receiving waters or otherwise degrading receiving water quality. The Basin Plan water quality objective focuses instead on concentrations in water measured in micrograms (μg) of pollutant per volume of water (liter or “L”). Comparison of

expected post-development (Project) water quality concentrations in the runoff discharge with benchmark numeric and narrative receiving water quality criteria as provided in the Basin Plan facilitates analysis of the potential for runoff to result in exceedances of receiving water quality standards, adversely affect beneficial uses, or otherwise degrade receiving waters.

Water quality criteria are considered benchmarks for comparison purposes only as such criteria apply within receiving waters as opposed to applying directly to runoff discharges. Narrative and numeric water quality objectives contained in the Basin Plan apply to the Project's receiving waters. If pollutant levels in runoff are not predicted to exceed receiving water benchmarks, it is one indication that no significant impacts will result from Project development.

4.1.2 Los Angeles County Low Impact Development Ordinance Requirements

Satisfaction of the Los Angeles County LID requirements occurs when new development complies with the LID requirements set forth in the MS4 Permit and Los Angeles County LID Ordinance. The LID Ordinance requires specific site design approaches and stormwater controls. The effectiveness of stormwater controls is primarily based on two factors - the amount of runoff that is captured by the controls and the selection of BMPs to address identified pollutants of concern. If the Project BMPs meet LID Ordinance and MS4 requirements, including sizing for water quality controls and other BMPs consistent with the LID requirements, it is expected that no significant impacts will occur.

4.1.3 Onsite Wastewater Treatment Systems

Satisfaction of onsite wastewater treatment system requirements occurs when these systems are located sufficiently far from surface water and away from areas with known geotechnical limitations.

4.1.4 Water Quality Control Plan or Sustainable Groundwater Management Plan

Satisfaction of the water quality control plan and sustainable groundwater management plan requirements occurs when the proposed Project is consistent with existing plans to which the location is subject. Descanso Gardens is within the bounds of the Enhanced Watershed Management Program (EWMP) for the Upper Los Angeles River Watershed. The EWMP describes a compliance pathways to meet the MS4 Permit and relevant TMDLs for the entire Watershed area. The underlying groundwater basin, the Raymond Basin, is adjudicated, but there is not a Sustainable Groundwater Management Plan for the Raymond Basin.

4.1.5 Construction General Permit

Satisfaction of construction-related requirements of the Construction General Permit establishes compliance with water quality regulatory requirements applicable to stormwater runoff during the construction phase of the Project. The Construction General Permit requires the development and implementation of a SWPPP that describes erosion and sediment control BMPs as well as material management/non-stormwater BMPs that will be used during the construction phase of the Project. To evaluate significance of construction phase Project water quality impacts, this report evaluates whether water quality control is achieved by implementation of BMPs consistent

with Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology (BAT/BCT)⁹, as required by the Construction General Permit.

4.2 Groundwater Significance Criteria and Thresholds

Thresholds of significance for evaluating the hydrologic and water quality impacts of the Project on groundwater have been developed based on CEQA Appendix G thresholds. Significant adverse impacts to groundwater are presumed to occur if the proposed Project would:

- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.3 Surface Water Pollutants of Concern

Pollutants of concern (POCs) consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and/or flora and fauna. The pollutants of concern for the water quality analysis are those that are anticipated to be or could potentially be generated by the Project at concentrations that exhibit these characteristics. Identification of the pollutants of concern is also based on Basin Plan beneficial uses and water quality objectives and current 303(d) listings and TMDLs in Arroyo Seco and Los Angeles River.

The following pollutants were chosen as pollutants of concern for purposes of evaluating water quality based upon the above considerations:

⁹ BAT/BCT are Clean Water Act technology-based standards that are applicable to construction site stormwater discharges. Federal law specifies factors relating to the assessment of BAT including age of the equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques; process changes; the cost of achieving effluent reduction; non-water quality environmental impacts (including energy requirements); and other factors as the Administrator deems appropriate. Clean Water Act §304(b)(2)(B). Factors relating to the assessment of BCT include: reasonableness of the relationship between the costs of attaining a reduction in effluent and the effluent reduction benefits derived; comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources; the age of the equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques; process changes; non-water quality environmental impact (including energy requirements); and other factors as the Administrator deems appropriate. Clean Water Act §304(b)(4)(B). The Administrator of U.S. EPA has not issued regulations specifying BAT or BCT for construction site discharges.

4.3.1 Sediments

Basin Plan sediments POCs include solid, suspended, or settleable materials, along with turbidity. Excessive erosion, transport, and deposition of sediment in surface waters can result in major water quality problems and impairments of designated beneficial uses. Excessive sediment, or turbidity, which is typically associated with project construction phase, can impair aquatic life by filling interstitial spaces of spawning gravels, impairing fish food sources, filling rearing pools, blocking sunlight, thereby reducing aquatic plant growth, and reducing beneficial habitat structure in stream channels. In addition, excessive sediment can cause taste and odor problems in drinking water supplies and block water intake structures. The Basin Plan contains the following narrative objective for solid, suspended or settleable materials: “Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.” The Basin Plan contains a similar narrative objective for turbidity, in addition to numeric limits for increases above natural turbidity: “Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.” Based on available water quality data in Arroyo Seco, natural turbidity does not exceed 50 Nephelometric Turbidity Units (NTU).

4.3.2 Nutrients

Nutrients include inorganic forms of nitrogen (nitrate, nitrite and ammonia) and phosphorus. Organic forms of nitrogen are associated with vegetative matter. Inorganic forms of nitrogen include nitrate, nitrite and ammonia. Total Nitrogen (TN) is a measure of all nitrogen present, including inorganic and particulate forms. Phosphorus can be measured as total phosphorus (TP) or as dissolved phosphorus. Dissolved phosphorus is the more bioavailable form of phosphorus. TP is often composed mostly of soil-related particulate phosphorus. There are several sources of nutrients in urban areas, mainly fertilizers in runoff from lawns, pet waste, atmospheric deposition from industry and automobile emissions, and soil erosion. Eutrophication due to excessive nutrient input can lead to changes in algae, benthic, and fish communities; extreme eutrophication can cause hypoxia or anoxia, resulting in fish kills. A Nutrients TMDL has been developed for the Los Angeles River and Tributaries, including Arroyo Seco, and adopted into the Basin Plan. The Nutrients TMDL includes numeric objectives for nitrogen compounds, as summarized in Table 3-2.

4.3.3 Pathogens (Bacteria, Viruses, and Protozoa)

Pathogens are agents or organisms that can cause diseases or illnesses, such as bacteria, viruses, and protozoa. Elevated pathogens are typically caused by the transport of domestic animal, wildlife, or human fecal wastes from the watershed. Runoff that flows over land such as urban runoff can mobilize pathogens, including bacteria and viruses. Other sources of pathogens in urban areas include pets, septic systems, and leaky sanitary sewer pipes. The presence of pathogens in runoff can impair receiving waters and contaminate drinking water sources. The Los Angeles River and Tributaries Bacteria TMDL, as included in the Basin Plan is based on the use of *Escherichia Coli* (*E. Coli*) as a pathogen indicator in Arroyo Seco. Limits for *E. Coli* in Arroyo Seco are summarized in Table 3-2.

4.3.4 Trash & Debris

Trash (such as paper, plastic, polystyrene packing foam, and aluminum materials) and biodegradable organic debris (such as leaves, grass cuttings, and food waste) are general waste products on the landscape that can be entrained in urban runoff. The presence of trash & debris may have a significant impact on the recreational value of a water body and aquatic habitat. The Project's downstream receiving water, Arroyo Seco, is subject to the Los Angeles River Trash TMDL, which includes a numeric water quality limit of zero trash in all waterbodies (see Table 3-2).

4.3.5 Metals

The primary sources of metals in stormwater are typically commercially available metals used in transportation (e.g. automobiles), buildings, and infrastructure. Metals are also found in fuels, adhesives, paints, and other coatings. Metals are of concern because of the potential for toxic effects on aquatic life and the potential for ground water contamination. The Project's downstream receiving water, Arroyo Seco, is subject to the Los Angeles River and Tributaries Metals TMDL, which includes numeric limits for cadmium, copper, lead, zinc, and selenium. Requirements of the Metals TMDL are summarized in Table 3-2.

4.3.6 Oil and Grease

Oil and grease are not readily soluble in water and form a film on water surfaces, which can then coat birds and aquatic organisms, impacting respiration and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. Oil and grease sources in urban settings derive principally from transportation sources including emissions and leaks from vehicles and spill from fueling operations. These sources are located on impervious surfaces including roads and parking lots. The Basin Plan states that: "Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses."

4.3.7 Pesticides

Pesticides (including herbicides, insecticides and fungicides) are chemical compounds commonly used to control insects, rodents, plant diseases, and weeds. Excessive application of a pesticide in connection with agriculture cultivation or landscaping may result in runoff containing toxic levels of its active component. The Basin Plan states: "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses." and "Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of pesticides in excess of the limiting concentrations specified in Title 22 of the California Code of Regulations." Arroyo Seco Reach 2 has a potential municipal water supply designated use (see Section 2.3.2 above).

4.3.8 Other Constituents

This section discusses other constituents that are listed in the Basin Plan, but for reasons explained below, are not considered POCs for the Project.

Bioaccumulation: Certain pollutants have a tendency to bioaccumulate, including pesticides, metals, and other toxic chemicals. Bioaccumulative pollutants are not anticipated to be generated by the Project and are not currently impairments of the Project receiving waters; and are therefore not included as a POC for this project.

Biochemical Oxygen Demand and Dissolved Oxygen: The Basin Plan states that “Waters shall be free of substances that result in increases in the Biochemical Oxygen Demand which adversely affect beneficial uses.” Nutrients in fertilizers and food wastes in trash are examples of oxygen demanding compounds that could be expected to be present on the Project site. Other biodegradable organic materials include human and animal waste and vegetative matter. As the biodegradable pollutants of nutrients or trash that could pose an oxygen demand are identified as Project POCs, this is not included as a POC for this Project.

Biostimulatory Substances: Biostimulatory substances include excess nutrients (nitrogen, phosphorus) and other compounds that stimulate aquatic growth. The Basin Plan states that “waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.” As nutrients (identified as biostimulatory compounds) are identified as Project POCs, general biostimulatory substances are not identified as Project POC.

Chemical Constituents: Chemical constituents in excessive amounts in drinking water are harmful to human health. The Basin Plan objective for chemical constituents states: “Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.” Water designated as MUN shall not contain concentrations of chemical constituents in excess of the limits specified in... Title 22 of the California Code of Regulations...” Arroyo Seco Reach 2 has a potential municipal water supply designated use (see Section 2.3.2 above). Chemical constituents referenced under this water quality objective, such as bacteria and nitrate, are subsumed by the Project POCs categories above, and are therefore adequately represented by assessment of those constituents.

Total Residual Chlorine: Total residual chlorine can be present in wastewater treatment plant discharges or may be present in dry weather urban runoff from the emptying of swimming pools that have not been dechlorinated. Chlorine is a strong oxidant and is therefore very toxic to aquatic life. The Project does not include wastewater treatment plants or swimming pools, and therefore, total residual chlorine will not be present in runoff from the Project.

Color, Taste, and Odor: The Basin Plan contains narrative objectives for color, taste, or odor that causes a nuisance or adversely affects beneficial uses. Undesirable tastes and odors in water may be a nuisance and may indicate the presence of a pollutant(s). Color in water can result from natural conditions (e.g., from plant material or minerals) or can be introduced from commercial or industrial sources. The Basin Plan states: “Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses,” and “Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible aquatic resources, cause nuisance, or adversely affect beneficial uses.” Odor associated with water can result from decomposition of organic matter or the reduction of inorganic compounds, such as sulfate. Other potential sources of odor causing substances, such as industrial processes, will not occur as part of the Project. Potential POCs that could result in

color, taste, and odor changes, including nutrients and turbidity, are identified as project POCs already. Therefore, color-, taste-, or odor-producing substances are not pollutants of concern for the Project.

Exotic Vegetation: Non-native (exotic) vegetation typically provides little habitat value and can out compete native vegetation that is more suitable habitat for aquatic and terrestrial organisms. The Basin Plan objective for exotic vegetation states: “Exotic vegetation shall not be introduced around stream courses to the extent that such growth causes nuisance or adversely affects designated beneficial uses.” Plantings in Descanso Gardens are well managed and would not be expected to be introduced directly around the channel course.

Floating Material: Floating materials can be an aesthetic nuisance as well as provide substrate for undesirable bacterial and algal growth and insect vectors. The Basin Plan states that: “Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.” Floating material that could be expected to be on the Project site includes trash, which is already included in the Project POCs above.

Methylene Blue Activated Substances: Methylene Blue Activated Substances are related to the presence of detergents in water. Positive results may indicate the presence of wastewater or be associated with urban runoff due to commercial and/or residential vehicle washing, other outdoor washing activities, or septic system impacts. The Project does not include residential land uses and outdoor washing activities do not occur (vehicles are taken off-site for washing), and will be decommissioning all septic systems currently on-site, so this is not considered a POC for this project.

Mineral Quality (TDS, Sulfate, Boron, and Sodium Adsorption Ratio): Mineral quality in natural waters is largely determined by the soils and rocks near the land surface. Elevated mineral concentrations could impact beneficial uses; however, the minerals listed in the Basin Plan (including TDS, sulfate, chloride, boron, nitrogen, and sodium adsorption ratio), except nitrogen, are not believed to be constituents of concern due to the absence of receiving water impairments. Nitrogen is identified as a Project POC; these constituents are therefore not considered POCs for the Project.

pH: The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of “pure” water at 25 °C is 7.0, the pH of natural waters is usually slightly basic. Minor changes from natural conditions can harm aquatic life. The Basin Plan states “the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of waste discharge.” Activities and materials that would impact pH, such as those associated with industrial activities, will not be present on the Project. Additionally, available water quality monitoring results for Arroyo Seco summarized in section 2.2.3 were consistently within the 6.5 to 8.5 range. Therefore, pH in Arroyo Seco is not expected to be affected by runoff discharges from the Project.

Polychlorinated Biphenyls (PCBs): PCBs are highly toxic persistent chemicals that have been historically released into the environment from industrial uses, such as transformers, but are no longer produced in the United States. Due to their persistence, PCBs can still be detected in

urban runoff due to historic industrial sources of these chemicals. The Project area does not include historical PCB-producing land uses. Therefore, PCBs are not a POC for the Project.

Radioactive Substances: Radioactive substances typically occur at very low concentrations in natural waters. Some activities such as mining or certain industrial activities can increase the amount of radioactive substances impairing beneficial uses. The Basin Plan objective for radioactive substances states: “Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life. Water designated for use as MUN shall not contain concentrations of chemical constituents in excess of the limits specified in...Title 22 of the California Code of Regulations...” The Project will not have industrial or other activities that would be a source of any radioactive substances. Therefore, radioactive substances are not a POC for the Project.

Temperature: Increase in temperature can result in lower dissolved oxygen levels, impairing habitat and other beneficial uses of receiving waters. Elevated temperatures are typically associated with discharges of process wastewaters or non-contact cooling waters; the Project would not include these types of discharges. The Basin Plan states: “For waters designated WARM, water temperature shall not be altered by more than 5 °F above the natural temperature. At no time shall these WARM-designated waters be raised above 80 °F as a result of waste discharges.” While urban runoff can also elevate receiving water temperatures, it is not anticipated that the Project would release substantial elevated-temperature runoff to impact the Arroyo Seco Reach 2, which has a WARM designation. Therefore, temperatures of stormwater runoff in the Project are not of concern.

Toxicity: Certain pollutants in stormwater runoff have the potential to be highly toxic to aquatic organisms resulting in effects such as impaired reproduction or mortality. The Basin Plan water quality objective for toxicity states “all surface waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Toxicity is not currently an impairment for Arroyo Seco Reach 2, and the Project is not anticipated to discharge pollutants that may contribute to toxicity and/or these substances are listed as Project POCs. Therefore, toxicity is not a POC for the Project.

4.4 Groundwater Pollutants of Concern

4.4.1 Pollutants of Concern

The Project may allow for incidental infiltration of urban runoff to groundwater after receiving treatment in the LID treatment control BMPs, as well as incidental infiltration of irrigation water. Research conducted on the effects on groundwater from stormwater infiltration by Pitt et. al. (1994) indicate that the potential for contamination is dependent on a number of factors including the local hydrogeology and the chemical characteristics of the pollutants of concern.

Chemical characteristics that influence the potential for groundwater impacts include high mobility (low absorption potential), high solubility fractions, and abundance in runoff, including dry weather flows. As a class of constituents, trace metals tend to adsorb onto soil particles and

are filtered out by the soils. This has been confirmed by extensive data collected beneath stormwater detention/retention ponds in Fresno (conducted as part of the Nationwide Urban Runoff Program (Brown & Caldwell, 1984)) that showed that trace metals tended to be adsorbed in the upper few feet in the bottom sediments. Bacteria are also filtered out by soils. More mobile constituents such as chloride and nitrate would have a greater potential for infiltration.

The Los Angeles Basin Plan contains numerical objectives for bacteria, mineral quality, nitrogen, and various toxic chemical compounds, and contains qualitative objectives for taste and odor. Nitrate-N was chosen as the pollutant of concern for purposes of evaluating groundwater quality impacts based upon the above considerations. High nitrate levels in drinking water can cause health problems in humans. Infants can develop methemoglobinemia (blue-baby syndrome). Human activities and land use practices can influence nitrogen concentrations in groundwaters. For example, irrigation water containing fertilizers can increase levels of nitrogen in groundwater.

4.4.2 Other Groundwater Constituents

Bacteria: The Basin Plan contains numeric criteria for bacteria in drinking water sources. As bacteria are removed through straining in soils (for example, as with septic tank discharges), infiltration of runoff in the Project's LID BMPs is not expected to affect bacteria levels in groundwater.

Chemical Constituents and Radioactivity: Drinking water limits for inorganic and organic chemicals that can be toxic to human health in excessive amounts and radionuclides are contained in Title 22 of the California Code of Regulations. These chemicals and radionuclides are not expected to occur in the Project's runoff. Title 22 specifies California's Wastewater Reclamation Criteria (WRC) and recycled water must meet or exceed these criteria. These criteria apply to the treatment processes; treatment performance standards, such as removal efficiencies and effluent water quality; process monitoring programs, including type and frequency of monitoring; facility operation plans; and necessary reliability features. Due to compliance with these criteria, chemical constituents and radionuclides are not expected to occur in irrigation water in amounts that would impact groundwater.

Taste and Odor. The Basin Plan contains a narrative objective for taste and odor that cause a nuisance or adversely affect beneficial uses. Undesirable tastes and odors in groundwater may be a nuisance and may indicate the presence of a pollutant(s). Odor associated with water can result from natural processes, such as the decomposition of organic matter or the reduction of inorganic compounds, such as sulfate. Other potential sources of odor causing substances, such as industrial processes, will not occur as part of the Project. Therefore, taste and odor-producing substances are not pollutants of concern for the Project.

Mineral Quality: TDS, Sulfate, Chloride, and Boron. Mineral quality in groundwaters is largely influenced by the mineral assemblage of soils and rocks that it comes into contact with. Elevated mineral concentrations could impact beneficial uses; however, the minerals listed in the Basin Plan are not believed to be pollutants of concern due to the anticipated runoff concentrations and the expected mineral concentrations in irrigation water, which are below the Basin Plan groundwater objectives (Table 4-2). Therefore, these constituents are not considered pollutants of concern for the Project.

5 WATER QUALITY BEST MANAGEMENT PRACTICES

BMPs incorporated into the Project to address surface water quality impacts include erosion and sediment control BMPs to be implemented during construction, and post-development site design, source control, and LID BMPs that will be incorporated into the Project and are considered a part of the Project for impact analysis.

Effective management of wet and dry weather runoff water quality begins with limiting increases in runoff pollutants and flows at the source. Site design, source control, and LID BMPs are practices designed to minimize runoff and the introduction of pollutants into runoff. Treatment control BMPs are designed to remove pollutants once they have been mobilized by rainfall and runoff. This section describes the construction-phase BMPs and post-development site design, source control, LID and treatment control BMPs for the Project.

5.1 Construction Phase Controls

Descanso Gardens would remain open during construction, with portions of the property closed off with fencing surrounding the construction activity areas (including staging). As part of the Project, a SWPPP will be developed as required by, and in compliance with the Construction General Permit (see section 3.2.5). The Construction General Permit requires the SWPPP to include construction phase BMPs to be selected and implemented based on the determined project risk level to effectively control erosion and sediment to the BAT/BCT. Dewatering is not anticipated to occur as part of Project construction. The following types of BMPs will be implemented as-needed during construction:

- ***Erosion Control*** – including physical stabilization; containment and secure protection of stockpiled materials; soil roughening of graded areas; and dust protection. Permanent plantings will be installed on much of the Project disturbed area, which will prevent erosion in the long-term.
- ***Sediment Control*** – including perimeter protection; sediment capture and drainage control; velocity reduction; and sediment track-out control.
- ***Waste and Materials Management*** – management of solid, liquid, sanitary, concrete, hazardous, and equipment-related wastes through measures including covered storage, secondary containment, dedicated lined concrete washout areas, proper material application, and proper material disposal; protection of soil, landscaping, and construction material stockpiles; and a spill response and prevention program.
- ***Non-Stormwater Management*** – including BMPs and/or good housekeeping practices to reduce or limit pollutants at their source, including water conservation, proper vehicle and equipment cleaning and fueling practices, and street sweeping.
- ***Training and Education*** – inclusion of Construction General Permit defined “Qualified SWPPP Developers” (QSD) and “Qualified SWPPP Practitioners” (QSP); training of

individuals responsible for SWPPP implementation and permit compliance; and signage (bilingual, if appropriate) to address SWPPP-related issues.

- **Inspections, Maintenance, Monitoring, and Sampling** – including performing routine site inspections and inspections before, during, and after threshold storm events; preparing and implementing Rain Event Action Plans; implementation of the Construction Site Monitoring Plan for non-visible pollutants, if a leak or spill is detected; and sampling of discharge points for turbidity and pH at the required frequency.

During Project construction, BMPs will be implemented in compliance with the Construction General Permit. The Project will reduce or prevent erosion and sediment transport and transport of other potential pollutants from the project site during the construction phase through implementation of BMPs meeting BAT/BCT in order to prevent or minimize environmental impacts and to ensure that discharges during the project construction phase will not cause or contribute to any exceedance of water quality standards in the receiving waters. All discharges from qualifying storm events will be sampled for turbidity and pH and results will be compared to Numeric Action Levels (250 NTU and 6.5-8.5, respectively) to ensure that BMPs are functioning as intended. If discharge sample results fall outside of these action levels, a review of causative agents and the existing site BMPs will be undertaken, and maintenance and repair on existing BMPs will be performed and/or additional BMPs will be provided to ensure that future discharges meet these criteria.

5.2 Source Control Best Management Practices

Table 5-1 summarizes the source control requirements of the County of Los Angeles' 2014 LID Standards Manual and the corresponding proposed source control BMPs that will be incorporated into the Project.

Table 5-1: LID Standards Manual Source Control Requirements and Corresponding Project Best Management Practices

Source Control Requirement	Criteria/ Description	Corresponding Project BMPs
S-1 Storm Drain Message and Signage	<ul style="list-style-type: none"> • All storm drain inlets and catch basins within the Project area must be marked with prohibitive language and/or graphical icons to discourage illegal dumping. • Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the Project area. • Legibility of stencils and signs must be maintained. 	<ul style="list-style-type: none"> • All storm drain inlets and water quality inlets will be stenciled or labeled. • Signs will be posted in areas where dumping could occur. • Los Angeles County will maintain stencils and signs.
S-2 Outdoor Material Storage Areas	<ul style="list-style-type: none"> • Where proposed Project plans include outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system measures to mitigate impacts must be included. 	<ul style="list-style-type: none"> • Pesticides, fertilizers, paints, and other high-risk materials used for maintenance of landscape areas will be kept in enclosed storage areas.

Source Control Requirement	Criteria/ Description	Corresponding Project BMPs
S-3 Outdoor Trash Storage and Waste Handling Areas	<p>All trash containers must meet the following structural or treatment control BMP requirements:</p> <ul style="list-style-type: none"> • Trash container areas must have drainage from adjoining roofs and pavement diverter around the areas. • Trash container areas must be screened or walled to prevent offsite transport of trash. 	<ul style="list-style-type: none"> • All outdoor trash storage areas will be covered and isolated from stormwater runoff.
S.4: Outdoor Loading/ Unloading Dock Areas	<ul style="list-style-type: none"> • Cover loading dock areas or design drainage to minimize run-on and runoff of stormwater • Direct connections to storm drains from depressed loading docks (truck wells) are prohibited 	<ul style="list-style-type: none"> • Loading dock areas will be covered or designed to preclude run-on and runoff. • Direct connections to storm drains from depressed loading docks (truck wells) will be prohibited. • Drains or direct drainage from hydraulically isolated loading dock areas will be connected to an approved sediment/oil/water separator system connected a discharge location as determined by Los Angeles County. A manual emergency spill diversion valve upstream of will be provided upstream of the separator.
S-5: Outdoor Vehicle/ Equipment Repair/ Maintenance Areas	<ul style="list-style-type: none"> • Repair/maintenance bays must be indoors or designed in such a way that does not allow stormwater run-on or contact with stormwater runoff. • Design a repair/maintenance bay drainage system to capture all wash water, leaks, and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/ maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit. 	<ul style="list-style-type: none"> • Repair/maintenance bays will comply with design requirements.
S6: Outdoor Vehicle/ Equipment/ Accessory Wash Areas	<ul style="list-style-type: none"> • Self-contained and /or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer. 	<ul style="list-style-type: none"> • Areas for washing/steam cleaning of vehicles will be self-contained or covered with a roof or overhang; will be equipped with a wash racks and with the prior approval of the sewerage agency; will be equipped with a clarifier or other pretreatment facility; and will be properly connected to a sanitary sewer.

Source Control Requirement	Criteria/ Description	Corresponding Project BMPs
S7: Fuel and Maintenance Area	<ul style="list-style-type: none"> The fuel dispensing area must be covered with an overhanging roof structure or canopy. The cover’s minimum dimensions must be greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area. The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete shall be prohibited. The fuel dispensing areas must have a 2% to 4% slope to prevent ponding and must be separated from the rest of the site by a grade break that prevents run-on of urban runoff. At a minimum, the concrete fuel dispensing area must extend 6.5 feet from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less. 	<ul style="list-style-type: none"> The Project does not include fueling areas.
S-8: Landscape Irrigation Practices	<ul style="list-style-type: none"> Do not allow irrigation runoff from the landscaped area to drain directly to storm drain system. Minimize use of fertilizer, pesticides, and herbicides on landscaped areas. Plan sites with sufficient landscaped area and dispersal capacity (e.g., ability to receive irrigation water without generating runoff). Consult a landscape professional regarding appropriate plants, fertilizer, mulching applications, and irrigation requirements (if any) to ensure healthy vegetation growth. 	<ul style="list-style-type: none"> Landscape and irrigation system design will comply with the design requirements or approved alternatives.
S-9: Building Materials Selection	<ul style="list-style-type: none"> Wood that is pressure treated with arsenate, copper, and chromium compounds may be replaced with alternative building materials. Minimize or avoid the use of copper and galvanized metals on buildings and in fencing. Reduce the use of pesticides around foundations through the use of alternative barriers where feasible. 	<ul style="list-style-type: none"> Pressure treated wood that is treated with arsenate, copper, or chromium compounds may be replaced with alternative building materials. The use of copper and galvanized metals on buildings and in fencing will be minimized or avoided. The use of alternative barriers for termites will be considered.

Source Control Requirement	Criteria/ Description	Corresponding Project BMPs
S-10: Animal Care and Handling Facilities	<ul style="list-style-type: none"> • Site animal care and handling facilities away from the storm drain system and receiving waters. • Manage grazing to prevent impacts to receiving waters. • Manage horse access and horse waste to prevent pollutants from entering the storm drain system or receiving waters. 	<ul style="list-style-type: none"> • The Project does not include animal care facilities, grazing, or horse access.
S-11: Outdoor Horticultural Areas	<ul style="list-style-type: none"> • Do not allow wash water from horticulture areas to drain directly to the storm drain system or receiving waters. 	<ul style="list-style-type: none"> • Wash water from horticultural areas will not drain directly to the storm drain system or to receiving waters.

5.3 LID Best Management Practices

5.3.1 LID Site Design BMPs

The purpose of site design and low impact development is to mimic the pre-developed hydrologic regime to the extent feasible. The primary goals of site design and LID BMPs are to maintain a landscape functionally equivalent to pre-development hydrologic conditions, and to minimize the generation of pollutants of concern.

Site design principles that will be incorporated into the Project as feasible include the following:

- **Minimize Impervious Area/Maximize Permeability** – Principles include preserving natural open space, reducing impervious surfaces such as roads, using more permeable paving materials, reducing street widths, using minimal disturbance techniques during development to avoid soil compaction, reducing the land coverage of buildings, minimizing the use of impervious materials such as decorative concrete in landscape design, and incorporating detention or infiltration into landscape design.
- **Minimize Directly Connected Impervious Areas (DCIAs)** – Minimizing DCIA can be achieved by directing runoff from impervious areas to vegetated areas (e.g., landscaped areas or vegetated treatment control BMPs) or to LID BMPs.
- **Conserve Natural Areas** – Conserving and protecting native soils, vegetation, and stream corridors helps to mimic the site’s pre-development hydrologic regime. This may be accomplished by clustering development within portions of the site to conserve as much natural open space as possible, planting additional vegetation, using native and/or non-native drought tolerant and non-invasive vegetation in parking lot islands and other landscape areas, and preserving and/or restoring riparian areas and wetlands. Approximately 68 acres of the Project site will be open space.
- **Select Appropriate Building Materials** – Use of appropriate building materials reduces the generation and discharge of pollutants of concern in runoff (and is therefore also a source control BMP). For example, restricting the use of architectural copper on the

outside of buildings and reducing the use of galvanized materials will reduce the impact of copper and zinc to stormwater runoff.

- ***Protect Slopes and Channels*** – Protecting slopes and channels reduces the potential for erosion and preserves natural sediment supply.

5.3.2 LID Treatment Control BMPs

The project will install LID treatment control BMPs in accordance with the Los Angeles County MS4 Permit and the Los Angeles County LID Ordinance and Manual. To treat the SWQDv generated from the replaced and new impervious area proposed for the Project, LID treatment control BMPs will be installed to capture and treat the SWQDv.

Proposed LID treatment control BMPs include:

- Main Parking Area bioretention facilities, installed between parking stall rows, which will capture runoff from new and replaced parking facilities before discharging to Winery Canyon Channel.
- Picnic Grove bioretention facility, which will capture runoff from impervious surface in the northern portion of the site before discharging to Winery Canyon Channel.
- New buildings, which will drain to rainwater harvesting tanks for storage and use.
- The Lake, which will be retrofitted with a liner for capture and use of stormwater for irrigation water.
- A treatment wetland, located adjacent to Winery Canyon Channel, which will treat onsite runoff and harvested water from Winery Canyon Channel.
- Expansion of the Southern Stream’s downgradient re-circulation pool into a bioretention facility.

These bioretention facilities will capture and treat the equivalent of the SWQDv generated from new/replaced impervious area on the Project. LID BMPs implemented will be designed to meet the design specifications provided in Attachment H to the MS4 Permit

The parking lot bioretention facilities will infiltrate runoff to the subsurface if estimated to be feasible based on physical infiltration feasibility factors examined during detailed site investigations. The bioretention facilities will be sized to capture and treat 1.5 times the portion of the SWQDv that is not feasible to be fully infiltrated per the LID Standards Manual. The parking lot bioretention facilities are located in a mapped liquefaction hazard zone which will be verified during final design. These facilities would be designed to infiltrate only if a geotechnical analysis verifies that infiltration in the area would not cause a liquefaction hazard.

5.3.3 Ecological and Runoff Harvesting Enhancements

Improvements that would be incorporated into the Project to enhance ecological performance and runoff harvesting include the following:

- ***Lake and Recirculating Stream Improvements***
 - Dredge lake sediments and improve aeration system.
 - Install new liner in the Lake and Southern Stream to reduce leakage losses.
 - Regrade the Lake to create wetland shelves, sediment bays, and floating wetlands.
 - Install check dams to minimize sedimentation into the Lake.
 - Install irrigation reuse pump at the Lake.
 - Operate the Lake at a relatively consistent water surface elevation, approximately 2- to 3-feet below the overflow spillway crest, to promote wetland habitat in the Lake.
- ***Winery Canyon Channel and Treatment Wetland Improvements***
 - Harvest runoff water from Winery Canyon Channel to refill the Lake and irrigate the gardens. This would include a diversion from the Winery Canyon Channel to a new Treatment Wetland, a pump from the Treatment Wetland to the downstream pool of the Southern Stream, the existing recirculating pump for the Southern Stream, and a new pump from the upstream pool of the Southern Stream into the Lake.
 - Install bioretention and detention basins for supplemental water storage and irrigation reuse. This includes expansion of the Southern Stream's downgradient re-circulation pool into a bioretention basin.

5.4 Operation and Maintenance

Descanso Gardens would be responsible for maintenance of the installed LID treatment control BMPs. Operation and maintenance activities will be conducted in compliance with maintenance requirements established in the Los Angeles County Department of Public Works Low Impact Development Standards Manual (LADPW, 2014). The Project will also adhere to the BMP maintenance requirements of La Cañada Flintridge's municipal code, which requires that all structural BMPs required by the city, county of Los Angeles, or state or federal agency, shall be properly operated and maintained, consistent with the approved SUSMP, low impact development plan, or other equivalent plan or program. Additionally, records and documentation of such maintenance shall be provided to the City director upon reasonable request (see section 3.3.3).

6 IMPACT ASSESSMENT

The section evaluates direct and cumulative impacts related to Project development with respect to stormwater runoff volumes, surface water, and groundwater, for both the construction phase and post-development phase of the Project.

6.1 Surface Water Quality Impact Assessment

6.1.1 Comparison of Post-Project Water Quality Conditions to Receiving Water Benchmarks

To assess the potential for post-project water quality conditions to impact receiving waters, land use based runoff quality data available from Los Angeles County (LACDPW, 2000) were compared to statistically derived bioretention effluent concentrations from the International BMP Database (Wright Water Engineers and Geosyntec, 2017). The Los Angeles County Department of Public Works (LACDPW) monitored stormwater runoff quality from various land uses throughout the County on an annual basis beginning in 1995 through 2001 (LACDPW, 2000). For each year of monitoring several storm event mean concentrations (EMCs) are reported and included in the County's annual water quality report to the LARWQCB. These data were statistically analyzed as part of the development of the Structural BMP Prioritization and Analysis Tool (SBPAT) prepared for the City of Los Angeles and the LACDPW (Geosyntec, 2008). The resulting summary of representative EMCs for different land uses based on the Los Angeles County data is provided in **Error! Reference source not found.** Note that the land use based EMCs are representative of runoff concentrations without the implementation of source control or LID BMPs.

Also provided in Table 6-1 are median effluent concentrations derived from available bioretention facility monitoring data in the International BMP Database, as summarized in the 2016 Summary Statistics Final Report (Wright Water Engineers and Geosyntec, 2017). The specific constituents included in the table coincide with the POC classifications identified in section 4.3. Notably, turbidity, trash, oil and grease, selenium, and pesticide POCs are not included in Table 6-1. Due to the nature of these pollutants and the broad range of potential compounds, reliable data is not available and/or is not easily analyzed for comparative purposes. These POCs are addressed qualitatively in the sections below. Constituent data provided in Table 6-1 will be discussed in the sub-sections following.

Table 6-1: EMCs, Bioretention Effluent Concentrations, and Water Quality Objectives for Pollutants of Concern

Constituent	Units	Land Use Based EMCs ^A		Bioretention Effluent ^B	Water Quality Objective	
		Educational	Open		Numeric Target	Notes (also see Table 3-2)
TSS	mg/L	99.6	216.6	10.0	N/A	“Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.”
Nitrate	mg/L - N	0.6	1.2	0.5	8.0	Thirty-day average for tributaries.
<i>E. Coli</i>	MPN/100 mL	N/A	N/A	226 ^C	See Notes	Geometric Mean Target: <i>E. coli</i> density shall not exceed 126/100 mL. Single Sample Target: <i>E. coli</i> density shall not exceed 235/100 mL.
Total Cadmium	ug/L	N/A	N/A	0.07	3.1	Numeric Targets for Arroyo Seco.
Total Copper	ug/L	19.9	10.6	5.7	67	
Total Lead	ug/L	3.6	3.0	0.3	94	
Total Zinc	ug/L	117.6	26.3	12.0	159	

^A From Geosyntec, 2008.

^B Represents the Median Effluent Value for monitoring data from bioretention facilities included in the International BMP database, per the data screening and statistical methodology provided in WWE and Geosyntec, 2017.

^C Wright Water Engineers and Geosyntec, 2017 includes a median effluent value of 240 MPN/100 mL but current data on the International BMP Database (subject to data screening and statistical analyses methods described in WWE and Geosyntec, 2017), as accessed through the “Query Builder” function, is 226 MPN/100 mL (WWE and Geosyntec, 2019).

6.1.1.1 Sediments

Excessive sediment and turbidity can impair aquatic life by filling interstitial spaces of spawning gravels, impairing fish food sources, filling rearing pools, blocking sunlight, thereby reducing aquatic plant growth, and reducing beneficial habitat structure in stream channels. In addition, excessive sediment can cause taste and odor problems in drinking water supplies and block water intake structures.

The Basin Plan contains the following narrative objective for solid, suspended or settleable materials: “Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.” The Basin Plan contains a similar narrative

objective for turbidity, in addition to numeric limits for increases above natural turbidity: “Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.” Based on available water quality data in Arroyo Seco, natural turbidity does not exceed 50 NTU.

Turbidity is a measure of suspended matter that interferes with the passage of light through the water or in which visual depth is restricted (Sawyer et al., 1994). Turbidity may be caused by a wide variety of suspended materials, which range in size from colloidal to coarse dispersions, depending upon the degree of turbulence. Erosion of clay and silt soils may contribute to in-stream turbidity. Organic materials reaching rivers serve as food for bacteria, and the resulting bacterial growth and other microorganisms that feed upon the bacteria produce additional turbidity. Nutrients in runoff may stimulate the growth of algae, which also contribute to turbidity.

In a garden setting, activities including planting, weeding, soil aeration, and other landscaping tasks may disturb soil, which could then migrate to impervious areas and become entrained in wet or dry weather runoff. Additionally, any soil that migrates to impervious areas or walking paths could be tracked throughout the garden via foot traffic. Based on the LACDPW land use based monitoring data summarized in Table 6-1, TSS concentrations associated with educational¹⁰ and open space land use types are approximately 100 mg/L and over 200 mg/L, respectively. Per the International BMP Database, the median bioretention effluent concentration for TSS, comparatively, is 10 mg/L. Based on this comparison, bioretention facilities can be expected to significantly reduce concentrations of TSS, of which turbidity is a component, in runoff from tributary drainage areas. For areas that are directed to the Lake or are planned to be retrofitted with rainwater harvesting, these retention-type facilities would be expected to capture and use flows up to the SWQDv. Other constituents that may make up total turbidity, including nutrients and pathogens, are described in the sections following.

In the post-development condition, project BMPs, including source controls (such as landscape irrigation practices and controls for outdoor horticultural areas) and LID BMPs described in section 5.3 in compliance with the MS4 Permit and LID Manual requirements, will prevent or reduce the release of sediment to receiving waters. Based on these considerations, the water quality impacts of the Project for sediments are considered less than significant.

6.1.1.2 Nutrients

Nutrients include inorganic forms of nitrogen (nitrate, nitrite and ammonia) and phosphorus. There are several sources of nutrients that could occur in a garden or public recreation setting, including fertilizers in runoff from garden areas, atmospheric deposition from automobile emissions, and soil erosion. Pet waste is another potential source of nutrients; however, only service animals are allowed in Descanso Gardens. As such, it is anticipated that nutrients originating from pet waste would be minimal. Eutrophication due to excessive nutrient input can

¹⁰ The educational land use type is used for the Descanso Gardens as it is considered most similar to recreation land use types (which were not available in the LACDPW data).

lead to changes in algae, benthic, and fish communities in receiving waters; extreme eutrophication can cause hypoxia or anoxia, resulting in fish kills.

A Nutrients TMDL has been developed for the Los Angeles River and Tributaries, including the Project's downstream receiving water, Arroyo Seco, and adopted into the Basin Plan. The Nutrients TMDL includes numeric objectives for nitrogen compounds, as summarized in Table 3-2. Existing water quality data for Flint Wash and Arroyo Seco Reach 2 include nitrogen compound concentrations that are below the required 30-day average numeric limits for Los Angeles River tributaries.

Project sources of nutrients primarily include landscaping and materials applied to landscaping. The Project, consistent with the MS4 permit requirements and LID Manual, includes a comprehensive set of LID site design, source control, and LID treatment control BMPs, (i.e., bioretention and stormwater capture and use). Site design and source control BMPs include minimizing DCIAs, proper storage of materials, landscape irrigation practices, minimizing use of fertilizers, and disallowing wash water from horticulture areas to drain directly to the storm drain system or receiving waters. Bioretention will be implemented to treat replaced and new impervious surfaces, and stormwater runoff generated from additional pervious and impervious surfaces within the Project will drain to other facilities or Project water features for capture and use as irrigation.

Based on the LACDPW land use based monitoring data summarized in Table 6-1, nitrate (as nitrogen) concentrations associated with educational and open space land use types are 0.6 mg/L and 1.2 mg/L, respectively. Per the International BMP Database, the median bioretention effluent concentration for TSS, comparatively, is 0.5 mg/L. The 30-day average TMDL WLA for nitrate (as nitrogen) is 8 mg/L. Based on the expected potential nitrate (as Nitrogen) EMC and the likelihood that bioretention treatment would reduce concentrations further, it is unlikely that discharges from the Project would exceed the 30-day TMDL WLA.

In combination, these measures would prevent the discharge of runoff containing excessive quantities of nutrients to Winery Canyon Channel and on to Arroyo Seco Reach 2. Therefore, it is anticipated that the Project will not result in substantial changes in nutrient concentrations in receiving waters, causing a violation of the water quality standards or TMDL requirements or otherwise substantially degrade water quality in the receiving waters. Water quality impacts related to nutrients would be reduced to a less-than-significant level.

6.1.1.3 Pathogens

Pathogens are viruses, bacteria, and protozoa that can cause gastrointestinal and other illnesses in humans through body contact exposure. Pathogen indicators, such as total and fecal coliform, enterococci, and *E. coli*, are used by regulatory agencies as indirect measures of the presence of pathogens, and by association, risk of human illness.

EPA updated its recreational water quality criteria in 2012, recommending that two indicators, *E. Coli* for fresh waters and enterococci for marine or fresh waters, be applied.¹¹ These criteria are

¹¹ <http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/upload/factsheet2012.pdf>

applied in the Los Angeles River Bacteria TMDL, to which Arroyo Seco, the Project's downstream receiving water, is subject. Specifically, the *E. Coli* criteria is 126/100 mL for the geometric mean criterion and 235/100 mL for the single sample limit. The implementation provisions in the Basin Plan state that the geometric mean values should be calculated based on a statistically-sufficient number of samples (generally not less than five samples equally spaced over a 30-day period).

The single sample limit must be strictly applied, except in the context of a TMDL, where the LARWQCB may implement the single sample objective by using a "natural sources exclusion approach," as it has in the case of the Los Angeles River Bacteria TMDL, which covers Arroyo Seco Reach 2. Under the natural source exclusion approach, after all anthropogenic sources of bacteria have been controlled such that they don't cause or contribute to an exceedance of the single sample objective and the natural sources have been identified and quantified, a certain frequency of exceedance of the single sample objective is permitted based on the residual exceedance frequency in the specific water body. These approaches recognize that there are natural sources of bacteria which may cause or contribute to exceedances of the single sample objective and acknowledge that it is not the intent of the LARWQCB to require treatment of natural sources of bacteria from undeveloped areas (LARWQCB, 1994, as amended). The Los Angeles River Bacteria TMDL allows exceedance days as summarized in section 3.1.2.

Dry weather, non-storm stream flows from undeveloped watersheds tend to have lower concentrations of pathogen indicators than dry weather urban flows, although water quality standard exceedances still occur. During wet weather, stormwater runoff can mobilize indicator bacteria from a number of watershed and instream sources, and, therefore, indicator bacteria concentrations tend to increase.

The primary sources of pathogen indicators from the Project development would likely be sediment, wildlife, and regrowth in the storm drain itself. While pet waste is another potential source of pathogens, only service animals are allowed in Descanso Gardens. As such, it is anticipated that pathogens originating from pet waste would be minimal. Other sources of pathogens and pathogen indicators, such as cross connections between sanitary and storm sewers, are unlikely given planned sanitary system upgrades at the Project. Septic systems at the site will be decommissioned through the Master Plan and restrooms will be connected to the new on-site MBR system.

The Project, consistent with the MS4 permit requirements and LID Manual, includes a comprehensive set of LID site design, source control, and LID treatment control BMPs, (i.e., bioretention and stormwater capture and use). Bioretention, a LID treatment control BMP that provides filtration through amended soils, is an example of an effective BMP for addressing pathogen indicators. Analysis of *E. Coli* influent and effluent data for bioretention facilities indicate a significant difference between median influent concentrations of 690 MPN/100mL and the median effluent concentration of 226 MPN/100mL (Wright Water Engineers and Geosyntec, 2019). The pathogen indicator concentrations in runoff from the Project would be reduced through the implementation of source control and LID treatment control BMPs. Furthermore, the Project will comply with all future MS4 Permit provisions incorporating the TMDL wasteload allocations and implementation plan.

With these BMPs, it is anticipated that the Project will not result in substantial changes in pathogen indicator concentrations in receiving waters causing a violation of the water quality standards or waste discharge requirements or otherwise substantially degrade water quality in the receiving waters. Water quality impacts related to pathogens would be reduced to a less-than-significant level.

6.1.1.4 Trash and Debris

Urban development tends to generate significant amounts of trash and debris. Trash refers to any human-derived materials including paper, plastics, metals, glass and cloth. Trash and debris is often characterized as material retained on a 5-mm mesh screen. It contributes to the degradation of receiving waters by imposing an oxygen demand, attracting pests, disturbing physical habitats, clogging storm drains and conveyance culverts, and mobilizing nutrients, pathogens, metals, and other pollutants that may be attached to the surface. Sources of trash in developed areas can be both accidental and intentional. During wet weather events, gross debris deposited on paved surfaces can be transported to storm drains, from where it can be eventually discharged to receiving waters. Trash and debris can also be mobilized by wind and transported directly into waterways.

The Project's downstream receiving water, Arroyo Seco, is subject to the Los Angeles River Trash TMDL, which has a numeric requirement of zero trash in all waterbodies. The Project's BMPs, including source control, and LID BMPs, will minimize the adverse impacts of trash and debris. Common area litter control will include a litter patrol, covered trash receptacles, and emptying of trash receptacles in a timely fashion. High use parking lots will drain to bioretention areas designed to manage the trash management storm event (i.e., the 1 year, 1-hour event). The Project's proposed LID treatment BMPs will be designed to fully capture trash from runoff discharges in accordance with the TMDL trash capture requirements. This overall combination of BMPs will prevent impacts on dissolved oxygen in the receiving water due to decomposing debris. Based on these considerations, post-development trash and debris is not expected to significantly impact the receiving waters of the Project.

6.1.1.5 Metals

Trace metals can occur in stormwater as a result of leaching from transportation, building, and infrastructure related materials, along with substances such as fuels, adhesives, paints, and other coatings. Copper, lead, and zinc are most commonly detected in urban stormwater runoff. Metals are of concern because of the potential for toxic effects on aquatic life and the potential for ground water contamination. High metal concentrations can lead to bioaccumulation in aquatic life and affect beneficial uses of receiving waters.

Arroyo Seco, the project's downstream receiving water, is subject to the Los Angeles River Metals TMDL, which includes numeric requirements for cadmium, copper, lead, zinc, and selenium. Available water quality data for Arroyo Seco Reach 2 (see section 2.2.3) indicates that existing metals concentrations are one to two orders of magnitude below the TMDL numeric targets.

There are minimal sources of trace metals on the project. Project BMPs will include site design and source control that will greatly reduce potential sources of metals from the Project. Specific site design BMPs that will be implemented to minimize increases in trace metals include directing drainage from impervious areas to landscaped and/or LID BMPs and the selection of building material for roof gutters and downspouts that do not include copper or zinc. Source control BMPs that target metals include BMP maintenance, and containment of fueling operations and material storage. In addition, LID BMPs in compliance with the MS4 Permit and LID Manual requirements will be installed to treat runoff produced from Project impervious surfaces. The LID BMPs will also reduce any potential trace metals in the runoff from the proposed Project. Per the International BMP Database results summarized in Table 6-1, the median bioretention effluent concentration for total cadmium, total copper, total lead, and total zinc are all well under the numeric targets for Arroyo Seco included in the Los Angeles River Metals TMDL.

With regard to total selenium requirements in the Los Angeles River TMDL, dissolved and total selenium were measured by Los Angeles County in their land use-based monitoring conducted from 1994 through 2000 (LACDPW, 2000). Dissolved selenium was not detected in runoff from all of the land use categories (commercial, open space, high density single family residential, transportation, light industrial, educational, multi-family residential, and mixed residential). Total selenium was detected above the detection limit of 5 µg/L in 2% of open space runoff samples, and was not detected in educational runoff samples. Not enough data were observed above the detection limit to develop valid concentration statistics.

A study conducted by the US Department of Interior (Seiler and Skorupa, 1995) on the identification of areas at risk for selenium contamination in the Western United States indicated that irrigation of areas associated with marine sedimentary rocks of the Late Cretaceous age is likely to result in harmful levels of selenium. The geologic formations underneath the Project area do not include marine sedimentary rocks of the Late Cretaceous age and are not expected to generate elevated levels of selenium in groundwater or surface water. The Project site is underlain by Quaternary Alluvium and Cretaceous age non-marine quartz diorite (See Figure 2-4). The land use and geologic characteristics are therefore highly unlikely to result in concentrations of selenium in the Project's stormwater runoff that could be an appreciable source of selenium loading to the Project receiving waters.

Based on the comprehensive site design, source control, and LID BMP strategy and the comparison with TMDL water quality criteria, the Project would not be expected result in significant discharge of metals to receiving waters, causing a violation of the water quality standards or TMDL requirements or otherwise substantially degrade water quality in the receiving waters. Therefore, it is anticipated that the Project will not result in significant impacts resulting from trace metals.

6.1.1.6 Oil and Grease

Oil and grease are not readily soluble in water and form a film on water surfaces, which can then coat birds and aquatic organisms, impacting respiration and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. Oil and grease sources are typically associated with transportation land uses, including roads and parking lots, along with areas designated for

vehicle and equipment fueling and maintenance. During wet weather, oil and grease deposited on impervious surfaces can be washed off into storm drain systems, from where they can be deposited into streams.

The Basin Plan states that: “Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.” There are minimal areas within the Project where Oil and Grease could originate, including the Project parking lots and maintenance areas. The Project BMPs, including source control as summarized in Table 5-1, and LID BMPs, will be implemented to reduce sources of oil and grease and capture and treat runoff originating from all land uses that are potentially sources of oil and grease. LID BMPs will include pre-treatment and treatment methods to prevent oil and grease in captured runoff from being discharged to the storm drain or Winery Canyon Channel. As such, potential impacts from oil and grease are anticipated to be less than significant.

6.1.1.7 Pesticides

In recreational settings, pesticides are commonly applied in and around buildings (structural pest control) to control against ants and other pests and in vegetated areas to control insects, molds, and other vectors. The forms of pesticides used in current urban and recreational applications have evolved in response to regulatory actions.

The water quality risks posed by a pesticide relate to the quantity of the pesticide used, its breakdown or degradation rate, its runoff characteristics, and its relative toxicity in water and sediment. Given that many pesticides exhibit toxicity at very low concentrations, the most effective control strategy is source control, and compliance with the California Department of Pesticide Regulation (DPR) regulations, which limit the type and application of pesticides.¹² In addition to the DPR regulations, Descanso Gardens actively minimizes application of pesticides and herbicides and has a goal to be pesticide free. Descanso Gardens also has a managed irrigation plan, so dry weather runoff would not be expected from landscaped areas.

Structural treatment controls, such as LID facilities, are less practical for pesticides because of the variety of compounds in this pollutant class and wide range of chemical properties that affect their ability to treat these compounds. However, most pesticides are relatively insoluble in water and therefore tend to adsorb to the surfaces of sediment, which will be settled or filtered out of the water column in LID and treatment control BMPs. Treatment in the LID infiltration BMPs would prevent the discharge of runoff containing pesticides.

Based on the incorporation of LID site design, source control, and LID treatment control (retention) BMPs pursuant to MS4 Permit and LID Manual requirements, potential post-development impacts associated with pesticides are expected to be less than significant.

6.1.2 Los Angeles County Low Impact Development Ordinance Requirements

The Los Angeles County LID Ordinance requires that the Project:

¹² See <https://www.cdpr.ca.gov/>.

- Mimic undeveloped stormwater runoff rates and volumes in any storm event up to and including the “Capital Flood” event, as defined by the County of Los Angeles Department of Public Works (DPW);
- Prevent pollutants of concern from leaving the development site in stormwater as the result of storms, up to and including a Water Quality Design Storm Event; and
- Minimize hydromodification impacts to natural drainage systems.

The Project’s stormwater runoff rates and volumes are analyzed in the Hydrology Technical Report (Geosyntec, 2019a).

As described in section 5.3, LID site design BMPs and LID treatment control BMPs will be designed and implemented per the LID requirements set forth in the MS4 Permit and Los Angeles County LID Ordinance. LID treatment control BMPs will be sized per the SWQD_v if underlying infiltration is found to be feasible, and 1.5 times the SWQD_v if infiltration is not found to be feasible. As described in section 6.1.1. above, LID BMPs implemented will address the identified pollutants of concern and bioretention and biofiltration systems will be designed to meet the design specifications provided in Attachment H to the MS4 Permit.

As the Project BMPs will meet LID Ordinance and MS4 requirements, including sizing for water quality controls and other BMPs consistent with the LID requirements, impacts associated with non-compliance with the LID Ordinance requirements are expected to be less than significant.

6.1.3 Onsite Wastewater Treatment Systems

In early 2019, the County approved installation of an upgraded septic system, including a new MBR and emergency electrical generator for the MBR to provide wastewater treatment on-site using the activated sludge process. Existing on-site septic systems will be decommissioned. The MBR is being installed near the existing septic tanks between the existing Van de Kamp Hall back-of-house area and the existing Harvest Garden. The MBR is not included in the scope of the Master Plan; however, the proposed location of the MBR is located sufficiently far from surface water and siting will be based on input from geotechnical engineers.

The new MBR must comply with wastewater discharge effluent limitations that are protective of water quality and beneficial uses in the Project’s receiving waters and will not result in the impairment of surface or groundwater quality. The MBR system is considered more protective than the current on-site septic systems, which rely on vadose zone treatment to remove constituents. The MBR system will provide biological treatment prior to discharge. The quantity of wastewater produced by the Project would not be expected to increase. On this basis, the impact from onsite wastewater treatment systems is considered less than significant.

6.1.4 Water Quality Control Plan or Sustainable Groundwater Management Plan

Descanso Gardens is within the bounds of the Enhanced Watershed Management Program for the Upper Los Angeles River Watershed. The EWMP describes compliance pathways to meet the MS4 Permit and relevant TMDLs for the entire Watershed area. This includes identification of the magnitude of LID BMPs required for cities located within the Watershed area to comply with requirements. As the Descanso Gardens Master Plan includes LID BMPs that will improve

water quality and would not be anticipated to interfere with implementation of other EWMP identified actions for the City of La Canada Flintridge, the Master Plan is considered consistent with the water quality control plan. The underlying groundwater basin, the Raymond Basin, is adjudicated, but there is not a Sustainable Groundwater Management Plan for the Raymond Basin. Therefore, potential impacts from inconsistencies with a water quality control plan or Sustainable Groundwater Management Plan are considered less than significant.

6.1.5 Dry Weather Runoff

Pollutants in dry weather flows could also be of concern because dry weather flow conditions occur throughout a large majority of the year, and because some of the TMDLs for Arroyo Seco are applicable for dry weather conditions.

The Project is not expected to discharge dry weather flows, given implementation of the source control and treatment control BMPs described above, along with the utilization of the Lake for Project irrigation. Project dry weather flows will be captured by pervious areas adjacent to pervious areas through impervious area disconnection source control or will be captured by the Project proposed recirculation system and directed to the Lake for use as Project irrigation. No dry weather discharges are anticipated from the Project site to Winery Canyon Channel; therefore, the impact from dry weather flows is considered less than significant.

6.2 Construction-Related Impacts

The analysis of potential impacts of construction activities, construction materials, and non-stormwater runoff on water quality during the construction phase focuses primarily on sediment (TSS and turbidity) and certain non-sediment related pollutants. Construction-related activities that are primarily responsible for sediment releases are related to exposing previously stabilized soils to potential mobilization by rainfall/runoff and wind. Such activities include removal of vegetation from the site, grading of the site, and trenching for infrastructure improvements. Environmental factors that affect erosion include topographic, soil, and rainfall characteristics. Non sediment-related pollutants that are also of concern during construction relate to construction materials and non-stormwater flows and include construction materials (e.g., paint, stucco, etc.); chemicals, liquid products, and petroleum products used in building construction or the maintenance of heavy equipment; and concrete-related pollutants are also of concern during construction.

Discharges of turbid runoff are of concern during the construction phase of development when soils are disturbed on-site. In addition to the potential for sediments to be entrained in wet and dry weather runoff, there is potential for increases in concentrations of other pollutants that may be adsorbed to soils, including nutrients and bacteria. In addition, during the construction phase, there is potential for an increase in trash and debris loads if there is a lack of proper contractor good housekeeping practices at the construction site.

Construction impacts due to Project development will be minimized through compliance with the Construction General Permit. This permit requires the discharger to perform a risk assessment for the proposed development (with differing requirements based upon the determined level) and to prepare and implement a SWPPP, which must include erosion and sediment control BMPs that will meet or exceed measures required by the determined risk level of the Construction

General Permit, as well as BMPs that control the other potential construction-related pollutants. A Construction Site Monitoring Program that identifies monitoring and sampling requirements during construction is a required component of the SWPPP.

Prior to the issuance of preliminary or precise grading permits, the landowner or subsequent project applicant will provide the County with evidence that a Notice of Intent (NOI) has been filed with the SWRCB. Such evidence will consist of a copy of the NOI stamped by the SWRCB or LARWQCB, or a letter from either agency stating that the NOI has been filed and a copy of the site's applicable Waste Discharge identification (WDID) number.

Transport of any legacy pesticides or other contaminants adsorbed to existing site sediments could be a concern during the construction phase of development. The Construction SWPPP must contain sediment and erosion control BMPs pursuant to the Construction General Permit, and those BMPs must effectively control erosion and discharge of sediment, along with other adsorbed pollutants, per the BAT/BCT standards. Additionally, non-visible pollutant monitoring and trash control BMPs (catch basin inserts, good housekeeping practices, etc.) are required as part of the Construction SWPPP.

Based on implementation of the construction phase and post-construction Project BMPs, it is expected that runoff discharges from the Project will not cause increases in sediments, turbidity, and adsorbed pollutants, which would result in adverse effects to beneficial uses in the receiving waters.

On the basis that sediment and erosion and trash control BMPs, meeting BAT/BCT, included in the SWPPP, will be implemented pursuant to the Construction General Permit, the impact of Project construction-related runoff is considered less than significant. Additionally, construction on the Project site is not expected to require dewatering and therefore, no potential impacts from dewatering would occur.

6.3 Groundwater Impacts

6.3.1 Groundwater Quality Impacts

Discharge from the Project's developed areas to groundwater will occur in two ways: (1) through general infiltration of irrigation water, (2) through potential infiltration of urban runoff in the proposed LID treatment control BMPs after treatment. Groundwater quality will be fully protected through implementation of the Project's site design, source control, and LID treatment control BMPs prior to discharge of Project runoff to groundwater.

Stormwater infiltration poses few significant risks to underlying aquifers, as most pollutants carried by typical urban stormwater sorb to soils, accumulating in the upper layers. Metals, pathogens, hydrocarbons, and numerous organic compounds will either: 1) sorb to soil particles, 2) volatilize at the surface, or 3) degrade by microbial processes in surface and sub-surface soil layers (LASGRWC, 2005).

The pollutant of concern with respect to groundwater is nitrate plus nitrite. The Basin Plan groundwater quality objective for nitrate plus nitrite-nitrogen is 10 mg/L (which is more stringent than the objective for nitrate-nitrogen alone (10 mg/L) and for nitrite-nitrogen alone (1 mg/L)). The predicted nitrate plus nitrite concentration in runoff after treatment in the BMPs is

0.5 mg/L, which is well below the groundwater quality objective. Therefore, infiltration of post-development stormwater runoff would not cause significant adverse groundwater quality impacts.

The Project may infiltrate urban runoff in proposed bioretention facilities in the Main Parking Area and the Picnic Grove. The Project will not infiltrate below the Lake. Runoff captured from the site through the on-site irrigation system will be treated in the on-site recirculation wetland or will undergo detention and settling processes in the Lake prior to use as irrigation. On this basis, infiltration of irrigation water would not cause significant adverse groundwater quality impacts.

The Project would therefore not be expected to introduce any pollutants to groundwater that could substantially degrade water quality.

6.3.2 Groundwater Recharge Impacts

The Project is not anticipated to increase water consumption, and the Project specifically includes the following objectives related to water use:

- Reduce per capita consumption of water.
- Improve the irrigation efficiency and effectiveness for the gardens, including utilizing runoff captured by the Lake for Project irrigation.

The Project will continue to conduct landscape irrigation in garden areas, which would allow general infiltration within Project pervious areas. Therefore, the Project would not significantly deplete groundwater supplies or interfere substantially with groundwater recharge.

6.4 Cumulative Impacts

6.4.1 Surface Water Quality Cumulative Impacts

Cumulative impacts consider the effect of the Project in combination with similar projects that would discharge to Reach 2 of Arroyo Seco. Like the Project, the related projects would be subject to state, regional, and County requirements, such as MS4 Permit and LID Manual requirements; Construction General Permit requirements; and benchmark Basin Plan water quality objectives, CTR criteria, and TMDLs, which are designed to assure that regional development does not adversely affect water quality. Any future urban development occurring in the cumulative impact analysis area must also comply with these requirements. Future projects would be evaluated individually to determine appropriate BMPs and treatment measures to avoid impacts to water quality. In addition, the County or City (as appropriate) would review all construction projects on a case-by-case basis to ensure that local and regional drainage surface water quality is protected.

Therefore, based on compliance with all applicable laws, rules, and regulations, no significant cumulative impacts to surface water quality are anticipated.

6.4.2 Groundwater Cumulative Impacts

As discussed in section 6.3, the Project would not infiltrate POCs that would impact groundwater quality. By extrapolating the evaluation of direct Project area groundwater impacts to existing and proposed development throughout the cumulative impacts area, it is concluded that no

adverse cumulative effects would occur to groundwaters. Therefore, the Project area's incremental effects on groundwater quality and recharge when considered together with the effects of other projects in the area are not expected to be significant. Based on compliance with these requirements designed to protect beneficial uses, cumulative groundwater quality impacts would be less than significant.

7 CONCLUSIONS

In general, land uses on the Project remain the same, and site changes will result in a net increase of impervious area. Though land uses and activities remain the same, site design and source control BMPs will be incorporated into the Project to minimize potential sources of pollutants of concern. In addition to pollutant source control, stormwater runoff from all replaced and new impervious areas will be treated in LID BMPs, and runoff from large additional portions of the site will be captured for recirculation and use for irrigation. As a result of these practices, the Project would not result in significant impacts relating to the surface water quality significance criteria described in section 4.1.

The Project would not infiltrate POCs that would impact groundwater quality or cause effects to groundwater recharge. As a result of these practices, the Project would not result in significant impacts relating to the groundwater significance criteria described in section 4.2.

The Project would not result in surface water quality or groundwater cumulative impacts, as described in section 6.4.

In summary, the assessment of this WQTR identifies that potential impacts of the proposed Project on water quality in the Project's receiving waters or groundwater would be less than significant.

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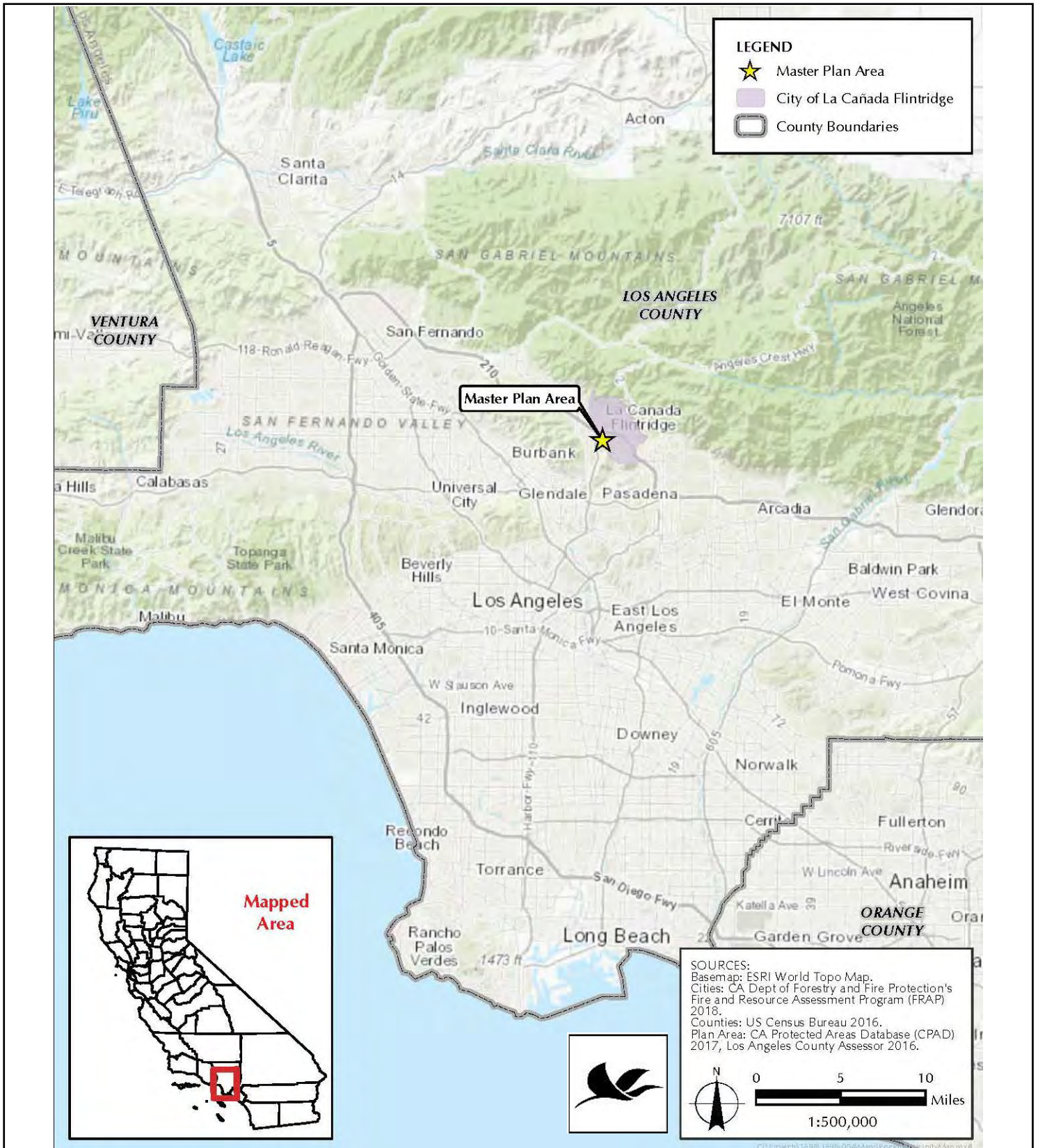
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FIGURES



Source: Descanso Gardens Master Plan Project Description (SEI, 2019)

Project Location Map

Descanso Gardens Master Plan Water Quality Technical Report



Figure

2-1

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November 2019



LEGEND

- Garden
- Perimeter Fence
- Parking Lots
- Developed Gardens
- Undeveloped Areas
- Master Plan Area

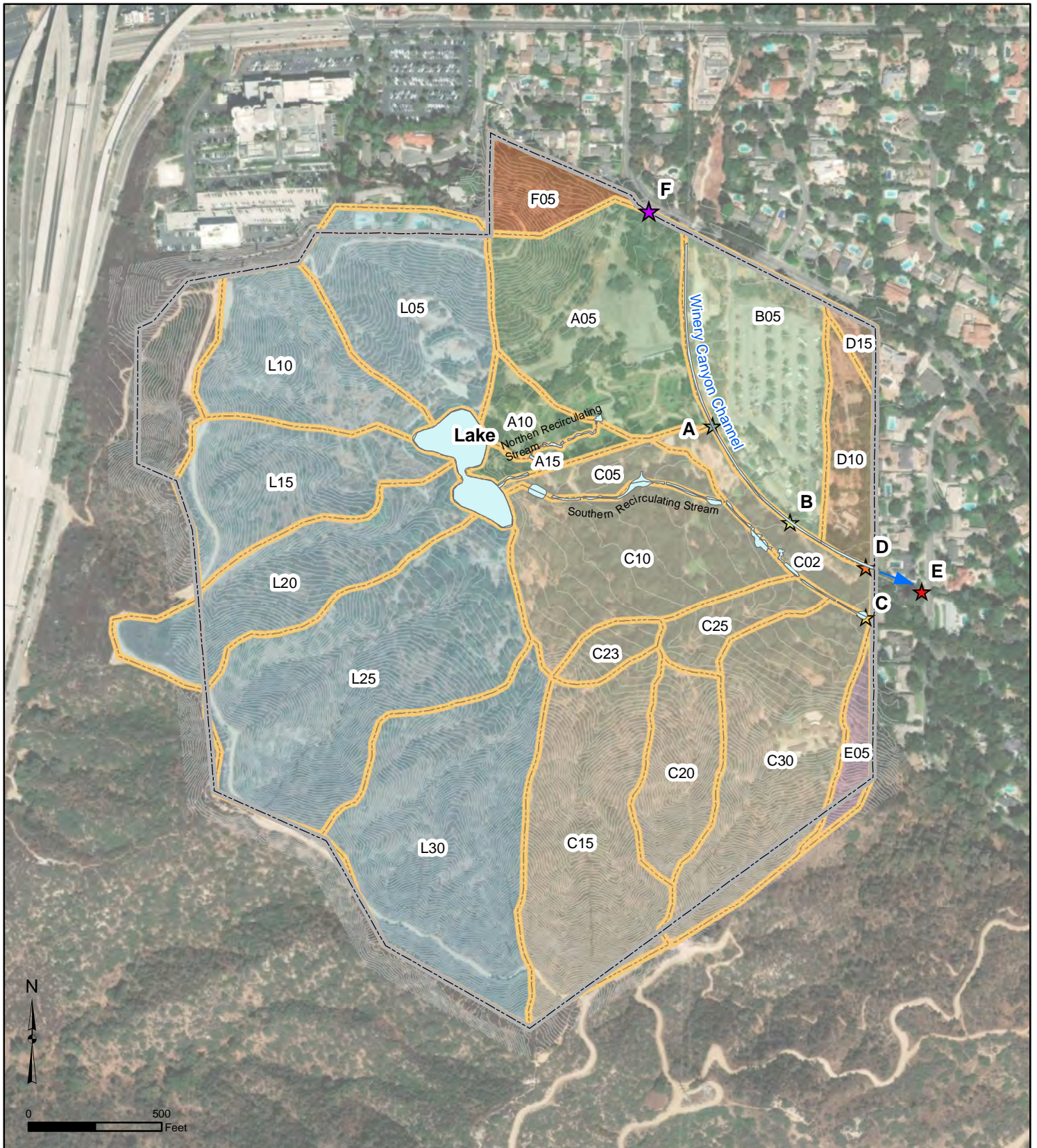
2

SOURCES:
 Basemap: ESRI World Topographic Map.
 Project Area: Los Angeles County Assessor 2016.
 Descanso Gardens Features: Descanso Gardens Basemap December 9, 2018.

0 300 600
 Feet
 1:6,000

Source: Descanso Garden Master Plan Project Description (SEI, 2019)
 Circled Numbers correspond to existing gardens as described in the Project Description.

Project Existing Land Uses		Figure 2-2
Descanso Gardens Master Plan Water Quality Technical Report		
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Outlets	Catchments	Water Features
★ A	■ A	■ Master Plan Area
★ B	■ B	■ Drainage Areas
★ C	■ C	— Topographic Contour (5ft)
★ D	■ D	
★ E	■ E	
★ F	■ F	
★ Lake	■ Lake	

Existing Drainage Areas

Descanso Gardens Master Plan
Water Quality Technical Report

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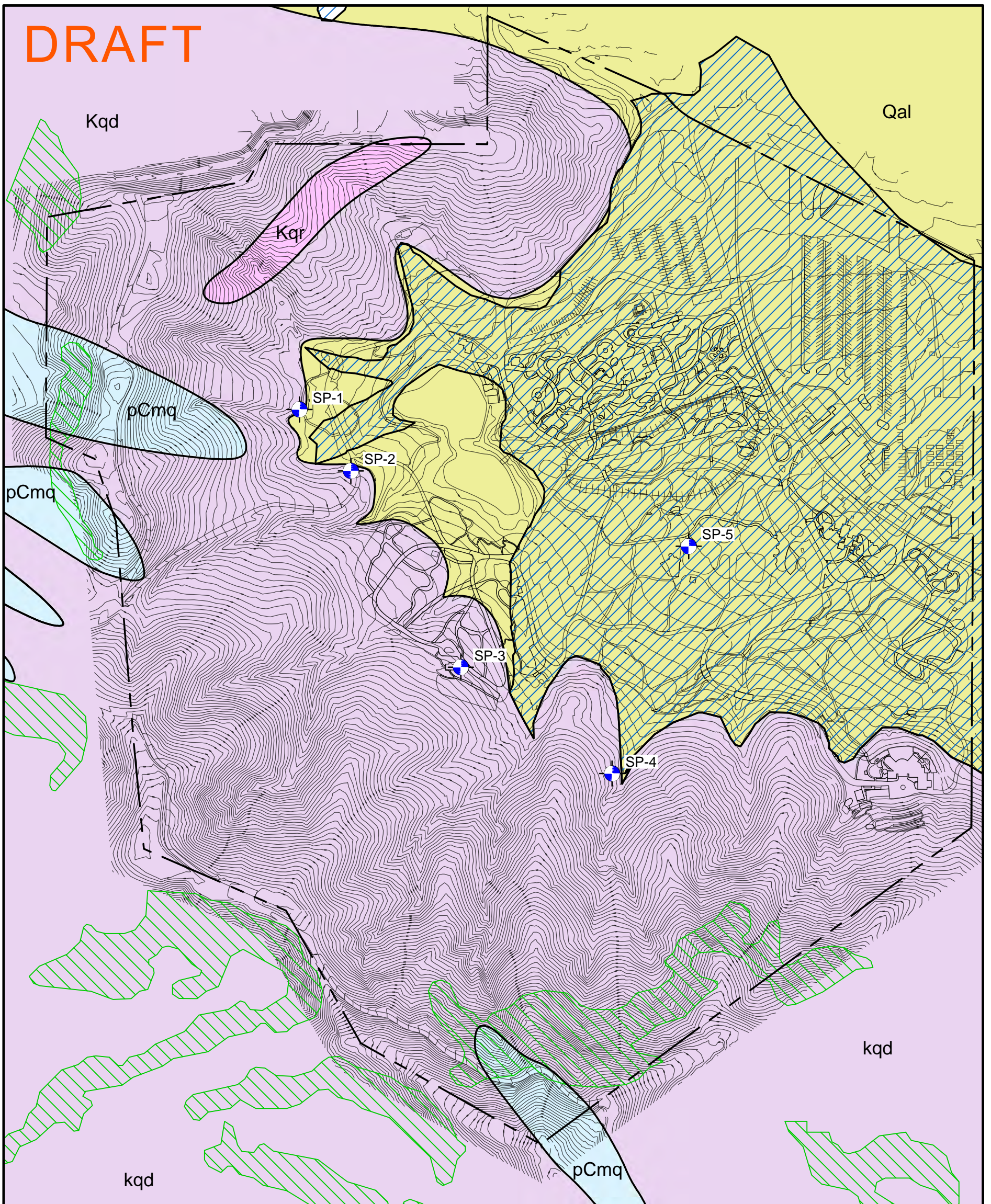
Figure

2-3

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November 2019

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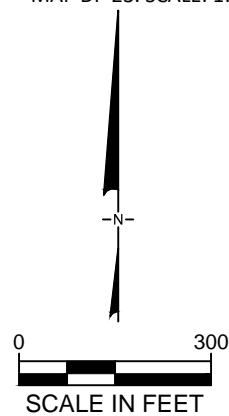


LEGEND

	PROPERTY LINE
	SOIL PROFILE LOCATION
	LIQUEFACTION HAZARD ZONE ¹
	LANDSLIDE HAZARD ZONE ¹
	QUATERNARY ALLUVIUM - PLEISTOCENE YELLOW TO YELLOWISH-PALE-BROWN UNCONSOLIDATED FINE TO MEDIUM SAND AND GRAVEL CONTAINING ABUNDANT COBBLES AND BOULDERS AND HIGHLY WEATHERED DIORITE CLASTS; INCLUDES POORLY DEVELOPED AND ANTHROPOGENIC SOILS ²
	CRETACEOUS LEUCOCRATIC GRANITIC ROCKS - GRAY-WHITE, MEDIUM- TO FINE-GRAINED MASSIVE GRANITIC ROCK OF QUARTZ MONZONITE TO GRANODIORITE COMPOSITION; QUARTZ, PLAGIOCLASE FELDSPAR, POTASSIUM FELDSPAR, MINOR BIOTITE; INTRUSIVE INTO QUARTZ DIORITE ³
	CRETACEOUS QUARTZ DIORITE - GRAY, MEDIUM-GRAINED MASSIVE QUARTZ DIORITE TO DIORITE; PLAGIOCLASE FELDSPAR; HORNBLLENDE; BIOTITE; QUARTZ INCLUDES POORLY TO MODERATELY DEVELOPED SOILS ³
	PRECAMBRIAN TO PALEOZOIC METAMORPHIC QUARTZITE - LIGHT GRAY ³

NOTES:

1. SOURCE: CALIFORNIA GEOLOGICAL SURVEY (1999). "OFFICIAL MAPS OF SEISMIC HAZARD ZONES: GIS FILES OF OFFICIAL MAPS OF SEISMIC HAZARD ZONES - PASADENA QUADRANGLE." DEPARTMENT OF CONSERVATION, CALIFORNIA GEOLOGICAL SURVEY. [HTTP://MAPS.CONSERVATION.CA.GOV/CGS/INFORMATIONWAREHOUSE/](http://maps.conservation.ca.gov/cgs/informationwarehouse/). ACCESSED 8 MARCH 2019.
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SITE GEOLOGY AND HAZARD ZONES

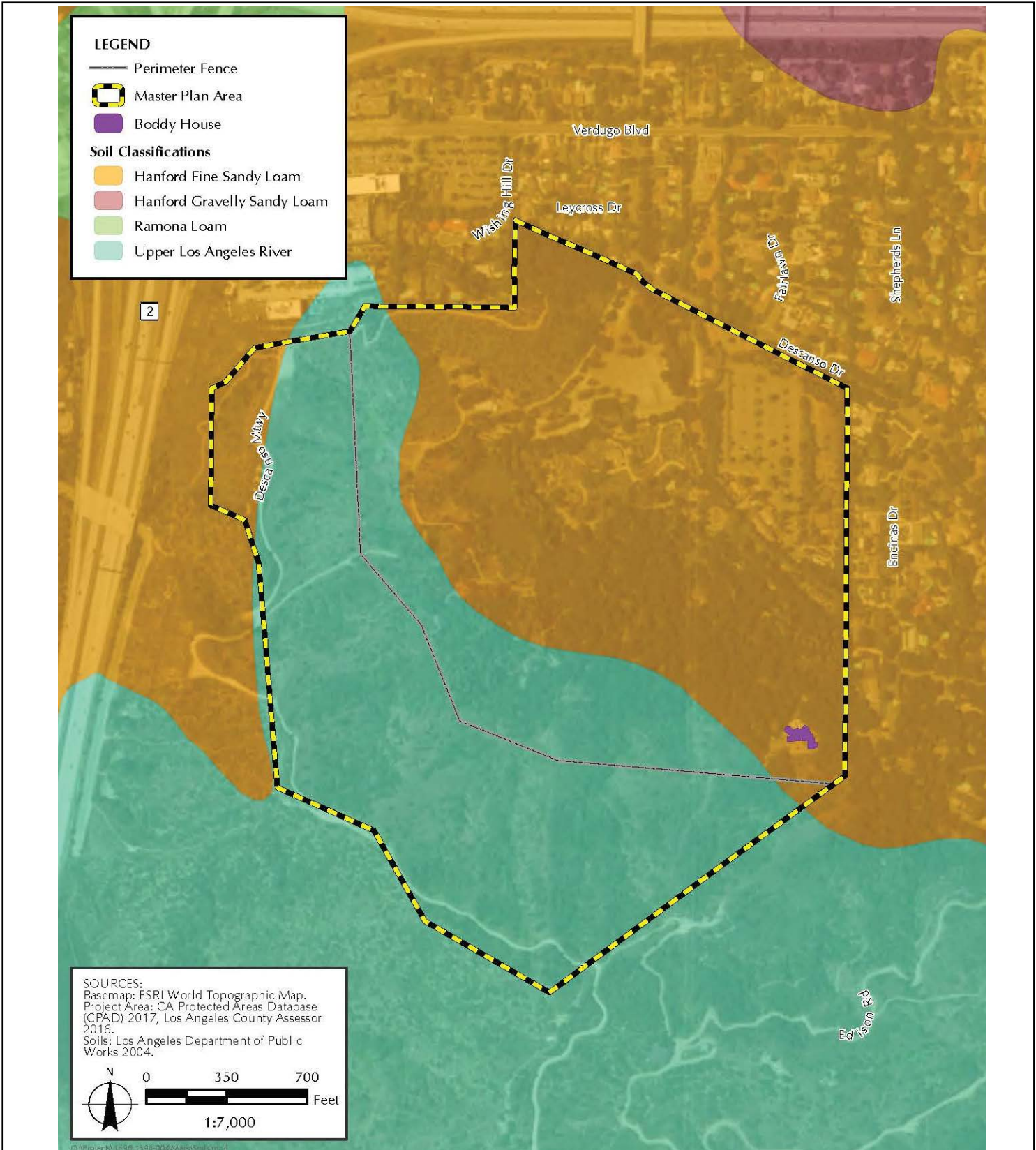
Descanso Gardens Master Plan
Water Quality Technical Report

Geosyntec
consultants

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March 2019

Figure
2-4



Source: Descanso Gardens Master Plan Project Description (SEI, 2019)

Project Soils

Descanso Gardens Master Plan
 Water Quality Technical Report

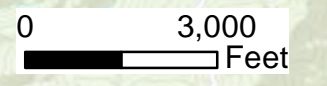
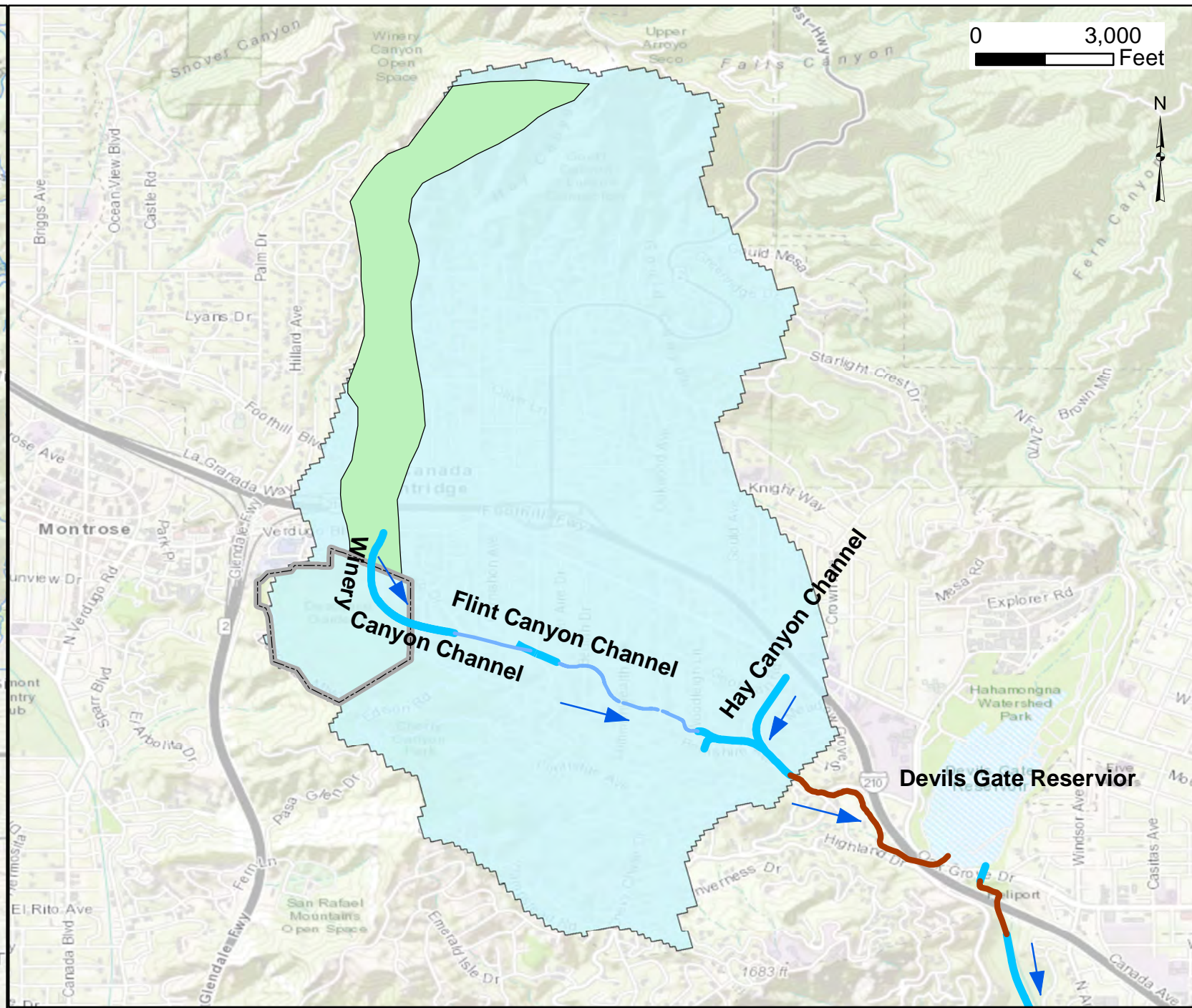
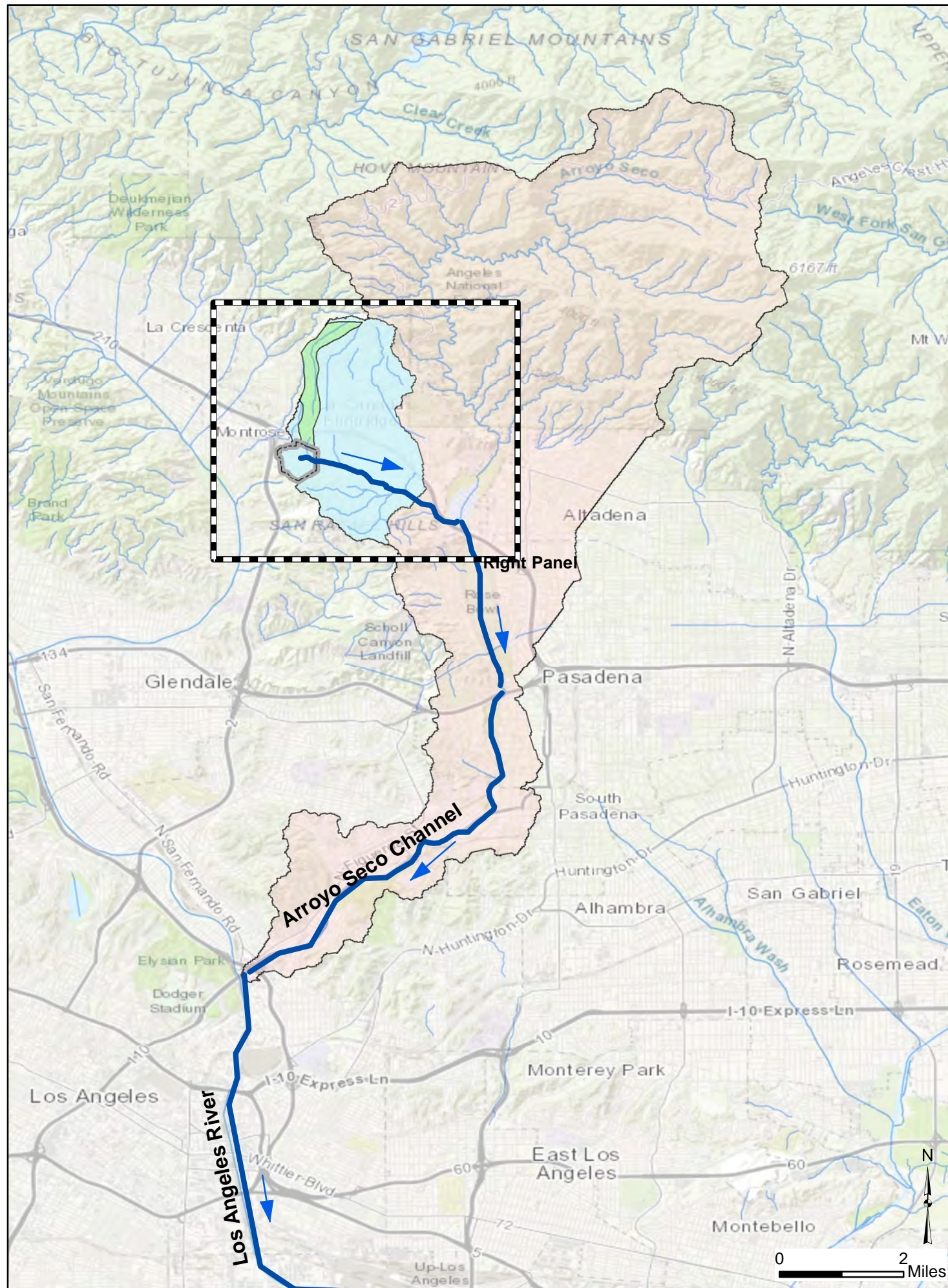


Figure


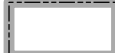






2-5

HG1704

November 2019



Legend

-  Receiving Water
-  Master Plan
-  Winery Canyon Watershed
-  Flint Canyon Watershed (tributary to first segment susceptible to hydromodification impacts)
-  Arroyo Seco Watershed
-  Earthen-Lined Channel
-  Reinforced Concrete (RCC)
-  Reinforced Concrete Box (RCB)

Project Receiving Water

Descanso Gardens Water Quality Technical Report



Figure
2-6

HG1704

November 2019

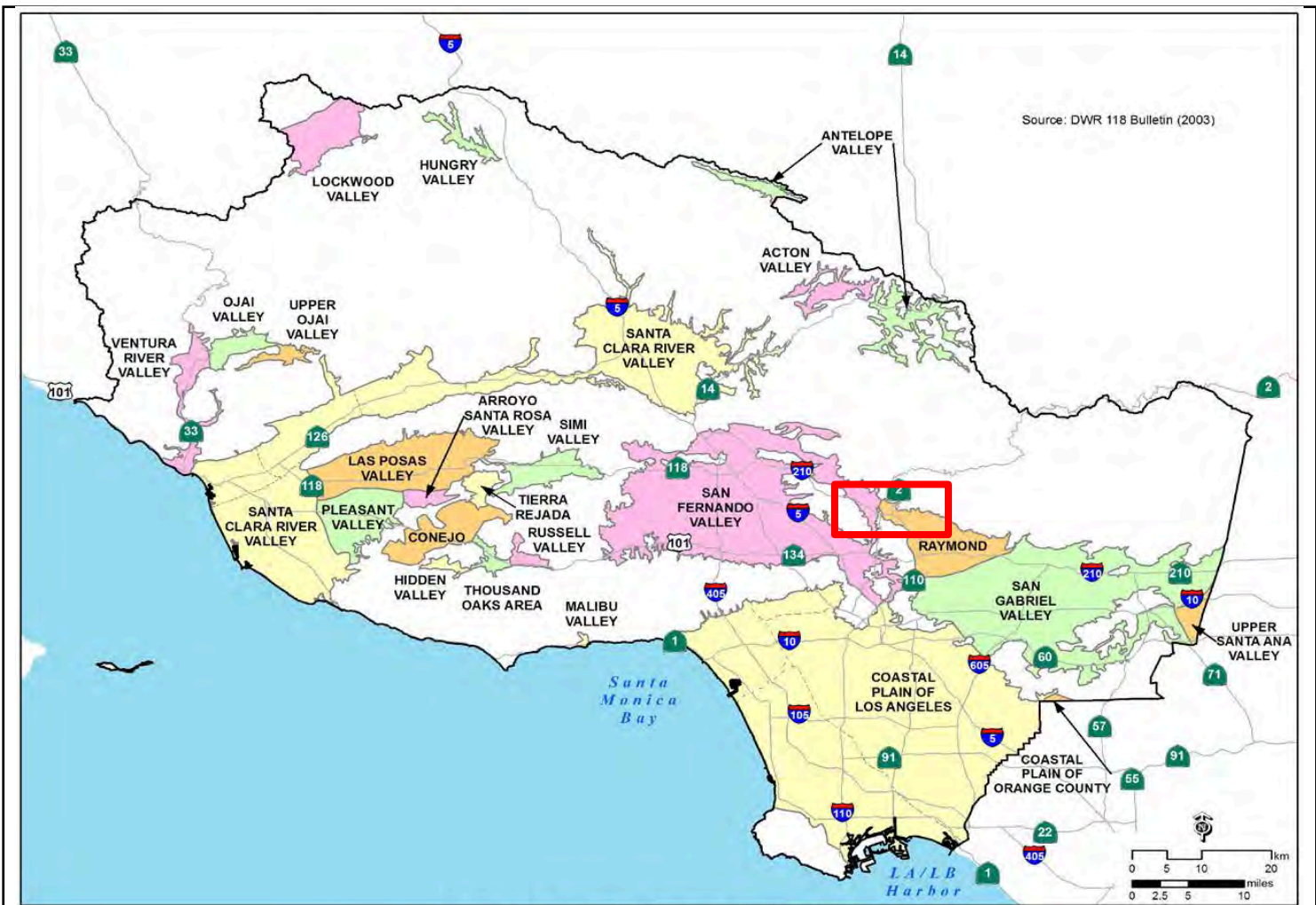


Figure 1-9. Regional Groundwater Basins.



Source:
 Top Map: Los Angeles Basin Plan Figure 1-9 (LARWQCB, 2019)
 Bottom (Zoom) Map: DWR Groundwater Basin Boundary Assessment Tool (DWR, 2019)

Legend:
 - - - - - Project Boundary
 □ Bulletin 118 Groundwater Basins

Project Groundwater Basin

Descanso Gardens Master Plan
 Water Quality Technical Report

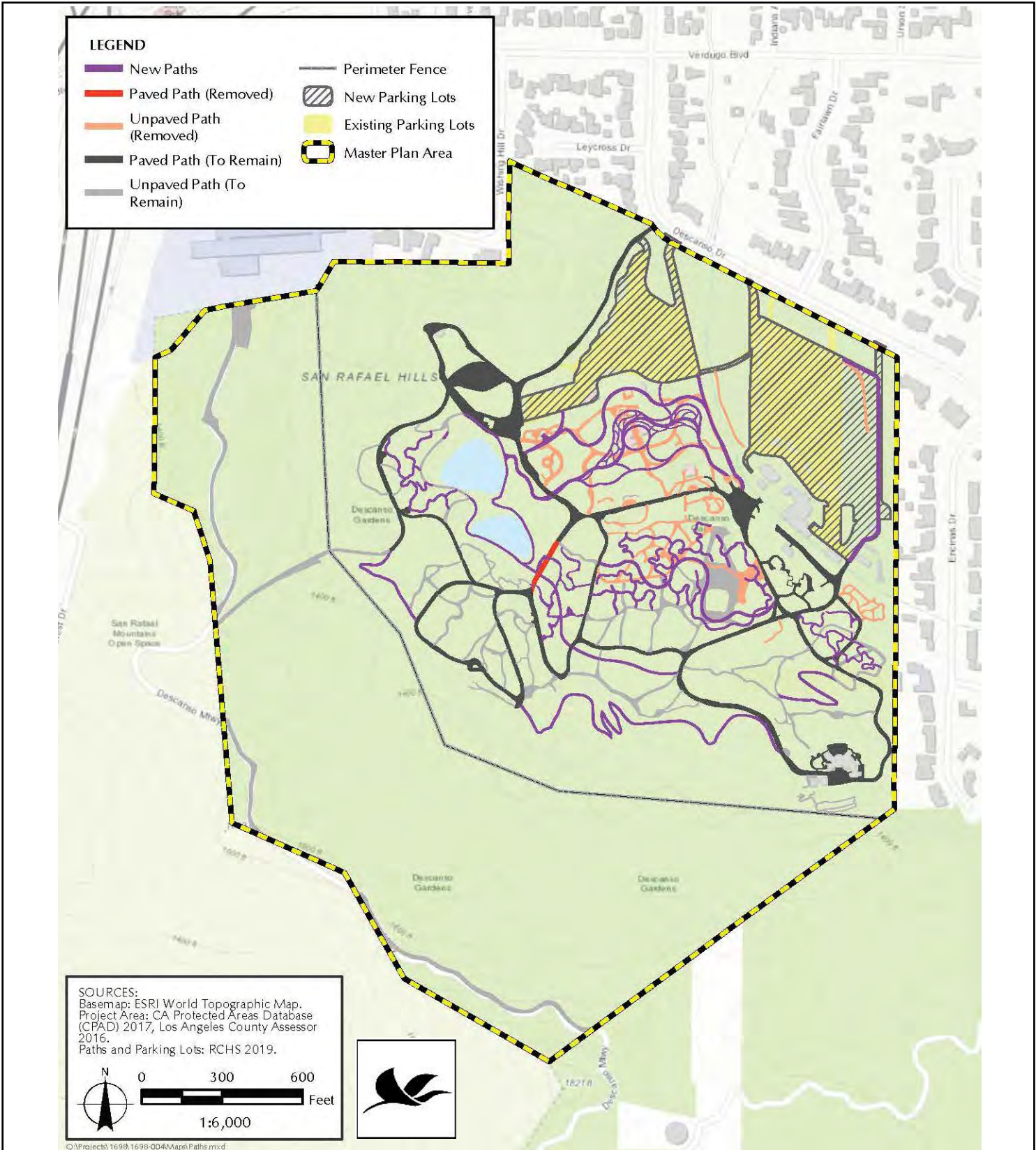
Geosyntec
 consultants

Figure

2-7

HG1704

November 2019



Source: Descanso Garden Master Plan Project Description (SEI, 2019)

Proposed Project Land Uses

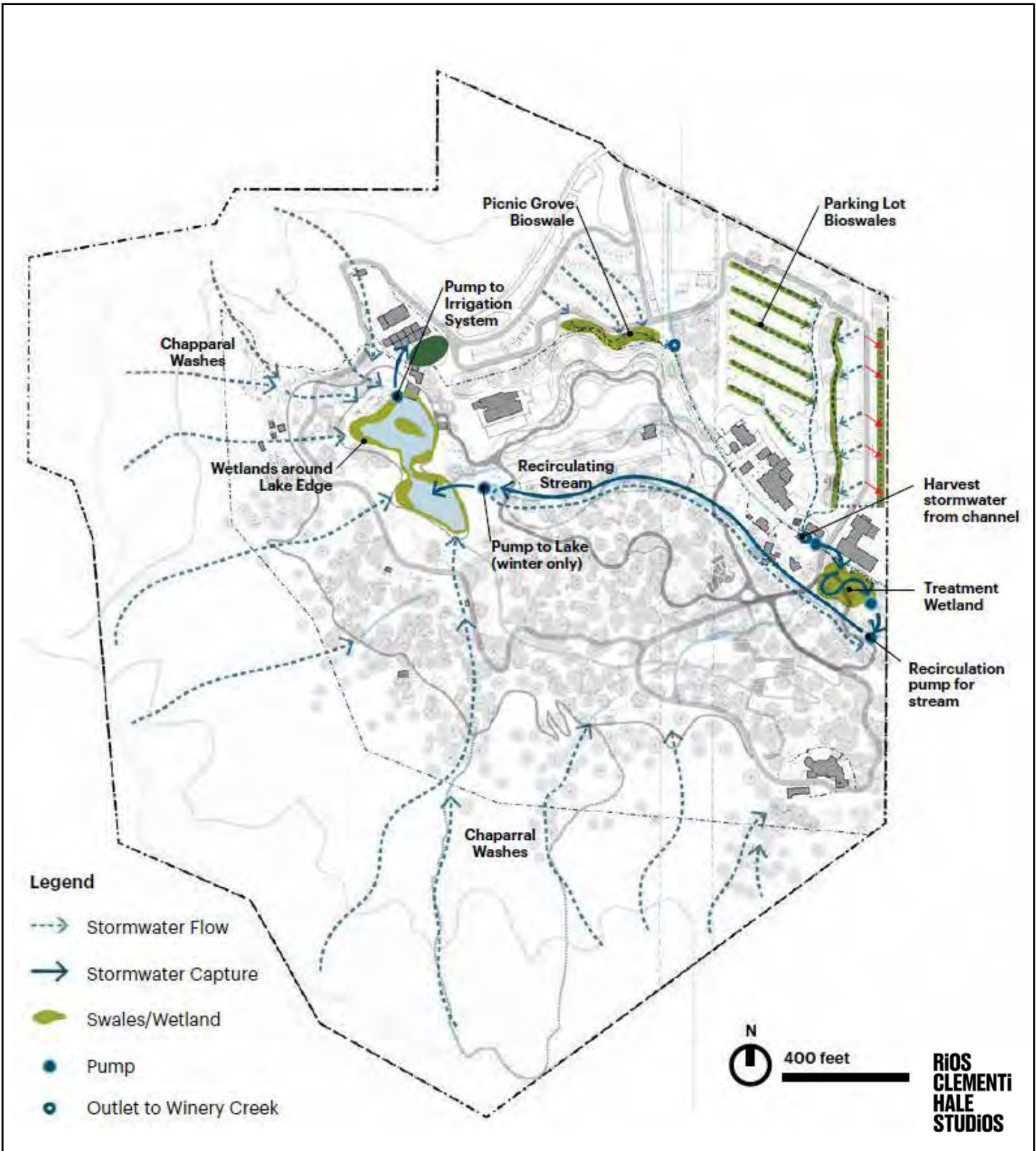
Descanso Gardens Master Plan
 Water Quality Technical Report



Figure
2-8

HG1704

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Source: Descanso Gardens Master Plan (RCHS, 2019)

Winery Canyon Channel and Treatment Wetland Improvements

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**Figure
2-9**

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